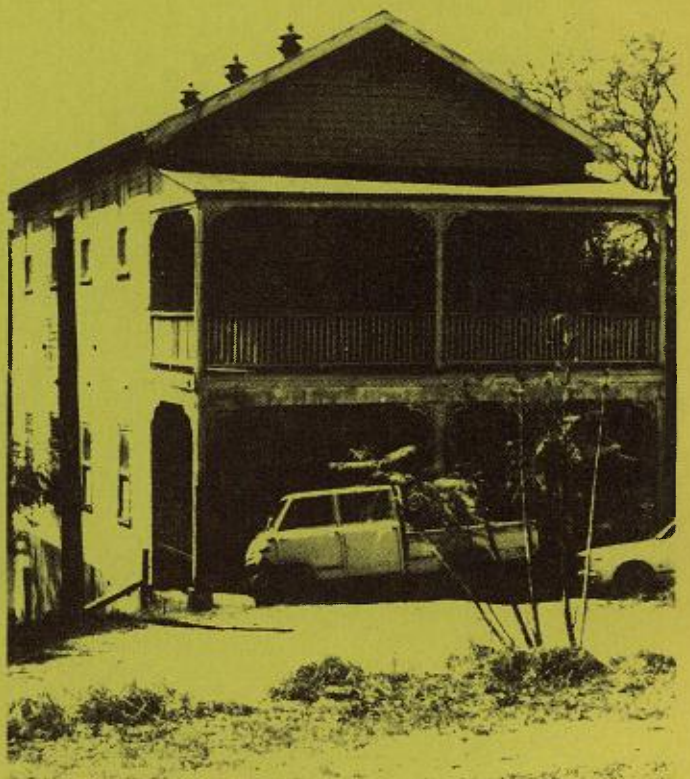
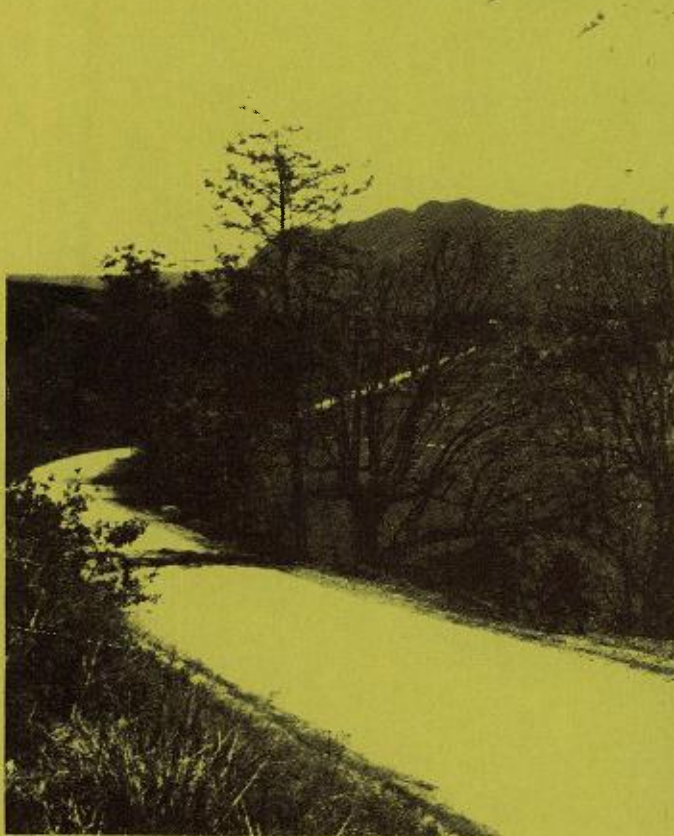
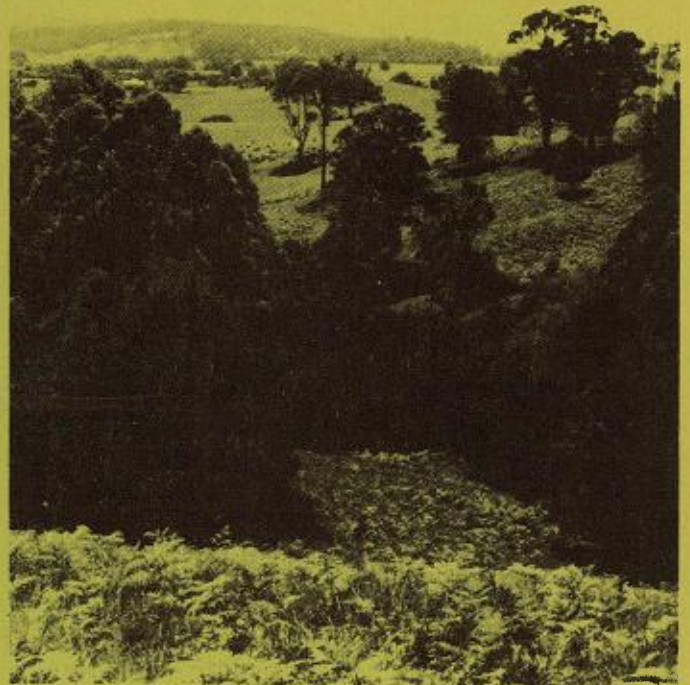
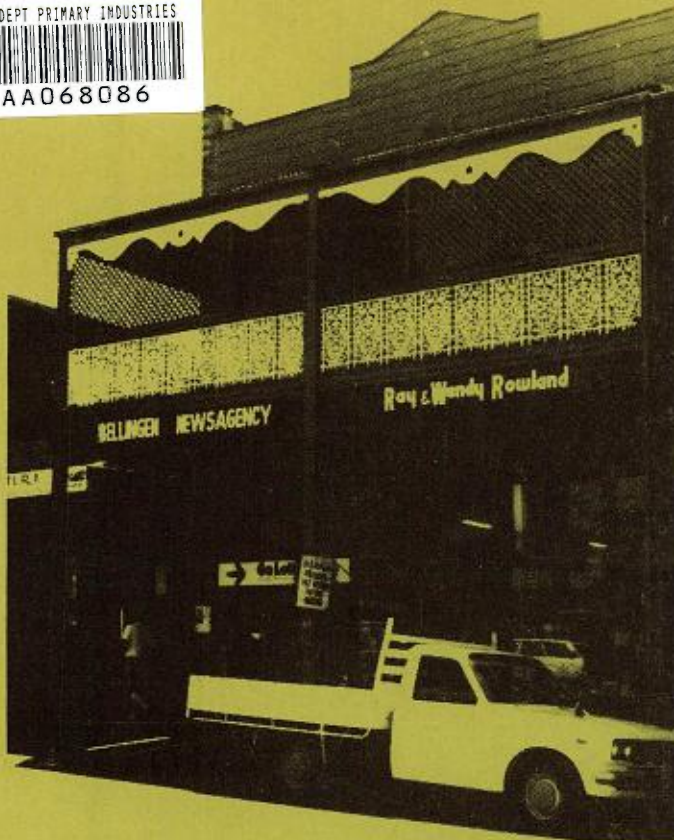




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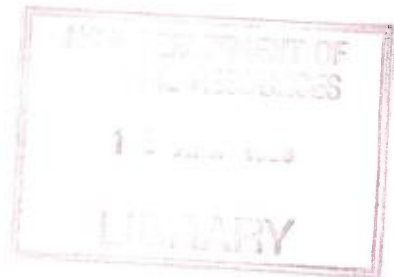
# BELLINGEN SHIRE ENVIRONMENTAL STUDY

prepared by  
PLANNING WORKSHOP  
for  
BELLINGEN SHIRE COUNCIL

**MAIN REPORT**  
346 Kent Street, Sydney 2000

March 1984

**SHIRE OF BELLINGEN:  
ENVIRONMENTAL STUDY OF RURAL LANDS  
AND TOWN OF BELLINGEN**



**Prepared for  
BELLINGEN SHIRE COUNCIL**

**by  
PLANNING WORKSHOP  
346 Kent Street Sydney 2000**

**March 1984**

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- \* Shire President, Mr. G. Braithwaite, and members of the Study Steering Committee.
- \* Mr. C. Allen, Mr. R. Short, Mr. G. Smyth, Mr. R. Cannon and Mr. R. Medhurst.
- \* Colston & Budd Pty Ltd., Consulting Engineers.
- \* The staff of Bellingen Shire Council.
- \* Officers and representatives of the various relevant government and non-government authorities and bodies who were consulted for information and assistance during the course of the study.

## 1. INTRODUCTION

### 1.1 Specifications

On February 16th, 1982, Bellingen Shire Council resolved to prepare a draft local environmental plan of the rural lands within the Shire.

On July 20th, 1982, Bellingen Shire Council resolved to prepare a draft local environmental plan of the town of Bellingen.

In accordance with section 57 of the Environmental Planning and Assessment Act 1979, Council is required to prepare environmental studies of the lands to which the draft local environmental plans are to apply.

The purpose of an environmental study is to provide a background and a context for the preparation of a plan, and accordingly it should outline the objectives of Council in preparing it.

Planning Workshop Pty Ltd, on June 15th, 1982, was appointed by Bellingen Shire Council to undertake preparation of both of the above studies.

Bellingen Shire Council, in accordance with section 57 of the Environmental Planning and Assessment Act 1979, notified the Department of Environment and Planning of its decision to prepare a draft local environmental plan. In response to such notification, the Department has caused to be gazetted the following specifications relating to the form, content and preparation of an environmental study of the Rural 1(a) and 1(b) zones (as prescribed in Shire of Bellingen - Interim Development Order No. 1). These specifications were gazetted on June 21st, 1982.

"The environmental study should:

- (a) Describe the agricultural resources of the Shire, with a view to maintaining protection of preferred agricultural land, in conjunction with the Department of Agriculture and the Soil Conservation Service;
- (b) Determine the extent of geological resources with a view to protecting them from sterilisation;
- (c) Identify land which may be subject to hazards, with a view to excluding inappropriate development from affected areas, especially:
  - (i) flooding (both 1:100 and 1:20 flood frequencies). The Public Works Department should be consulted.
  - (ii) steep slopes, unstable soil, lands subject to erosion;
  - (iii) bushfire risk;
  - (iv) water catchments.
- (d) Identify in conjunction, where appropriate, with National Parks and Wildlife Service, features of environmental, cultural or visual importance with a view to the preservation of their special qualities, and protecting them from undesirable development, especially:

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- (i) escarpment and hilltop areas;
  - (ii) sites or buildings of cultural significance (including Aboriginal sites);
  - (iii) significant stands of vegetation and wildlife habitats;
  - (iv) National Parks and State Forests, Crown lands;
  - (v) land of particular visual amenity, or land which is an important visual component of the Shire's rural environment.
- (e) Describe the history of settlement, rural subdivision and population growth in order to assess the present and future demand for:
- (i) rural village expansion;
  - (ii) multiple occupancy development;
  - (iii) intensive rural subdivision;
- (f) Identify land suitable for intensive rural subdivision, and multiple occupancy development, in view of constraints already established, and assess the feasibility of providing public utilities and community facilities, particularly satisfactory vehicular access, and in the case of multiple occupancy, measures to prevent pollution of streams where sewerage services are not practicable."

These gazetted requirements duplicate Council's own specifications for the rural lands study. Council's specifications are as follows:

### "Objectives of the Study

To prepare a single document to be used as a long term planning tool, such document to cover the following issues:

- \* describe the agricultural resources of the Shire with a view to maintaining protection of preferred agricultural land from fragmentation; such description to result from consultation with the Department of Agriculture, Soil Conservation Service and any other agencies with expertise in this field;
- \* determine the geological resources and their extent with a view to their long term protection;
- \* identify lands which may be subject to hazards with a view to excluding inappropriate development, especially:
  - . flooding (both 1:20 and 1:100 flood frequencies);
  - . coastal erosion;
  - . steep slopes, unstable areas and land influenced by erosion;
  - . bush fire risk;
  - . water supply catchments;

- \* identify features (including major landforms) of environmental, cultural or visual importance with a view to their preservation and protection from undesirable development, especially:
  - . wetland/estuary areas and oyster lease sites;
  - . escarpment, skyline or hilltop areas;
  - . sites or buildings of cultural significance;
  - . significant stands of vegetation, wildlife habitats;
  - . National Parks, State Forest and Crown Land;
  - . land of particular visual amenity or land which is an important visual component of the Shire's rural environment;
  
- \* assess the history of settlement, land subdivision and development, and population growth in order to assess the present and future demand for:
  - . rural-residential (small holdings) development with particular emphasis on the availability of essential services (water supply), access, the relationship of proposed areas for development with existing community infrastructure;
  - . land for the purpose of sub-tropical fruit growing and other 'small' crops;
  - . multiple occupancy of rural lands with particular emphasis being given to the impact of the placement of such development on road usage and maintenance and school bus facilities;
  - . industrial land;
  
- \* review the minimum lot size promoted by Interim Development Order No. 1 for the purpose of establishing whether a more appropriate lot size would permit a better use of land which falls into the 'rural' zoning but which is not protected by its intrinsic value for agriculture, scenic quality or other specified attributes;
  
- \* examine the Pacific Highway and Trunk Road corridors to establish the adequacy of existing development control policies and whether refined policies are necessary having regard to the long term usage that will occur;
  
- \* the study should be accompanied by appropriate maps wherever possible to fully explain the scope of the work."

The Department has issued no specifications in relation to the study of the town of Bellingen. Council specifications in relation to this study are as follows:

"Objective of the Study

To prepare a single document to be used as a long term planning tool, such document to cover the following issues:

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- \* evaluate the existing urban residential land stock and to investigate, develop and recommend proposals and policies for provision of additional land suitable for residential expansion including provision of public open space and aged persons housing and industrial development;
- \* identify land which may be subject to hazard with a view to excluding inappropriate development, specially:
  - . flooding (both 1:20 and 1:100 frequencies);
  - . slopes and unstable areas likely to be influenced by erosion;
  - . fire;
- \* evaluate the foreshore areas of the Bellinger River in the town environs with a view to recommending development control policies and management plans having regard to flood liability and their use as public open space;
- \* evaluate the township from a heritage point of view and make recommendations for the preservation of valuable heritage items, precincts and the like;
- \* evaluate the role of the commercial centre of the township both as a local and Shire resource and recommend policies designed to enhance its effectiveness and role as a retailing facility, such evaluation to take into account the provision of:
  - . car parking;
  - . additional facilities;
  - . development control standards;
  - . the needs of the area;
- \* investigate the existing sewerage reticulation and water supply reticulation to determine the scope of likely augmentation requirements resulting from growth of the town;
- \* identify features of environmental, cultural or visual importance with a view to recommending policies for their protection and preservation;
- \* identify the existing and future requirements for telecommunication and electricity services as related to projections for future urban development;
- \* evaluate the existing pattern of traffic movement, particularly along Trunk Road 76 with a view to considering improved traffic control, possible alternatives for through traffic movement and in particular the relationship of growth at North Bellinger to the Bellinger River Crossing;
- \* consider the value of tourism to the town and recommend policies for the improvement and development of tourism."

On October 19th, 1982, the Northern Regional Office of the Department of Environment and Planning wrote to Council regarding the proposed local environmental plan for Bellinger. The letter states as follows:

". . . it is suggested that although no specification will be gazetted for the study, the following items related to heritage matters be included in any brief for the study:

- (a) identify and describe (where appropriate in conjunction with the Heritage Council of New South Wales) the environmental heritage of Bellingen with a view to conserving and enhancing its cultural, architectural, aesthetic, archaeological, natural, scientific, social and historical significance; and
- (b) identify suitable means of protecting Bellingen's environmental heritage from unsympathetic development or demolition;
- (c) assessing and developing the Heritage Council's direction pursuant to Section 82 of the Heritage Act, 1977, for the preparation of a draft environmental planning instrument for the Hyde Street Precinct in Bellingen.

. . . it is suggested that the following items be included in any brief for the study:

- (i) identify the constraints and opportunities for residential expansion of Bellingen with a view to determining the most appropriate lands for both future growth of the settlement and for environmental control or retention for specific land use purposes; and
- (ii) present an analysis of population growth and building activity for Bellingen Township and relate this to the supply of land already zoned for residential development with a view to recommending a staged release of land to meet anticipated growth for an 8-10 year supply period."

Whilst separate specifications were issued by Bellingen Shire Council and the Department of Environment and Planning for the two studies at hand, both have been undertaken concurrently by Planning Workshop Pty Ltd. The studies have proceeded under a format agreed to by Council with emphasis being given to the major issues outlined above. In addition to these major issues, the studies consider other matters of relevance to the future planning of the Shire of Bellingen.

## 1.2 Study Organisation

The study was undertaken largely in accordance with guidelines issued by the Department of Environment and Planning and published in the Local Planning Manual (Draft)-December 1981 and the Rural Land Evaluation Manual - November 1981.

The approach of the Department to various issues encountered in rural planning as expressed in a series of guidelines, technical bulletins and policy circulars (e.g. dual/multiple occupancy, development on flood liable land, rural dwellings etc.) has also been taken into consideration.

In accordance with section 62 of the Environmental Planning and Assessment Act 1979, the following public and private agencies and authorities have been consulted in order that a comprehensive information base can be formulated:

- \* Department of Environment and Planning;
- \* Department of Public Works;
- \* National Parks and Wildlife Service;
- \* Forestry Commission of NSW;
- \* Water Resources Commission;
- \* Department of Social Security;
- \* Department of Agriculture;
- \* Department of Mineral Resources;
- \* Housing Commission of NSW;
- \* Department of Education;
- \* Health Commission of NSW;
- \* Department of Youth and Community Services;
- \* Department of Lands;
- \* Department of Main Roads;
- \* Soil Conservation Service;
- \* Department of Tourism;
- \* Department of Sport and Recreation;
- \* Bureau of Meteorology;
- \* NSW Heritage Council;
- \* National Trust of Australia;
- \* Bushfire Council of NSW;
- \* Joint Coal Board.

Local Government Authorities which share boundaries with Bellingen Shire were informed of Council's intention to prepare a plan and were asked to provide information on matters considered relevant to the rural lands and Bellingen town studies.

In several cases, formal replies from these authorities have been received. Information gained through discussion with the above bodies has been incorporated into the study. A copy of all correspondence relating to the study is provided in a separate document.

In the process of the preparation of the studies, a number of working papers were prepared which were the subject of discussion with Councillors and Council Officers. These working papers addressed a variety of major issues, and have been incorporated into this one concise document in their amended format.

The overall objective of the study is to ultimately devise a legal mechanism by which Council can direct the future development of the town of Bellingen and the rural lands within the Shire in a desirable, efficient, and environmentally sensitive manner. This mechanism is a plan (or plans) which will replace the existing Interim Development Order. A plan consists of a written statement and a map (or maps).

Part of the study procedure has been to obtain suitable and appropriate maps of the Shire and the town of Bellingen. Existing maps of the town date from 1960 and lack topographic and up to date cadastral information. The existing Shire map is also outdated and is no longer an appropriate base for zoning purposes. Therefore new maps have been prepared at appropriate scales.

The study is intended to provide a basis for public comment on those matters which may be addressed during the preparation of a draft local environmental plan. In this regard, the study will specify the kinds of aims, objectives, and policies which the proposed draft local environmental plan should adopt.

As will be outlined below, the planning legislation embodied in the Act provides for public involvement in the planning process at two levels: after the environmental study has been prepared; and again, after the draft local environmental plan has been prepared and certified by the Director of the Department of Environment and Planning.

### 1.3 Planning Process

The purpose of the new local environmental plan is to prepare a new planning instrument more responsive to the development issues and opportunities prevalent in the Shire.

As well as moving in the direction of accommodating growth pressures and trends being experienced in the Shire (which have been investigated in this study), the plan will also address specific issues of concern to Council and its administrative officers. These include:

- \* introduction of appropriate zonings;
- \* the need for adequate lands for rural residential development;
- \* accommodation of demand for future commercial and industrial activities;
- \* accommodation of demand for residential flat development;
- \* development of flood prone land;
- \* conservation of historic buildings;
- \* adequacy of the transportation network;
- \* issues involved in the multiple occupancy of land.

### 1.4 Planning Procedure

The preparation of environmental studies and draft local environmental plans is basically a legal process, the requirements for which are outlined in the Environmental Planning and Assessment Act 1979 and the accompanying Regulation. There are a number of rules, guidelines and policies issued by the Department of Environment and Planning that substantially govern the content and operation of the local environmental plan and thus the study. These policies and guidelines refer to the following:

- \* Specifications of the Department on the content of the study.
- \* Directions under sections 71 and 117 of the Act.
- \* State Environmental Planning Policy No. 1 'Development Standards'.
- \* State Environmental Planning Policy No. 4 'Development without Consent'.
- \* State Environmental Planning Policy No. 5 'Housing for Aged and Disabled Persons'.
- \* State Environmental Planning Policy No. 6 'Number of Storeys in a Building'.
- \* State Environmental Planning Policy No. 8 'Surplus Public Lands'.
- \* State Environmental Planning Policy No. 9 'Group Homes'.

The new legislative planning procedures embodied in the new Act came into effect in 1980. Broadly the steps involved in this formal procedure are:

- \* **Council resolves to prepare a Local Environmental Plan:** Notifies the Department of Environment and Planning.
- \* **Preparation of the Environmental Study:** The environmental study is a prerequisite to the preparation of the local environmental plan. It may give wide and detailed consideration of the physical, economic and social attributes of the area and may develop the most appropriate forms of future development of the area. In essence, it provides background information and a context for the preparation of the local environmental plan.
- \* **Exhibition of the Environmental Study:** Once the study has been received by Council, it is then placed on public exhibition together with the relevant State environmental planning policies, and relevant directions under section 117. The study is to be exhibited for a minimum period of 14 days and the public is invited to make submissions during that time on the study within the context of the guidelines and directions issued by the Department.
- \* **Preparation of the Draft Local Environmental Plan:** Having exhibited the study and received submissions from the public and other interested bodies, Council and its consultants then prepare the local environmental plan which consists of a land use zoning map(s) and a written legal statement. This legal document implements the recommendations of the study and is designed to encourage appropriate forms of development in appropriate locations and outlines various controls on the use of land.
- \* **Certification by the Department of Environment and Planning:** Once the draft local environmental plan is prepared, it is sent with the study and the submissions to the Director of the Department of Environment and Planning for approval for exhibition. Once this approval is given by way of a certificate from the Director, the draft local environmental plan can then be used as a basis for determining development applications.
- \* **Exhibition of the Draft Local Environmental Plan:** The draft local environmental plan is also exhibited for public comment for a minimum period of 14 days. Such comment is usually of a more specific nature relating to details of the plan.
- \* **Gazettal of the Local Environmental Plan:** After the exhibition period, the plan, public submissions, reports of any public hearing, and statements of compliance or otherwise with State policies and Ministerial Directions are sent to the Department for presentation to the Minister for gazettal.

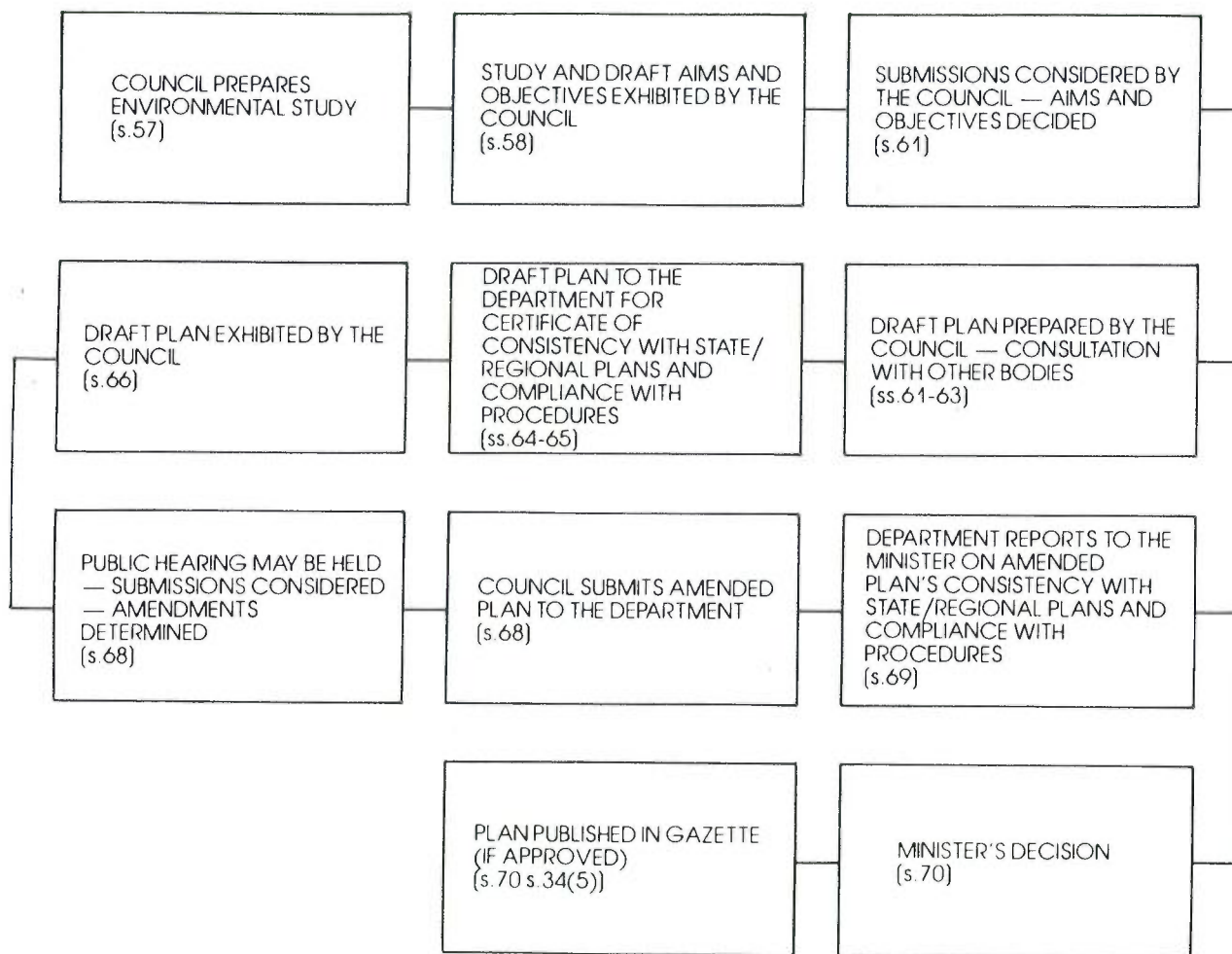
Thus, the new legislative planning procedures provide for a certain level of community involvement and comment on the plan during its stages of preparation. This process is shown on the accompanying figure.

### 1.5 Control Mechanisms

The most important control mechanism available to Council is the local environmental plan. This is the mechanism by which development can be controlled and encouraged within the Shire.

It is the direct equivalent of the Town and Country Planning Schemes and Interim Development Orders such as the one gazetted for the Shire and in force at the present time.

PROCESS OF LOCAL ENVIRONMENTAL PLAN PREPARATION



Source: A Guide to the Environmental Planning Legislation NSW Department of Environment and Planning

Sections 24-36 of the Environmental Planning and Assessment Act 1979 set out the legal requirements of environmental planning instruments and therefore local environmental plans.

The matters that the plan may cover are set out in section 26 of the Act which states as follows:

- "26. Without affecting the generality of section 24 or any other provision of this Act, an environmental planning instrument may make provision for or with respect to any of the following:
- (a) protecting, improving or utilising, to the best advantage, the environment;
  - (b) controlling (whether by the imposing of development standards or otherwise) development;
  - (c) reserving land for use for the purposes of open space, a public place or public reserve within the meaning of the Local Government Act, 1919, a public cemetery, a public hospital, a public railway, a public school or any other purpose that is prescribed as a public purpose for the purposes of this section;
  - (d) controlling the demolition of buildings or works;
  - (e) protecting or preserving trees or vegetation;
  - (f) controlling any act, matter or thing for or with respect to which provision may be made under paragraph (a) or (e);
  - (g) controlling advertisements within the meaning of section 510 of the Local Government Act, 1919; and
  - (h) such other matters as are authorised or required to be included in the environmental planning instrument by this or any other Act."

Sections 29 and 158 of the Act make provision for designated development (i.e. development for which an Environmental Impact Statement is required to accompany the development application and which allows third party appeal). This ensures that Council has adequate information on which to determine applications that may have a significant impact on the environment. Developments designated by Council (under section 29) would be in addition to those outlined in Schedule 3 of the Regulations accompanying the Act that apply to all Local Government Areas.

Local environmental plans generally contain a set of land use tables (rather like the land use table which forms part of the existing Interim Development Order) outlining the types of development permissible under certain circumstances in a number of land use zones. Different kinds of development are usually identified in such a table including development permissible without consent, development permissible subject to conditions, development requiring Council consent, and prohibited development.

The Department issues guidelines on the land use zones that may be applicable, although the Council is under no obligation to adopt them fully.

Environmental planning instruments may adopt wholly or partly gazetted Model Provisions. It is important to realise, however, that those Model Provisions do not have to be adopted in their entirety and clauses of the Provisions may be deleted where appropriate. The local environmental plan for the Shire of Bellingen will adopt relevant clauses of the 1980 Model Provisions just as the existing planning instrument adopts the 1970 Model Provisions.

As well as the land use tables outlining which uses are permissible in certain locations with or without consent, the local environmental plan may also contain special provisions relating to development in an area. For example, development standards for various types of development (subdivision, residential flat buildings etc.) can be included.

Another important provision the local environmental plan can include is the requirement for dedication of a contribution toward the provision of public services and community facilities. The plan does not have to identify the exact level of contribution however. In each case Council will be required to determine an appropriate and reasonable contribution.

The Act requires that the local environmental plan is not substantially inconsistent with any State environmental planning policy, regional environmental plan or relevant direction under sections 71 and 117(2) of the Act. The Minister issued a new Direction under section 117(2) on 11th July 1983. On 17th January 1983 the Minister made a directive under section 71 of the Act in respect of the format, structure and subject matter of local environmental plans. It would appear that a local environmental plan must be consistent with the Direction.

Where the plan is inconsistent with these directions, policies or plans, such inconsistency has to be justified. It should be noted that there is, as yet, no regional environmental plan in operation for the North Coast Region.

While the Act is quite specific on the form or content of the local environmental plans, particularly with reference to section 71 and 117 directions, there is still a degree of flexibility available to Council on the control of development. This is rightfully so since Council is the consent authority with responsibility for these matters.

The draft local environmental plan for the Shire of Bellingen should generally be consistent with current section 117 Directions and State environmental planning policies and should comply with the section 71 determination. Section 61(e) of the Environmental Planning and Assessment Act, 1979, states:

"61. In preparation of a draft local environmental plan the Council shall:

- (e) ensure that the draft local environmental plan, and its aims, objectives, policies and strategies, are not substantially inconsistent with any State environmental planning policy, regional environmental plan, or relevant direction under section 117, which applies to the land to which the draft local environmental plan applies, and give effect to the aims, objectives, policies and strategies of any such policies or plans."

Section 64 of the Act requires Council, on submission of a copy of the draft plan to the Secretary (of the Department of Environment and Planning) to specify the environmental planning instruments and directions under section 117 that have been taken into consideration and to give details of any inconsistency between the draft plan and any instrument or direction referred to above, and the reasons justifying the inconsistency. Only when the Director is of the opinion that the inconsistency is justified in the circumstance will a section 65 certificate be issued, permitting the public exhibition stages of the plan to proceed.

Compliance with State planning policies and sections 71 and 117 directions is therefore an important factor in the making of draft local environmental plans. Non-compliance will probably lead to time-consuming delays. The relevant policies and directions are available for inspection at the office of Council.

As well as the local environmental plan, there are a number of other planning instruments that can be used as a control mechanism. Of importance here are development control plans which are usually more specific than the local environmental plan and addresses the development of a particular area or development of a particular type (residential flat buildings etc.). Development control plans should conform with the provisions of the local environmental plan and be compatible with it.

In summary, it should be pointed out that the ultimate aim of the local environmental plan is to control development in the most appropriate, suitable and desirable fashion. It gives Council the power to approve desirable developments and to disallow those which are inappropriate and unsuitable. Furthermore, it designates areas most suitable for particular uses. Thus there are two functions of the local environmental plan, one being direct and the other indirect:

- \* The direct function is development control and the orderly development of the Shire based on firm environmental principles developed in the study. This also covers financial aspects in so far as provision can be made in the local environmental plan to enable Council to recover some costs incurred by development.
- \* The indirect function is more positive. It involves accommodating and encouraging the more appropriate forms of development. The local environmental plan cannot specifically attract growth and development - this is largely the role of the market, although the Council and the community can assist the operation of the market through promotional activity. Rather, the local environmental plan accommodates growth in the following ways:
  - . by making provision in the plan for various types of uses, such as temporary accommodation, residential flat buildings and industry, thus responding to market forces;
  - . by identifying areas suitable for various uses;
  - . by identifying lands that should be protected from different forms of development, such as areas of good agricultural land, scenic areas, and areas that might be environmentally sensitive.

**2. AIMS, OBJECTIVES, POLICIES AND STRATEGIES**

In accordance with Section 58(c) of the Act, the following aims, objectives, policies and strategies are put forward for adoption by the draft Local Environmental Plan. These may be amended during the period for public submissions.

**2.1 Aims**

- \* To provide a mechanism for the management, development and conservation of land throughout the Shire which is based on sound environmental principles derived from the Environmental Study.

**2.2 Objectives**

- \* To encourage the proper management, development and conservation of natural and man-made resources for the purpose of promoting the social and economic welfare of the community and a better environment.
- \* To encourage the promotion and co-ordination of the orderly and economic use of land.
- \* To encourage the protection of the environment and provide an opportunity for public involvement in environmental planning and assessment.
- \* To encourage residential development that will maximise the use of existing physical and social infrastructure and minimise development costs.
- \* To ensure the protection and improvement of the amenity of the residential areas through the effective management of amenity problems.
- \* To enhance the quality of life enjoyed by residents of the Shire through the provision of adequate social and community facilities and services in locations readily accessible to users, the minimisation of air, water, noise and visual pollution and the protection of areas of outstanding natural beauty and buildings and places of scientific, historic, prehistoric and architectural significance.
- \* To foster job opportunities for local residents.
- \* To accommodate changing trends in lifestyles.
- \* To provide guidance to the community of the manner in which the effects of growth and change are proposed to be managed and to the private sector in terms of future development opportunities and requirements.

**2.3 Policies**

- \* To rationalise the development of land to ensure, for the benefit of the community, the co-existence of various land uses with minimum environmental conflicts.
- \* To encourage residential development that will maximise housing choice.

- \* To ensure that adequate support services and facilities are provided in all developed areas of the Shire.
- \* To protect, effectively develop and utilise the natural and man-made resources of the Shire.
- \* To encourage a high standard of residential amenity and to alleviate existing amenity problems where such exist.
- \* To define all areas, places and buildings which merit conservation because of their visual, ecological, cultural or other environmental significance.
- \* To cater for the demand for recreational and leisure facilities by providing, if necessary, for the establishment and development of additional areas for passive and active recreation.
- \* To initiate and implement policies which will both directly and indirectly increase job opportunities for the residents of the Shire.
- \* To encourage commercial and retail development to occur in the existing retail centre of Bellingen.
- \* To provide an effective transportation network.
- \* To zone appropriate and suitable lands for the purposes of multiple occupancy and rural residential development.
- \* To define prime agricultural land and to discourage from such land those uses which would jeopardise the continued use of the land for agricultural purposes.
- \* To limit the development of flood prone land.

### 3. EXISTING STATUTORY CONTROLS

#### 3.1 Shire of Bellingen Interim Development Order No. 1

Development within the Shire of Bellingen is presently generally governed by the provisions of 'Interim Development Order No. 1 - Shire of Bellingen' (a deemed environmental planning instrument) originally gazetted on September 12th, 1969, and subsequently altered or amended on about nineteen occasions between May 1970 and October 1979. Since the advent of the Environmental Planning and Assessment Act, 1979, the following three Local Environmental Plans have been gazetted each relating to a specific area of land within the Shire:

- \* Bellingen Local Environmental Plan No. 1 gazetted on June 5th, 1981 relates to land at Newry Island.
- \* Bellingen Local Environmental Plan No. 2 gazetted on March 13th, 1981 relates to 5 hectare minimum rural residential subdivision (1(c2)) of land at Roses Road, North Bellingen.
- \* Bellingen Local Environmental Plan No. 3 which relates to the extension of the Bellingen Village zone (namely Lots 52 and 62 Lyon Street, Bellingen).
- \* Bellingen Local Environmental Plan No. 4 gazetted on July 23rd, 1983 which aims to restrict residential development and further subdivision of existing rural land in the flood plain area of the Kalang River particularly on Newry Island and Urunga.
- \* Bellingen Local Environmental Plan No. 5 gazetted on December 10th, 1983 which aims to zone land to the east of the township of Bellingen for open space and residential purposes.

Interim Development Order No. 1 - Shire of Bellingen may be viewed as a general planning instrument, essentially similar to many other Interim Development Orders relating to non-urban Local Government authorities in NSW.

Since its gazettal in 1969, the Interim Development Order has been amended and altered on numerous occasions. Most of the amendments have been of a minor nature, although significant alterations were made in July 1978.

New and more comprehensive zonings have progressively been introduced through the above amendments and alterations. Village and Township zones now exist at Bellingen, Dorrigo, Urunga, Mylestom, Repton and a Residential (b) zone applies to land at Raleigh.

The Non-Urban 1(a) zone is still applicable to the majority of rural lands within the Shire. The Non-Urban 1(b) zone applies to land located within 400 metres of a main road. Indicated as main roads on the Interim Development Order map are:

- \* Trunk Road 76 (Urunga to Armidale).
- \* Main Road 119 (Dorrigo to Dundurrebin).
- \* Main Road 120 (Dorrigo to Coffs Harbour).
- \* Main Road 118 (Bellingen to Bowraville).
- \* Pacific Highway (Highway No. 10).

Non-Urban 1(c) zones exist at Dorrigo, Repton, an area south of South Arm Road near Urunga and Newry Island. Non-Urban 1(c2) zoned land exists at the confluence of Never Never Creek and the Bellingen River.

The industrial estate at Raleigh has been accommodated through the gazettal of land for General Industrial 4(a) purposes. There are no Special Use zones within the Shire.

An Open Space, Recreation 6(a) zone exists at Repton, and a Open Space, Special Purposes 6(b) zone exists at South Urunga.

Coastal Lands Protection and Acquisition zones 7(f1) and 7(f2) have been introduced for certain coastal areas.

A Residential 2(c) zone applies to land at South Urunga, which has recently been subdivided (Bellingen Keys Estate).

A summary of these alterations and amendments is given below:

**May 8th, 1970:** Mineral sand mines included as a permissible use in a Non-Urban 1(b) zone with the prior consent of Council subject to the concurrence of the Department of Environment and Planning.

**May 15th, 1970:** Correction of a drafting error in the Interim Development Order.

**November 5th, 1971:** Relates to an extension of the Village boundary of Myleston.

**May 11th, 1973:** Relates to an extension of the Village boundary of Bellingen.

**December 7th, 1973:** Relates to a liquid fuel depot on Lot 1, DP 201668, Pacific Highway.

**January 25th, 1974:** Correction of a drafting in amendment dated December 7th, 1973.

**April 19th, 1974:** Relates to the provision of an open space recreation zone at Repton and also an extension to the Village zone of Repton.

**September 13th, 1974:** Relates to an amendment to the Village boundary of Bellingen.

**December 6th, 1974:** Relates to the zoning of land for the purposes of Residential 2(c) (permitting duplex flats, maisonettes, semi-detached cottages) and Open Space 6(b) at South Urunga.

**May 30th, 1975:** Relates to the erection of 6 residential cabins on Lots 18, Portion 17, Thora Road, Bellingen, for the temporary accommodation of persons engaged in activities connected with horse racing.

**March 25th, 1977:** Relates to the erection of 6 holiday cabins on a tennis ranch on Newry Island.

**June 3rd, 1977:** This amendment refers to map marked Amendment No. 5 when it should in fact refer to map marked Amendment No. 6. The amendment relates to the provision of an Industrial 4(a) zone at Raleigh.

**October 14th, 1977:** Relates to a drafting error in the amendment dated June 3rd, 1977.

**October 14th, 1977:** Relates to the provision of a Non-Urban 1(c) zone at South Bellingen permitting rural residential development with a minimum site area of 6,000 square metres; provision of a reticulated water supply; no access to arterial roads.

**July 7th, 1978:** This amendment represents significant alteration to the original Interim Development Order, and embodies previous alterations and amendments within its content. The entire land use table was amended and various additions were made. Notable alterations were as follows:

- \* Forestry was made subject to the consent of Council in a Non-Urban 1(a) zone.
- \* The definition of 'country dwelling' was omitted. Country dwellings (meaning a dwelling erected on a parcel of land of minimum size 40 hectares) were formerly permissible in zones 1(a) and 1(b) with the consent of Council. They were intended for use associated with agriculture. Concessional clauses built into the original Interim Development Order (i.e. clause 12(4) allowed Council to permit the subdivision of agricultural holdings of less than 40 hectares provided that each new allowance created had an area of not less than 1,000 square metres and not more than 4,000 square metres and that the total number of allotments excised from an existing parcel of land did not exceed four in total.
- \* Caravan parks, hotels, mines, refreshment rooms, service stations and transport terminals were made permissible with the consent of Council and the concurrence of the Department of Environment and Planning in a Non-Urban 1(b) zone.
- \* Sawmills and liquid fuel depots were prohibited in the Residential 2(a) zone.
- \* Caravan parks were prohibited in the Residential 2(c) zone.
- \* Clauses 10 to 15 relating to hotels and motels in rural areas, subdivision, ribbon development and advertising structures omitted and replaced with clauses which may be summarised as indicated on the page overleaf:

**September 22nd, 1978:** Relates to the zoning of land near Dorrigo for the purposes of Non-Urban 1(c).

**June 22nd, 1979:** Relates to the zoning of Coastal Lands for the purposes of 7(f1) Coastal Lands Acquisition.

**August 17th, 1979:** Relates to the zoning of land at Repton for the purposes of Non-Urban 1(c).

An analysis of the Interim Development Order, as amended, indicated few specific provisions relating to the urban nodes of the Shire. Rather, the Interim Development Order, typical of many similar planning instruments relating to rural local government areas, embodies the following policies of the old State Planning Authority:

"To protect the function, efficiency and environment of main traffic routes.

To protect the rural potential of land and to prevent the fragmentation of viable holdings.

To prevent the premature and sporadic subdivision of rural land.

To prevent small lot subdivision in urban fringe areas that could prejudice future urban development."

(Imrie, M. An Approach to Developing Rural Land Use Plans: A Case Study - the Bellinger Valley, February 1982).

Central to the thinking that aided the formulation of the Bellinger Shire Interim Development Order was a concern over the sporadic subdivision of agricultural holdings. Accordingly, a discussion of the subdivision issue is required.

Prior to the operation of Interim Development Order No. 1, no development approval was required for subdivision other than under the Local Government Act, 1919. The provisions of Interim Development Order No. 1 control the size of lots created by subdivision in rural areas to the statewide average of 40 hectares (100 acres) with some savings clauses to enable the creation of subdivisions of 2 hectares and not less than 1 hectare where such allotments are to be used for the erection of a dwelling house to be occupied by rural families and workers. As in many other rural areas of the State, owners of land have tended to subdivide land in accordance with the above statutory provisions, and have then sold the newly created allotment as a supplement to their income.

The basic principle behind the State applied 40 hectare policy was to ensure that the rural areas were not subdivided into agriculturally useless parcels of land. The policy, which was applied to Bellinger Shire in 1969, was not formally circularised to Councils until April 19th, 1973 (Circular 67 'Policy Regarding Subdivisions and Residential Development in Non-Urban Zones'). In 1973 the State Planning Authority outlined four basic reasons for control of subdivision and residential activity in rural areas:

- \* to protect the rural potential of Non-Urban land and to prevent the fragmentation of viable rural holdings;
- \* to prevent premature and sporadic subdivisions and to ensure consolidation of urban areas, thus embracing the prospect of the economic provision of public utilities, particularly water and sewerage, and community facilities such as schools, shops and the like in the urban communities;
- \* to prevent, on the fringe of urban areas, the subdivision of land into small lots which would prejudice the proper layout of additional urban areas as a result of natural growth;
- \* to avoid ribbon development along main traffic arteries linking towns and cities and other centres.

Accordingly, relevant provisions were incorporated into Interim Development Orders and Planning Schemes to permit genuine farm related activities (e.g. Clause 12 of Interim Development Order No. 1 - Shire of Bellinger) although such provisions were not sufficiently refined to prevent eventual speculative small acre subdivision.

Arguments for and against the control of rural subdivision, and more importantly, the optimum size of rural subdivisions, have continually been put forward. In 1973 the minimum size was arbitrarily set at 40 hectares as a holding measure, until Councils carried out the necessary investigations to determine a more appropriate minimum rural area subdivision size based on principles of agricultural economics and viable agricultural production units.

A significant body of research has indicated that hobby farms (or part-time farms run by people who also have another full time or part time job) do not necessarily lead to sterilisation of prime agricultural land but, on the contrary, increase the productivity of the land, do not contribute significantly to loss of agricultural employment, and do not create localised problems such as weed infestation. This research has been summarised by Dr. Bruce Davidson of Sydney University and assumes small acre subdivisions for agricultural use will be provided in response to a genuine demand. There is still a need to protect viable agricultural land from indiscriminate speculative subdivision.

Thus, the apparent problems of subdivision of non-urban land expressed by Circulars 67 and 74 can be overcome by:

- \* providing for rural residential subdivision of up to 2 hectares for predominantly residential purposes in appropriate locations;
- \* allowing rural small holdings for more intensive agriculture or part time agriculture in response to a genuine demand;
- \* controlling subdivision size in general to prevent speculative subdivision;
- \* ensuring that subdivisions are adequately designed with public access constructed to be a suitable standard such that there will be no long term problems created by the resulting subdivisions.

The task still remains, however, to determine the appropriate minimum size of rural subdivision to replace, if appropriate, the holding measure of 40 hectares introduced with the Interim Development Order in 1969. In doing this, Council is required to maintain the savings clauses relating to the erection of workers cottages and family residents (Section 117 Direction). This is designed to allow farm owners to provide dwellings for rural workers in response to genuine need.

Other Councils have approached the problem in a variety of ways. Rural Capability Studies have been undertaken to identify prime agricultural areas that should be protected for agricultural uses. Subdivision controls have then been applied to these lands. The prime agricultural land is generally the land more suitable for agricultural development and this should be the land on which smaller lot subdivisions should be carefully scrutinised. Other Councils have arbitrarily adopted minimum sizes of 100 hectares, 200 hectares or even higher.

The Department of Environment and Planning suggests that the appropriate minimum subdivision size should be related to the agricultural viability of the land. This is a very difficult concept to come to grips with as this 'viable size' varies greatly within relatively small areas depending on topography, soils, microclimate and type of enterprise. The locational requirements of intensive agriculture such as viticulture, horticulture and market gardening are also quite specific and specialised and therefore cannot be clearly identified. It is suggested therefore, that no areas be set aside specifically for these uses but that the

subdivision of a limited number of lots be permitted for these purposes according to the requirements of potential purchasers. Thus the draft local environmental Plan will address issues pertaining to the existing provisions on minimum subdivision size.

A further matter with which the draft local environmental plan will be concerned is the increasing trend in rural residential living and semi-rural lifestyles. Research undertaken by the Department of Environment and Planning suggests that demand for smaller rural holdings takes two forms:

- \* rural residential lots up to 2 hectares for predominantly residential purposes;
- \* rural small holdings capable of supporting some agricultural production with a size range between 4 and 10 hectares.

Actual demand, however, would tend to cover a wide spectrum of sizes. In some areas of NSW, minimum rural subdivision provisions of planning schemes prevent subdivision of rural land into small lots. This is forcing some people to accept 40 hectare lots, often in excess of their requirements. The provision of zones in specific locations permitting rural residential subdivisions will prevent the uneconomic subdivision of agricultural lands, reduce the pressure for subdivision of rural lands, and enable the economic provision of infrastructure and community services and a more environmentally acceptable level of subdivision layout and design.

Certain provision has already been made within the Shire for rural residential development - namely, at Repton, Newry Island, Roses Road, Raleigh and Dorrigo. Rural residential lifestyles also encompass the relatively new concept of multiple occupancy of farms.

A policy to provide for multiple occupancy of rural properties was developed in Circular 35 (November 7th, 1979) and further refined in Circular 44 (July 3rd, 1980). The provisions of these circulars are discussed in detail in Section 9 of this study. It should be noted however, that the section 117 directions made by the minister on August 27th, 1980, require draft local environmental plans to be consistent with the provisions of the above circulars.

### 3.2 Shire of Bellingen Local Environmental Plans No. 1-5

Since the advent of the Environmental Planning and Assessment Act 1979, three local environmental plans relating to land within the Shire of Bellingen have been gazetted.

- \* Bellingen Local Environmental Plan No. 1 (June 5th, 1981) relates to the zoning of land as Non-Urban 1(c) at Newry Island. The local environmental plan refers to Lots 103, 184, DP 607816, Newry Island. The provisions of the local environmental plan are as follows:
  - . the subdivision of the land is subject to Council consent;
  - . such subdivision to be in accordance with a specific plan prepared by a consulting surveyor;
  - . no dwelling house to be erected below the 1 in 100 year flood level.

- \* Bellingen Local Environmental Plan No. 2 (March 13th, 1981) relates to the zoning of land, located to the east of the confluence of Never Never Creek and the Bellinger River, a Non-Urban 1(c2). The local environmental plan refers to portions 22, 24, 27, 217 and Lot 12 DP 583356 Roses Road, North Bellingen. The provisions of the local environmental plan are as follows:
  - . a minimum subdivision size of 5 hectares;
  - . a minimum frontage of 100 metres;
  - . dwelling houses to be more than 20 metres from the alignment of Roses Road and more than 4 metres from the side boundaries of the allotment;
  - . means of water supply to residential allotments to be in a manner satisfactory to Council.
- \* Bellingen Local Environmental Plan No. 3 (April 30th, 1982) relates to the zoning of land located in north Bellingen for village purposes. The local environmental plan refers to Lot 52 DP 252940 and Lot 61, DP563024 Lyon Street, Bellingen.
- \* Bellingen Local Environmental Plan No. 4 gazetted on July 23rd, 1983 which aims to restrict residential development and further subdivision of existing rural land in the flood plain area of the Kalang River particularly on Newry Island and Urunga.
- \* Bellingen Local Environmental Plan No. 5 gazetted on December 10th, 1983 which aims to zone land to the east of the township of Bellingen for open space and residential purposes.

By letter dated 19th October 1982, the Department of Environment and Planning indicated to Council that the use of a village zoning was not appropriate as a planning mechanism and that Council should consider more specific zonings. These more specific zonings will be provided in the draft local environmental plan.

### **3.3 State Environmental Planning Policies**

#### **3.3.1 State Environmental Planning Policy No. 1 - Development Standards**

State Environmental Planning Policy No. 1 was gazetted on October 17th, 1980. The Policy provides:

"... flexibility in the application of planning controls operating by virtue of development standards in circumstances where strict compliance with those standards would, in any particular case, be unreasonable or necessary or tend to hide the attainment of the objects specified in section 5(a)(i) and (ii) of the Act."

The Policy enables an application to be approved even though the provisions of development standards are not being complied with. The consent of Council and the concurrence of the Director are required in cases to which the policy applies. Should Council, as the consent authority, not consider an objection to an existing development standard well-founded, it may refuse development consent. The Land and Environment Court, should an appeal be lodged, may determine that the objection is well founded and approve the application.

In short, the Policy modifies existing planning instruments (such as the Shire of Bellingen - Interim Development Order No. 1) by enabling consent to be granted to a development which does not comply to a standard. The Director has instructed Councils (Circular No. 8) to ensure concurrence in all cases except where:

"The standard to be contravened is one which limits the height or density of a development; or one which specifies the minimum area for a subdivision or erection of a dwelling in a rural a non-urban zone."

Should the standard relating to either of the above matters be departed from by more than 10 per cent, and the Council support the departure, the concurrence of the Director is required.

State Environmental Planning Policy No. 1 therefore enables subdivision to occur in rural areas on allotments of less than the minimum size stipulated in Interim Development Order No. 1. In certain cases (i.e. where the size of the lot proposed is less than 90 per cent of the minimum size stipulated) the concurrence of the Director is required. In all cases the concurrence of the Director can only be assumed if Council forwards details of consents under the policy to the Department at the same time it notifies the applicant.

### **3.3.2 State Environmental Planning Policy No. 4 - Development Without Consent**

State Environmental Planning Policy No. 4 was gazetted on 4th December 1981, and amended on 7th October, 1983.

This policy is designed to permit development of minor environmental planning significance to be carried out on land, without necessitating development consent. Such development includes:

- \* The carrying out of certain subdivision (e.g. the purpose of subdividing into two allotments widening public roads, creating a public reserve, etc.).
- \* Changes of use where a building is lawfully used or has been lawfully constructed to be used, for the purposes of a shop, commercial premises or industry. Under the provisions of the policy, and subject to various conditions and requirements, a building lawfully constructed to be used as a shop can alter its use to a shop of a different kind or a commercial use. Similarly, an industrial use can be changed to a light industrial use. It should be noted that the Policy is a complex and complicated document and reference should be made to the complete text in cases where it is to be applied.
- \* Certain alterations to a building or a work.
- \* Certain ancillary or incidental development.

The aim of the policy is to permit development of minor environmental planning significance (such as the above) to be carried out on land without necessitating development approval. The provisions of the policy are complex and cannot be easily summarised.

### **3.3.3 State Environmental Planning Policy No. 5 - Housing for Aged and Disabled Persons**

State Environmental Planning Policy was gazetted on February 19th, 1982 and amended on 7th October, 1983. The intent of the policy is to increase the availability of aged and disabled persons housing and to provide a wider choice of

residential accommodation for these people. In short, the policy provides for the development, with Council consent, of aged and disabled persons housing and any land on which the erection of dwelling houses, residential flat buildings, hospitals and churches is permissible with the consent of Council except in some areas identified for conservation, scenic protection, environmental protection and the like. The location of sites for such dwellings for aged and disabled persons must take account of the provision of associated services (hostels, nursing homes, hospitals). One or more of the above services must be provided within a reasonable time from the date of the development of dwellings for aged or disabled persons on the same or adjacent site. The sites must not be isolated from normal urban services.

The Policy also provides a number of development standards which, if met, cannot be used by Council as a reason for refusal of consent.

In the Shire of Bellingen, housing for aged and disabled persons, as provided in State Environmental Planning Policy No. 5, is permissible with consent in all the Non-Urban zones and the village, township and all residential zones.

### **3.3.4 State Environmental Planning Policy No. 6 - Number of Storeys in a Building**

This policy was gazetted on 10th December, 1982 and aims to:

- \* remove any confusion from the interpretation of provisions in environmental planning instruments which control the height of buildings by reference to the number of storeys, floors or levels which the buildings contain, by specifying the manner in which that number is to be determined;
- \* to facilitate the erection of buildings which conform to the topography of the land on which the buildings are erected;
- \* to modify the meaning of each of the words 'storey', 'floor' and 'level'.

### **3.3.5 State Environmental Planning Policy No. 8 - Surplus Public Land**

Policy No. 8 was gazetted on 8th April, 1983. It generally aims to promote and co-ordinate the orderly and economic use of land in public ownership surplus to public needs.

### **3.3.6 State Environmental Planning Policy No. 9 - Group Homes**

This policy, gazetted on 7th October, 1983, is designed to facilitate the establishment of group homes in which disabled or other socially disadvantaged persons may live as a household in an ordinary residential environment instead of in an institution.

## **3.4 Other Legislation**

### **3.4.1 The NSW Coastal Protection Act, 1979**

This Act came into force on July 1st, 1979. The Act is important for anyone who intends to build or subdivide near the sea or a coastal river. Basically the Act enables the Minister for Public Works to have a final say about hazardous developments (hazardous because it is too near the sea or on the flood plain of a coastal river up to where the tidal influence ceases) whether by a private developer or a public authority. The Act provides the administrative framework to enable the Minister for Public Works, relying on advice from the Coastal Engineering Branch

of the Department of Public Works to override the decisions of Local Councils as well as other public authorities (including Ministers of the Crown). In turn, the Act provides for the establishment of the Coastal Council, which provides information to the Minister of Environment and Planning. It should be noted that the Council is an advisory body only.

The Act (Section 38) allows the Minister to notify an authority of a particular area of land for which any development applications must be referred to the Minister for concurrence.

#### **3.4.2 The Soil Conservation Act, 1938**

This Act is relevant to a summary of land use controls in that Section 21(c) of the Act prevents the ringbarking, cutting, felling, poisoning, destroying, topping, lopping or injuring of trees on protected lands other than in accordance with an authority issued by the Catchment Area Protection Board. Protected lands are shown on maps prepared by the Soil Conservation Service. They generally indicate land with a slope of 33 per cent or greater. Protected lands within the shire of Bellingen are indicated on Map 1.

#### **3.4.3 The Heritage Act, 1977**

This Act is administered by the Minister of Environment and Planning. The responsibility for recommendations and advice to the Minister is vested in the Heritage Council. The legislation is broad in scope; it can cover the 'built' and 'natural' environment and everything between. In the Act 'Environmental Heritage' means those buildings, works, relics, or places of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance for the State. It should be noted that the term 'relic' excludes, by definition, deposits, objects, and material evidence relating to aboriginal settlements. The Act provides for the making of conservation instruments in respect of buildings, works, relics of places of historic, scientific, cultural, social, archaeological, architectural, natural and aesthetic significance. In addition, interim conservation orders may be applied to precincts. In 1979 an interim conservation order was made in respect of the Hyde Street Precinct. Such orders only last for two years and the Hyde Street order has now expired. The Heritage Council has since provided Council with a direction to prepare an environmental planning instrument under Section 82 of the Act. There is some overlap between this Act and the Australian Heritage Commission Act, 1975, and the National Parks and Wildlife Act, 1974.

#### **3.4.4 The National Parks and Wildlife Act, 1974**

Responsibility for the administration of this Act lies with the minister for Environment and Planning. The National Parks and Wildlife Service is responsible for the conservation of nature, including animals and plants, and places of natural and scenic beauty; and the preservation of historic sites and areas of significance to Aboriginal culture. The Service is responsible for wildlife management, the acquisition of areas in their natural condition, the management of resources contained within the Services' park, reserve and site system and the development of facilities on land administered by the Service for the use and employment of the public.

This Act has sole jurisdiction and control over aboriginal relics and places.

**3.4.5 The Forestry Act, 1916**

This Act relates to all State forests within the Shire. At the present time, and following the July 1978 Amendment to the Interim Development Order, forestry activities require the consent of Council in a Non-Urban 1(a) zone: this zone constitutes the majority of rural lands within the Shire. It should be noted that the Model Provision, 1980, which may be adopted in whole or in part by the draft local environmental plan for the Shire of Bellingen states as follows:

"35. Nothing in the local environmental plan shall be construed as restricting or prohibiting or enabling the consent authority to restrict or prohibit -

(a) the carrying out of development of any description specified in Schedule 1."

Schedule 1, states:

"9. The carrying out of any forestry work by the Forestry Commission, School Forest Trust, or Community Forest Authorities empowered under relevant Acts to undertake afforestation, roading, protection, cutting and marketing of timber, and other forestry purposes under such Acts or upon any Crown Land temporarily reserved from sale under the Forestry Act 1916."

Accordingly, land subject to the above legislation can be developed without the consent of Council for the purposes listed above.

**3.4.6 The Water Act, 1912**

Section 26(d) of this Act prevents tree ringbarking, cutting, felling, poisoning, destroying, topping, lopping or injuring of trees within 20 metres of a prescribed stream other than with the authority of the Catchment Areas Protection Board. Prescribed streams within the Shire of Bellingen are as follows:

- \* Bellinger River (North Arm and South Arm).
- \* Kalang River (South Arm Bellinger River).
- \* Never Never River (Never Never or North Creek).
- \* Rosewood River (Little North Arm).
- \* Nymboida River.
- \* Bielsdown River (Bielsdown Creek).
- \* Bobo River (Bobo Creek).
- \* Burra Creek.
- \* Deer Park Creek (Deer Park River).
- \* Little Murray River.
- \* Rocky Creek.
- \* Wild Cattle Creek.

**3.5 Council Policies**

In addition to the Shire of Bellingen Interim Development Order No. 1 (as amended) and those Local Environmental Plans gazetted since the operation of the Environmental Planning and Assessment Act 1979, development within the Shire is regulated through the following non-statutory Council policies the provisions of which are summarised below.

**Council Policy - Subdivision Standards (as amended on November 12th, 1974)**

- \* Minimum lot size 600 square metres.
- \* Minimum frontage 20 metres.
- \* Standard number of blocks per hectare to be generally not more than 12.
- \* Maximum length of cul-de-sac to be 100 metres.
- \* Cul-de-sac road reserve to be minimum of 16 metres wide with minimum 8 metre carriageway; residential road serving a maximum of 30 allotments to be minimum of 16 metres wide with minimum 8 metre carriageway; residential road serving more than 30 allotments to be not less than 20.115 metres, with minimum 13 metre carriageway.
- \* General requirement of 10 per cent of subdivided land to be provided as open space.

**Code Governing the Development of Land for Residential Flat Buildings**

- \* Minimum lot size of 650 square metres.
- \* Minimum frontage of 20 metres.
- \* In areas to be defined by Council residential flat buildings having more than 2 storeys to be permissible with consent of Council.
- \* Open space requirement in Urunga calculated on basis of 46.5 square metres, 60.39 square metres and 74.32 square metres per one, two and three bedroom flat respectively.
- \* Maximum site coverage of 50 per cent, 40 per cent and 35 per cent for one, two and three or more storey buildings respectively.
- \* Front setback of 6 metres required (7 metres for allotments created since 1975).
- \* Side setbacks to be calculated on basis of height of elevation divided by 4 metres.
- \* One parking space per flat.
- \* Two additional parking spaces per four flats where development contains more than 8 flats.
- \* Minimum size of bedrooms to be 42 square metres, 56 square metres and 65 square metres per one, two and three bedroom flats.

**Code Covering the Erection of Dwellings and Alterations and Additions Thereto**

- \* Building line of 6 metres from front boundary of the alignment. A building line of 7 metres applies to new subdivisions.
- \* 900 millimetre side boundary setback for single and two storey buildings; 1,500 millimetre for a dwelling containing more than two storeys.

- \* Dwelling, garages, carports or outbuildings to have a maximum of 66 per cent site coverage.
- \* Maximum height of front fence to be 1.05 metres. This height restriction to apply to all fences erected within building line.
- \* Floor levels of new dwellings must be raised to a minimum of 500 millimetres above level of highest known flood.
- \* Within any dwelling one habitable room to be of 14 square metres minimum size and one other room to be of 11 square metres.

The above policies can be altered by Council on adoption of alternative provisions. The policies of Council do not override statutory requirements but will be given certain weight by the Land and Environment Court in cases where a development may comply with a statutory scheme but not with the more restrictive code. Generally speaking the weight which the court attaches to such codes is dependant on the consistency with which it has previously been applied.

#### 4. THE NATURAL ENVIRONMENT OF BELLINGEN SHIRE

##### 4.1 Regional Perspective

The Shire of Bellingen is located in the North Coast Region of NSW and has an area of 1,604 square kilometres. The principal communities of the Shire are Urunga, Bellingen and Dorrigo. Urunga is located on the Pacific Highway whilst Bellingen and Dorrigo are both located on Trunk Road 76, one of the major east/west links between the New England Highway and the coastline in the North Coast Region. Neighbouring Shires are Coffs Harbour and Nymboida to the north, Dumaresq to the west and Nambucca to the south.

The North Coast Region, which extends approximately 500 kilometres north from Tuncurry to the Queensland border, has experienced considerable population increase in recent times, most notably in coastal settlements such as Coffs Harbour and Tweed Heads. Tourism is playing an increasingly important role in the economy of the region.

Improvements in communications have contributed towards greater pressure being placed on smaller settlements such as Urunga which has become the greatest concentration of population within the Shire. However, the greatest rate of population growth has taken place within the rural lands of the Shire, reflecting in part trends towards alternative lifestyle which encompass multiple occupancies, hobby farms and rural retreats. In addition to this there has also been the subdivision of land and erection of single dwellings on rural lands in accordance with the provisions of the existing statutory instruments controlling development in the Shire.

As a result, Bellingen Shire has come under increasing pressure to accommodate an unprecedented rate of growth and to make provision for the orderly future development of the Shire.

##### 4.2 Topography

The Bellingen Shire, like many others in the Region, exhibits considerable variation in relief ranging from sea level to a maximum elevation of 1,562 metres at Point Lookout. Within the Shire there are 5 distinct topographic regions:

- \* The tablelands of the Dorrigo Plateau.
- \* The escarpment largely occupied by the New England and Dorrigo National Parks.
- \* The elevated ridges extending east from the escarpment largely occupied by the Oakes, Diehappy, Roses Creek, Scotchman, Gladstone and Newry State Forests.
- \* The river valleys of the Bellinger and Kalang.
- \* The coastal plain.

Of the 1,604 square kilometres in the Shire, approximately 1,100 fall within the total catchment area of the Bellinger River which comprises both North and South Arms. The Bellinger River rises below the escarpment at Point Lookout, and meets with the tributaries of Bishops Creek, Dardanelles Creek and Rosewood Creek. These tributaries occupy entrenched valleys with steep sides. Further down the

valley the river meets with Woods, Never Never and Hydes Creeks on its passage to Urunga. The South Arm, the Kalang, rises some 16 kilometres south-east of Point Lookout and flows approximately parallel to Bellingen up to a distance of approximately 3 kilometres from the coast where it turns north to join the North Arm.

Much of the land within the Shire has a slope in excess of  $18^{\circ}$  (1 in 3), such lands being shown on Map 1 of this report. Most of these lands, however, fall within the boundaries of either Natural Parks or State Forests. This information was obtained from the Soil Conservation Service and refers to protected lands as notified under the Soil Conservation Act, 1938, being lands that have a slope generally in excess of 18 degrees.

In general terms, development on steep land should be discouraged or tightly controlled. Such land tends to be unstable and the physical problems in providing access and services prohibit development in most cases, particularly when there is more undulating land available. There are also potential problems with soil erosion and visual intrusion associated with development on steep land. It is generally accepted, therefore, that steep land is a constraint to further urban and rural residential development. Slopes exceeding 20 per cent (1 in 5) are generally considered as not suitable for urban development. In identifying areas for urban expansion and rural residential development, land with slopes generally in excess of 20 per cent have been excluded.

### 4.3 Hydrology

#### 4.3.1 Drainage Patterns

The North and South Arms of the Bellinger River and their headwater tributaries drain approximately 70 per cent of the Bellingen Shire. The Nymboida River and its tributaries largely drain the remainder of the Shire, that is, the Dorrigo Plateau. This latter area is located within the catchment of the Clarence River Basin.

The main tributaries of the North Arm of the Bellinger River are Bishops Creek, Rosewood River, Never Never Creek and Hydes Creek, whilst the main tributary of the South Arm is Spicketts Creek.

In short, the North and South Arms of the Bellinger River drain all lands within the Shire situated to the east of the escarpment with the exception of land to the north of the Shire; the Nymboida River which partly forms the western boundary of the Shire drains all but the northern extent of the Dorrigo Plateau; the remainder of the Shire is drained by the Bobo River and its tributaries.

Throughout the Shire the dominant drainage pattern, influenced by the topography and structural geology, is dendritic. As in other parts of the North Coast Region, the river systems of the Shire and their associated gorges, valleys and flood plains have largely influenced the pattern of settlement in the Shire.

#### 4.3.2 Groundwater Reserves

##### General

The following information on groundwater reserves is provided in a document prepared by the Water Resources Commission entitled "Water Resources of the Bellinger and Nambucca Valleys".

Groundwater reserves in the Bellinger Valley are used primarily for stock and domestic purposes with only occasional supplies being used for irrigation. Such reserves occur in two subdivisions: in jointed rocks, which although impervious in themselves, contain fractures, cracks, joints and partings (i.e. secondary openings) and unconsolidated deposits in which water may be held in the pore spaces in sands and/or gravels associated with alluvial materials or in accumulation of aeolian and beach sands near the coastline.

The water bearing potential of jointed rocks is dependent on rock type, elevation, relief, rainfall and soil penetration of rainfall but remains extremely variable. The best potential for groundwater reserves in the Bellinger Valley may be expected from rock types such as grey wackes, quartzites and volcanics as they are harder and more heavily jointed than other softer strata. The Water Resources Commission report suggests that useful stock supplies should be obtainable from these reserves within a depth of 30 metres at selected sites. The Commission expects that the total salinity of these reserves is expected to be approximately 1 part per 1,000 with a hardness in excess of 1 part per 10,000.

Throughout the middle reaches of the Bellinger River there are narrow but often continuous alluvial flats of fluvial origin on all major streams. The maximum thickness of the alluvium is not known but probably does not exceed 18 metres. Further upstream this depth decreases to the point where the streams become entrenched to rock so that the alluvium stands completely above creek level and therefore has virtually no groundwater potential.

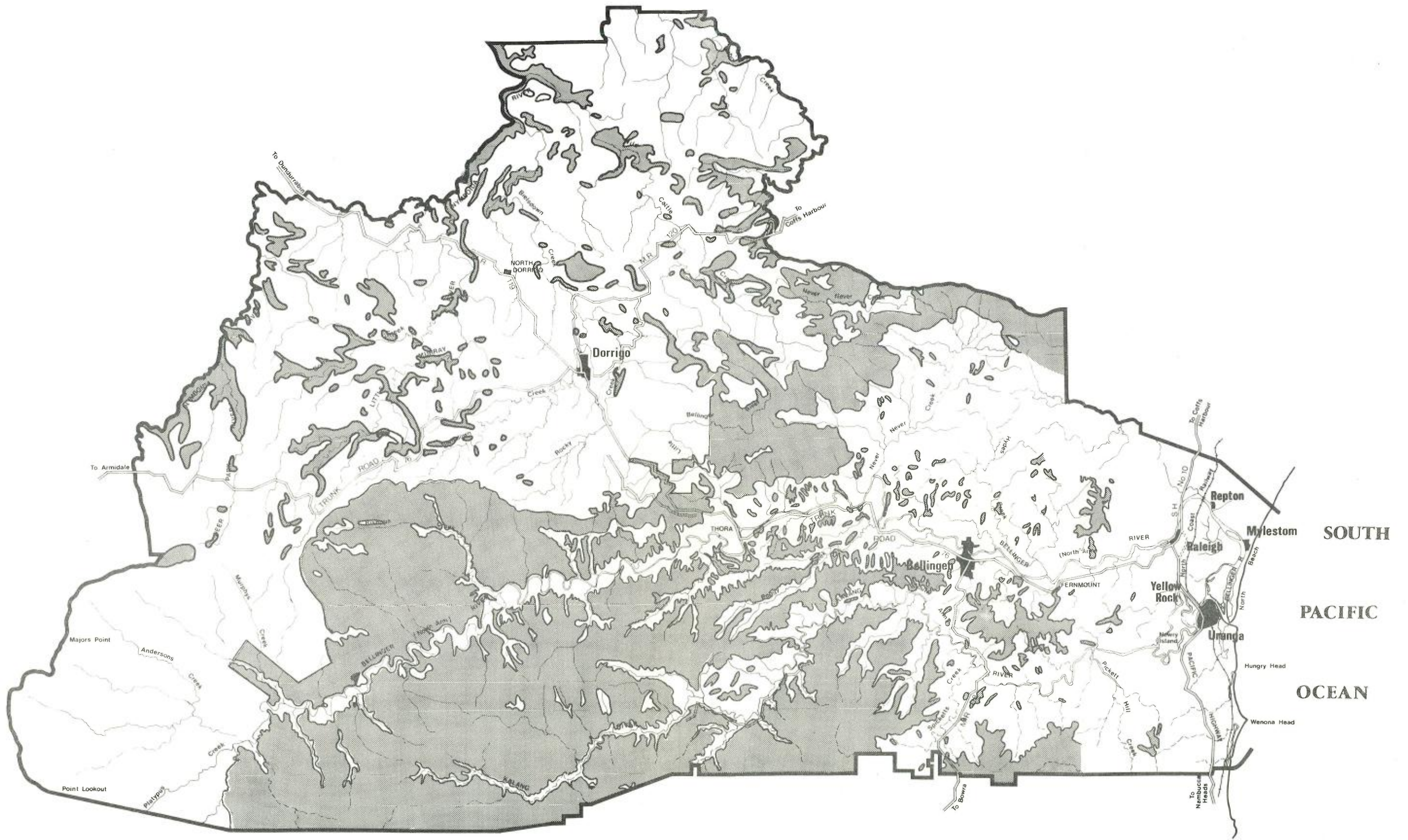
Water quality from fluvial alluvium can be described as fresh or good with total salinity being low. Water derived from this source will usually be suitable for domestic, stock and irrigation use. Downstream of the tidal limit salinity may increase, particularly in wells in close proximity to the river. Useful supplies of good quality water can often be derived from the levees which have formed through the deposition of silt and sand with yields normally being adequate for stock, domestic and garden use.


The sandbeds located behind the coastal beaches can provide, in certain circumstances, useful supplies of high quality water. Use of this water is generally confined to camping grounds, caravan parks and domestic and garden supplies.

#### **Estimates of Groundwater Storage and Recharge**

The only formation that has a significant groundwater reserve from which large supplies of low salinity water may be extracted is the fluvial sediment upstream of Bellingen. Relatively wide stretches of alluvium are found to extend for 5 kilometres upstream of Bellingen to the confluence of the North Arm of the Bellinger River and Never Never Creek. Assuming an average alluvium width and aquifer thickness of 600 metres and 4 metres respectively and a porosity of 0.15 the volume of water in storage is estimated as 1,800 ML.

The Lower Bellingen Water Supply Scheme utilises a wellfield located on the alluvial flats of the Bellinger River, immediately upstream of Bellingen. The two bores and one well are capable of supplying in excess of 10.5 ML per day. As the populations in the coastal areas increase, further demands will be made on the water supply. Additional bores will need to be sunk upstream of the existing wellfield to meet future requirements.



LAND WITH SLOPE GENERALLY GREATER THAN 1 IN 3 

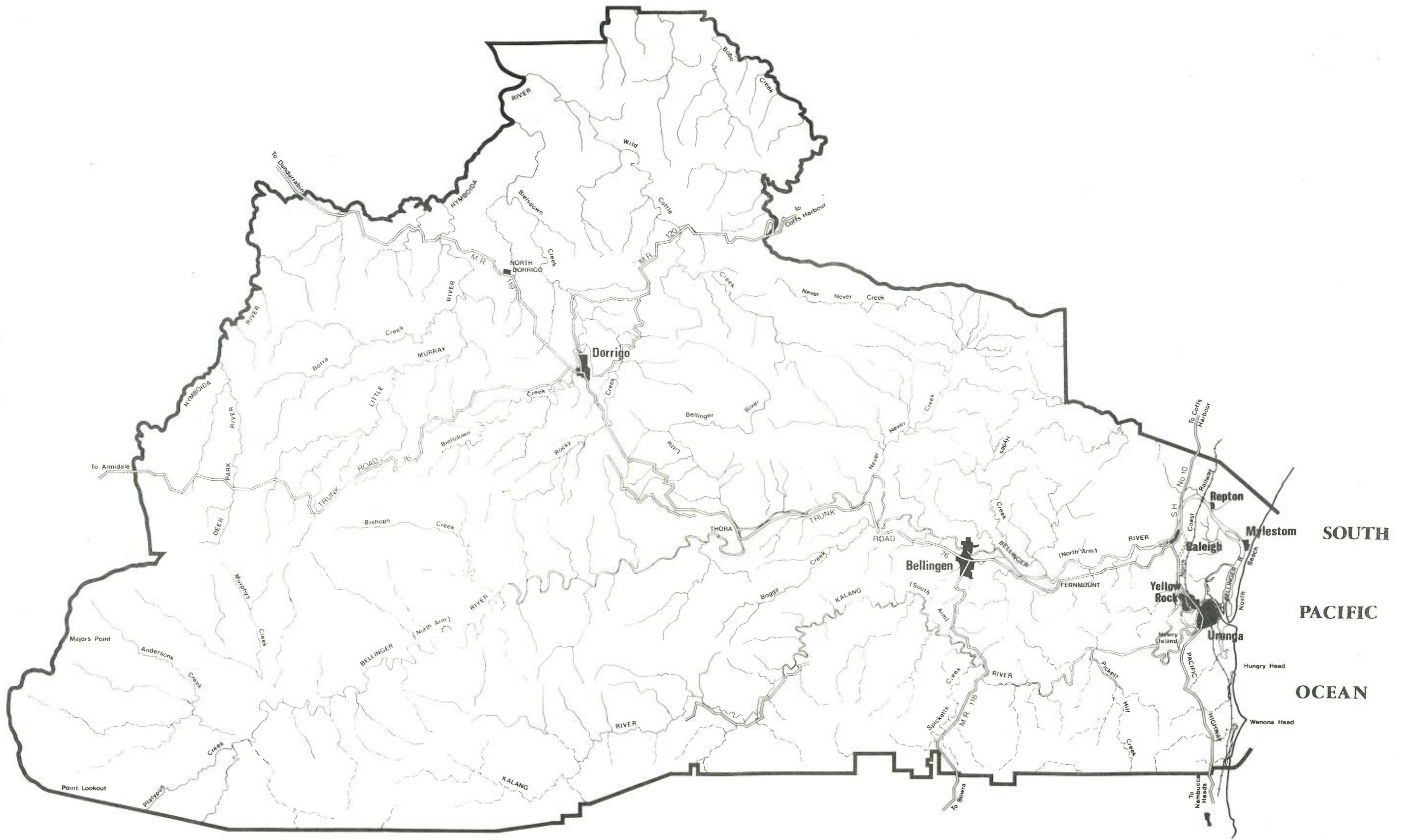
SOURCE: SOIL CONSERVATION SERVICE OF N.S.W.

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**PROTECTED LANDS MAP 1**

0 5km 10km 



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 For BELLINGEN SHIRE COUNCIL



SHIRE OF BELLINGEN ENVIRONMENTAL STUDY  
**DRAINAGE PATTERNS 2**

0 5 km 10 km

↑

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 For BELLINGEN SHIRE COUNCIL

### **Pollution of Groundwater in the Bellingen Shire Area Aquifer Recharge**

Groundwater is replenished directly or indirectly by infiltration. If chemical or organic pollutants enter water before it infiltrates then there is a likelihood of these pollutants reaching the groundwater storage. Because groundwater moves slowly and is widely dispersed, it is difficult and expensive and occasionally impossible to rejuvenate a degraded groundwater body. It is therefore most important to guard against pollution of groundwater reserves in the Bellingen Shire area.

The susceptibility of an aquifer system to pollution is highly dependent on the prevailing geological conditions. The shallow fluviatile aquifer material of the Bellingen wellfield is recharged directly by both infiltration of rainfall and river water. The sandbeds are recharged directly from localised rainfall. Since the recharge path is short and direct, both aquifers are vulnerable to pollution and all precaution should be taken for their protection.

In the fractured hard rock aquifers the flow recharge paths are generally long. The risk of pollution is less, due to the long time that the water is in the aquifer and because the soil layers and the rocks themselves may exert a considerable cleansing effect on the water passing through.

#### **4.3.3 Existing Water Storages and Weirs**

There are no major storages or weirs under the control of the Water Resources Commission within the Study Area.

#### **4.3.4 Future Storages**

A possible dam site is located on the Upper Nymboida River which forms the north-western boundary of the Shire.

At this stage, no other water resource projects are under consideration.

#### **4.3.5 Water Supply Schemes**

The Dorrigo and Lower Bellingen District Water Supply Schemes are the only large scale water resource schemes operating within the area.

The Lower Bellingen District Water Supply Scheme provides water to urban areas and some rural consumers in the lower Bellingen area. The future water demands for this scheme (as reported in the Public Works Department report, April 1978, "Community Water Supplies Investigation Report No. 4") are expected to be 840 ML per year in 1986 and 1,160 ML per year in 2006. The future water demands of the Dorrigo Water Supply Scheme are expected to be 186 ML per year in 1986 and 192 ML per year in 2006. For further details of these schemes, reference should be made to the Public Works Department.

#### **4.3.6 Future Irrigation**

It is anticipated over the next 25 years that the growth in irrigation will remain relatively small within the Study Area. By 1990 and 2005 the existing area irrigated may increase by 15 and 40 per cent respectively.

#### 4.3.7 Surface Water Quality

The Commission holds water quality data for seven of sixteen River Gauging Stations located in the Shire. Summaries of the water quality data held by the Commission are presented in the table below.

Waters of the Bellinger and Kalang Rivers are of low salinity and turbidity.

The data for gauging stations in that part of the Shire draining to the Nymboida River indicates that the waters are also of low salinity and turbidity, and within a pH range which does not restrict their use for agricultural or domestic purposes. While there are no analyses of water for major ions in this section of the catchment, those for an associated catchment (Little Nymboida River at Timmsvale) show that the water is expected to be sodium chloride dominant and have low hardness, generally less than 20 milligrams CaCO<sub>3</sub> per litre.

Table 4.1: Summary of Water Quality Data for Stations within Bellinger Shire

Station Name and Number	No. of Analyses	Conductivity Range (S/cm at 25 <sup>o</sup> )	Turbidity Range N.T.U.	pH Range
Bellinger River at Thora 205002	75	46 to 171	0.6 to 18	6.8 to 7.8
Bellinger River at Upper Thora 205010	71	53 to 127	0.6 to 17	6.6 to 7.8
Kalang River at Koorowi 205013	9	88 to 125	0.6 to 2.5	6.8 to 7.1
Little Dorrigo R. at North Dorrigo 204016	41	24 to 56	0.9 to 16	6.6 to 7.2
Bielsdown Creek at Dorrigo Nos. 2 and 3 204017	70	22 to 110	0.8 to 16	6.0 to 7.6
Nymboida River at Bostobrick 204019	37	28 to 82	1.3 to 33	6.5 to 7.4
Bobo River at Bobo Nursery 204026	74	37 to 147	0.54 to 17	6.6 to 7.2

#### 4.3.8 Flooding

Relevant to this study is a statement in respect of the extent of flooding in the town of Bellinger, and of non-urban lands in the Shire.

The extent to which floods affect the Shire has been detailed in a recent report, namely "The Bellinger Valley Flood Plain Management Study", prepared by Soros-Longworth and McKenzie, Consulting Engineers, in association with Cameron McNamara.

This study encompassed the entire Bellinger River catchment and its aim was to determine a plan for management of the flood prone areas of the Bellinger River. There is little point in repeating the analysis which was undertaken during the above study. However, the principal findings of the study are given below.

- \* The objective of flood plain management is to minimise economic and social loss and disruption from floods, and in particular to protect life and property and reduce public and private loss whilst enhancing the economic social and environmental value of flood plains.
- \* Floods in the Bellinger Valley occur more frequently between January and March and between May and July.
- \* Flood affected urban areas are Bellingen (see Map 20), Newry Island, Urunga, Yellow Rock, Raleigh, Repton and Mylestom.
- \* Flood affected roads include the Pacific Highway, Trunk Road 76 between Bellingen and the Pacific Highway, North Bank Road, the Hydes Creek Road, the Repton to Mylestom Road, the main road up the South Arm and the Bellingen Bridge.
- \* Dairying (840 hectares) and beef cattle grazing (2,300 hectares) are the major uses of the flood plain (4,200 hectares).
- \* Sufficient warning is normally given to enable removal of stock and plant from flood liable areas. The only major concern of the majority of farmers is severe bank erosion caused by flooding.
- \* Preliminary estimates of social public sector and urban losses due to flooding indicate that disruption of access along roads involves an average loss of \$78,000 per year, damage to roads and bridges cost about \$68,000 per year and damage to housing and urban property costs about \$14,150 per year. The total social and urban economic loss is thus about \$160,000 per year (1981 figures).
- \* Three caravan parks, 135 houses and 5 small business premises are located in urban or residential areas within the 100 year flood boundary.
- \* There is a lack of 'officially' considered flood susceptibility for supposedly flood free land which may be detrimental in that unwise development may be encouraged on land which may eventually flood.
- \* Few structural works recommendations proposed in previous mitigation reports have been implemented.
- \* The report endorses Council's policy of requiring all new floor levels of houses to be 0.5 metres above the one hundred year flood level throughout the flood plain.
- \* Flood losses have been mitigated through the raising of houses, fitting of flood doors, raising of two sections of the Hydes Creek Road, temporary lifting of stock and the shifting of caravans.

- \* The flood warning system and the emergency services are reasonably well organised.

The flood management study recommends the following objectives and policies.

### Objectives

- \* Planning and legislation is needed to ensure that a start is made to restructure flood plain development and to provide management of the flood plain.
- \* The urban areas within the flood plain should be gradually relocated or flood proofed.
- \* Further development on river banks should be avoided, particularly in areas of active bank erosion.
- \* Where practicable, the erosive character of the river should be constrained.
- \* Farm dwellings should gradually be relocated away from areas of high velocity flow or other hazards.
- \* Where economically justifiable, improve flood drainage capacity and levee protection of rural areas.
- \* Develop a road system with a level of immunity such that flooded areas can be further evaluated by ground transport when necessary.
- \* Develop an emergency services organisation and a flood warning system capable of adequately responding to external disaster situations.

**Policies** (these are given below in a summarised form only)

### Valley Wide

- \* Provide a clear delineation of flood ways and flood prone land.
- \* Provide zoning modifications for the prevention of further structural development in flood ways.
- \* Expand urban zones and rural residential development zones onto flood prone land **only** where fill takes place to raise ground level to above 1 in 100 year flood levels and **only** where this will not adversely affect flood flow characteristics and **only** where adequate flood-immune access to flood free ground is available.
- \* Undertake a geomorphological study of the entire river system to formulate an economically justifiable erosion control plan for the entire valley and to stipulate any appropriate constraints for development near the river banks.
- \* Formulate and apply construction regulations to new or redeveloped structures on flood prone land (not flood ways).
  - to ensure that these structures have a floor level set at least 0.5 metres above the 1 in 100 year flood level;

- to ensure that these structures are erected on a mound having a height at least 0.3 metres above the 1 in 100 year flood land and an area at least 50 per cent greater in area than the house floor area and with side slopes not steeper than 1 in 4, where the area in which those structures are to be located have no ready access to flood free ground;
- to ensure that these structures are constructed of flood resistant materials.
- \* Ensure the collection of information regarding flooding within and away from the main channels for the complete range of flood severity.
- \* Encourage flood proofing of unprotected developments.
- \* Undertake detailed investigation of flood proofing of major access links in the valley, and also investigation of high level replacement of bridges.
- \* Install a telemetred rain gauge and height recorder in the upper reaches of the North Arm to be directly linked to the State Emergency Services.
- \* Continue with flood education measures.
- \* Investigate ability of State Emergency Services to cope with extreme disaster.
- \* Ensure flood free locations for vital service facilities such as ambulance, sewage treatment etc.

Bellingen

- \* Implement open space planning, building construction regulations, and encourage flood proofing of individual structures.

Newry Island

- \* Implement open space planning, building construction regulations, and encourage flood proofing of individual structures.
- \* Investigate provision of a low levee around existing development with consideration of the findings of the erosion study.
- \* Make consent for fill raising in undeveloped areas to be the subject of detailed hydraulic analysis.
- \* Allowance for further construction on those parts as the embankment which have already been raised to 3.4 AHD and within the existing development to be withheld, for those areas within 30 metres of the banks, pending the findings of the erosion study.

The flood plain management study also recommends policies for Urunga, Yellow Rock, Raleigh, Repton and Mylestom - the study should be referred to from this information. For the remaining rural areas, the following policies are recommended.

- \* Investigate check bank and stabilisation works at Hendersons to prevent further erosion of natural levees and to reduce the frequency of bank overflows in the light of its potential benefit for access along the Pacific Highway.
- \* Prevent development in flood ways.
- \* Maintain Interim Development Order controls on subdivision limits for rural holdings.

It can be seen from the policies put forward by the flood plain management report that most recommendations comprise mainly non-structural measures. The aim of this is to gradually redirect the development within the valley in order that future floods will not cause the damage that has been wrought in the past.

It is possible that certain of the policies recommended by the flood plain management report may conflict with current State Government Policy on flooding and flood prone land. Details of this policy are set out below.

The NSW Government has recently adopted a policy of restricting or prohibiting the development of flood prone land. This policy, as expressed in the Section 117(2) Direction G2(iv) issued by the Minister of the Department of Environment and Planning on 11th July 1983, and in Direction G7 which states that:

"The following General Provisions in deemed instruments embody principles of State and Regional significance and shall be maintained in draft Local Environmental Plans unless the Council can satisfy the Director that any particular provision or area should be varied or excluded having regard to the provisions of Section 5 of the Environmental Planning and Assessment Act, 1979:

- (1) Provisions for the protection of, or development controls relating to:
  - (a) flood liable land;
  - (b) water catchment areas . . . ."

The only provision within the Interim Development Order No. 1 relating to flood liable land and water catchment areas is:

- "8. In respect of any application for approval to erect a dwelling-house or a residential building, the Council shall take into consideration the likelihood of floodwaters entering any such building and may attach conditions to any such approval requiring the floor to be erected at a height sufficient, in its opinion, to obviate the frequent flooding of the building."

The above Directive also requires that Draft Local Environmental Plans be consistent with certain Planning and Environment Commission Circulars. The former Planning and Environment Commission's Circular No. 15 'Development of Flood-Prone Lands' laid down those matters which Councils were required to consider when determining applications for development on flood prone land.

On 15th February 1982, Circular No. 31 was distributed to all City, Municipal and Shire Councils. The circular deals with development on flood prone land and extends earlier Circulars 15 and 22.

Paragraph 4 of Circular 31 states:

"The policy as set out in the circulars is mandatory for all Government or Government assisted works, except where flood free sites are neither available nor appropriate and it is strong advice for local government and for private development. These circulars are among those included in the Minister's Direction of August 27th 1980 under Section 117(2) of the Environmental Planning and Assessment Act and are to be followed by Councils in the preparation of Local Environmental Plans."

The main elements of the Circular are as follows:

- "(a) Essentially the policy promotes the removal of urban development from flood prone areas where this is practicable and appropriate, and aims to clear floodways of unnecessary obstructions to the free flow of flood water.
- (b) Flood prone lands are defined as "Those areas covered by a 1 in 100 year flood" unless otherwise determined by the Water Resources Commission.
- (c) Floodways are defined as "Those areas covered by a 1 in 20 year flood" unless otherwise determined as above.
- (d) "It is essential that all development involving the erection of buildings and the carrying out of works on the subdivision of land, within flood prone areas is subject to the Council's consent."
- (e) The Circular recognises that to zone land as flood prone will be likely to have the following consequences:
  - (i) difficulty and social disruption to the owners and occupiers of land.
  - (ii) Residents of flood prone land may be likely to resist any suggestions of relocating.
  - (iii) Owners may find they are unable to use land for the purpose for which it was purchased.
  - (iv) Property values may fall.
  - (v) Owners will have difficulty in obtaining insurance against flood damage.
  - (vi) Legislation does not make provision for the payment of compensation arising out of zoning restrictions except in certain circumstances.
  - (vii) Disbenefits in short term but beneficial in long term in alleviating social disruption, distress and financial loss.
- (f) Fundamental intention of policy is the avoidance of loss of life, damage to property and potential worsening of flood conditions.

- (g) No habitations, capital intensive land uses or structures likely to impede flood flow should be permitted where dangerous flooding occurs. Floors of buildings on flood prone land should be above flood level.

The provisions of the proposed Local Environmental Plan will need to incorporate those matters covered by the Department of Environment and Planning Circular No. 31, and the (former) Planning and Environment Commission Circulars 15 and 22, notwithstanding the recommendations of the flood plain management study. It is therefore recommended that development should be generally prohibited on flood prone land, as delineated by the 1 in 100 year floodplain (unless otherwise determined by the Public Works Department) and, where possible, existing development be removed from floodways.

Subject to recognised legal opinion on this matter, it is considered that if Council approves of development within a known flood plain area which is subsequently damaged by flood, it may be liable to legal action for damages, on the basis that it was negligent in giving the approval.

#### 4.4 Geology

##### 4.4.1 Regional Geological History

Bellingen Shire is situated on the coastal margins of the New England Fold Belt. The New England Fold Belt is a deformed eugeosyncline comprised of an eroded orogenic belt bounded on the south and west by border thrusts. These thrusts extend north of the Hunter River and swing through Murrurundi to the east of Gunnedah and Narrabri (Voisey 1969).

The main fault systems within the New England Fold Belt are the Peel Thrust, which extends from Bingara through Tamworth and Taree; the Demon Fault which extends from the Queensland Border to Kempsey; the Mihi fault which extends from Armidale to Mangala and the Crossmaglen Fault, which extends from Sawtell west through the Dorrigo State Park. These main fault systems largely control the present distribution of rock units within the New England Fold Belt.

The rocks forming the New England Fold Belt range from Ordovician to Permian. The Ordovician rocks are comprised largely of phyllites, cherts, jaspers and greywackes with interbedded basic lavas. These beds are overlain by mudstones, sandstone, volcanic greywackes and coralline limestones which comprise the Lower and Middle Devonian Beds. Both the Ordovician and Devonian rocks were formed in a deep water marine environment. The Upper Devonian rocks were deposited in a shallower marine environment and consist almost entirely of coarse greywackes breccias, greywackes and banded mudstones.

The overlying carboniferous sediments are generally shallow-water marine mudstones, sandstones and limestones, followed by coarser beds including tuffs, arkoses and conglomerates with interbedded andesites and rhyolites. At the end of the Lower Carboniferous the Central New England area to the east of Bingara and Tamworth was strongly deformed and uplifted to form the New England Arch (Woolomin - Texas Block). This uplift left a series of paralic and terrestrial basins to the west and south separated from the arch by a shallow shelf area (Pogson and Thomson, 1972). The sediments deposited in these areas include sandstone, mudstone, conglomerate and minor limestone.

During the Lower Permian<sup>1</sup>, both shallow-water marine and terrestrial sequences were formed in the areas to the west and south of the New England Arch. Rocks comprising these sequences include mudstone, sandstone and andesitic and basic pyroclastics and flows. In the area to the east of the New England Arch, greywacke, slate, phyllite and minor basic volcanics were deposited in a deep water ocean basin, while shallow-water marine claystone, sandstones, pebbly mudstone and some acid to intermediate volcanics were deposited on the edge of the adjacent New England Arch.

At the end of the Late Permian these sedimentary sequences were deformed by the Hunter-Bowen Orogeny. The deep oceanic sediments of the Nambucca-Hillgrove area were strongly deformed and metamorphosed, while the remainder of the Lower Permian sequences were gently deformed with some localised uplift and erosion. During the Upper Permian, granitic intrusions occurred throughout the central New England Area. According to Pogson and Thomson (1972), these intrusions have been subdivided into three groups:

- \* Intrusions of the Hillgrove Plutonic Suite which consists of foliated granites emplaced during the Hunter-Bowen period of deformation.
- \* Intrusions of the New England Batholith which were intruded after the Hunter-Bowen Orogeny in the Upper Permian and Lower Triassic.
- \* Intrusions of the Bundarra Plutonic Suite which comprises massive highly siliceous granites intruded after the Hunter-Bowen orogeny in the Upper Permian.

Granitic intrusions, belonging to both the Hillgrove Plutonic Suite and New England Batholith, outcrop within the Bellingen Shire.

During the Mesozoic, geological activity within the New England Fold Belt was restricted to the intrusion of the final phases of the New England Batholith. The sedimentary basins which overlie the New England Fold Belt (the Surat, Sydney, Lorne and Clarence-Moreton Basins) formed and infilled with sediment during this period (Pogson and Thomson, 1972).

The Mesozoic sedimentaries consist mainly of sandstone, conglomerate, shale, siltstone and coal measures. Later geological activity has only gently folded (with some limited faulting) the Mesozoic beds.

Geological activity during the Tertiary Period consisted of extensive lava flows. These flows were mainly basaltic in composition and according to Floyd (1979), at least 5 separate basalt flows are discernible. In addition to the basaltic flows, smaller flows of intermediate volcanic rock such as trachyte also occurred.

During the Kosciusko uplift about 2 million years ago, this land surface was uplifted, rejuvenating the coastal streams. This has resulted in erosion of the basaltic capping and underlying metamorphic rocks. The Pleistocene and recent sedimentary deposits have been limited to the river valleys, forming extensive alluvial plains and the coastal fringes (e.g. beach sands, sand dunes and sand ridges).

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1. Information on the Permian is taken largely from Pogson and Thomson (1972).

**4.4.2 Stratigraphy**

The surface geology of the Bellingen Shire is shown on Map 3, while Table 4.2 describes the main geological units. The geological units given in this table are arranged in ascending stratigraphic sequence.

Table 4.2 has been compiled predominantly from information supplied in Geological Survey of NSW, Department of Mines 'Dorrigo-Coffs Harbour 1:250,000 Geological Series Sheet' (SH56-10 and 11) and Pogson, D.J. and Thomson, J. (1972) 'The Geology of the Dorrigo State Park', and supplemented by Floyd, A.G. (1979) 'Vegetation of the Upper Bellinger Valley' and Packham, G.H. (ed.) (1969) 'The Geology of New South Wales'.

**4.4.3 Economic Geology**

Economic Geological resources refer to geological materials such as metallic minerals, non-metallic minerals, construction materials and mineral fuels, which can be used profitably by men. Information of the economic geology of the Bellingen Shire was provided by the Department of Mineral Resources and Bellingen Shire Council and is shown on Map 4. There are a number of potential quarry sites located in the Bellinger Valley area that could require protection. Negotiations will be undertaken with the Department of Main Roads to locate these and develop an appropriate planning response.

**4.4.4 Metallic Minerals**

The most important metallic mineral resource of the Shire is the Wild Cattle Creek antimony deposit, which is located to the north of Dorrigo in the Parish of Allan, County of Fitzroy. Indicated reserves of the deposit are 600,000 tonnes of 4.5 per cent antimony. Seven mining leases are currently held by Dundee Mines Australia Pty Ltd over this deposit.

These leases are: Mining leases 657, 658 and 659; Mining Purposes Leases 153, 154; Private Lands leases 3750 and 3760. Metallic minerals mined in conjunction with antimony include lead, silver and gold, and tungsten.

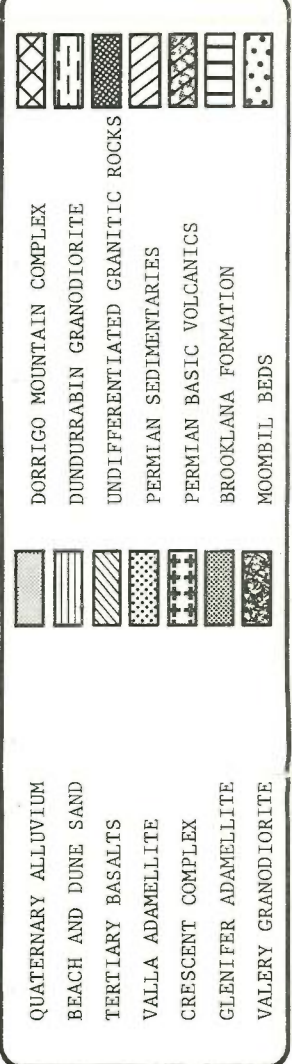
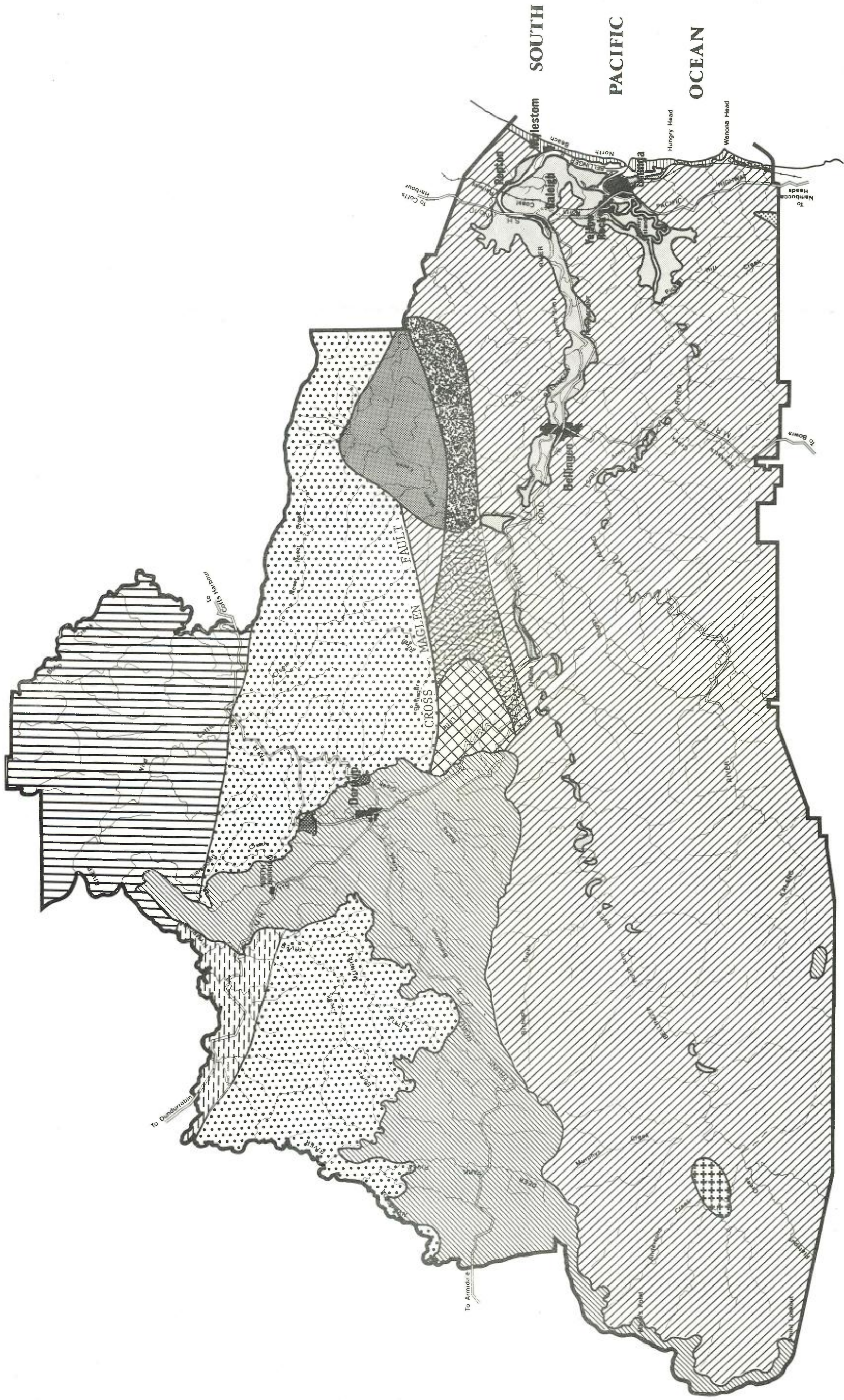
Other known metallic mineral deposits located within the Shire are at Bostobrick (antimony), Valla (antimony, arsenic and gold), Powells Claim (antimony) and Andersons Claim, ML6278 (antimony).

**4.4.5 Non-Metallic Minerals**

No comprehensive survey of non-metallic minerals has been undertaken in Bellingen Shire. The Department of Mineral Resources has provided some generalised information which states that there is some potential for the discovery of sapphires in the west of the Shire associated with the occurrence of Tertiary Basalts. Some occurrences have been recorded nearby in the vicinity of Round Mountain.

**4.4.6 Road Base and Construction Materials**

Fluvial sand and gravel deposits, located in the beds of the major rivers, creeks and associated flood plains, offer the most potential for the extraction of sand and gravel. At present, there are a number of sand and gravel pits located along the middle reaches of both the Kalang and Bellinger Rivers. Five contractors currently extract gravel from gravel pits within the Bellingen Shire. These contractors are Fortescues, Bellingen Ready Mix, Mr. Norm Locke, Mr. Hugh Waugh and Skewe's Concrete (Coffs Harbour). In the period between June 1981 and June 1982, approximately 65,329 tonnes of gravel was extracted from gravel pits and either used for road base, or crushed and screened.



**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**

**GEOLOGY**

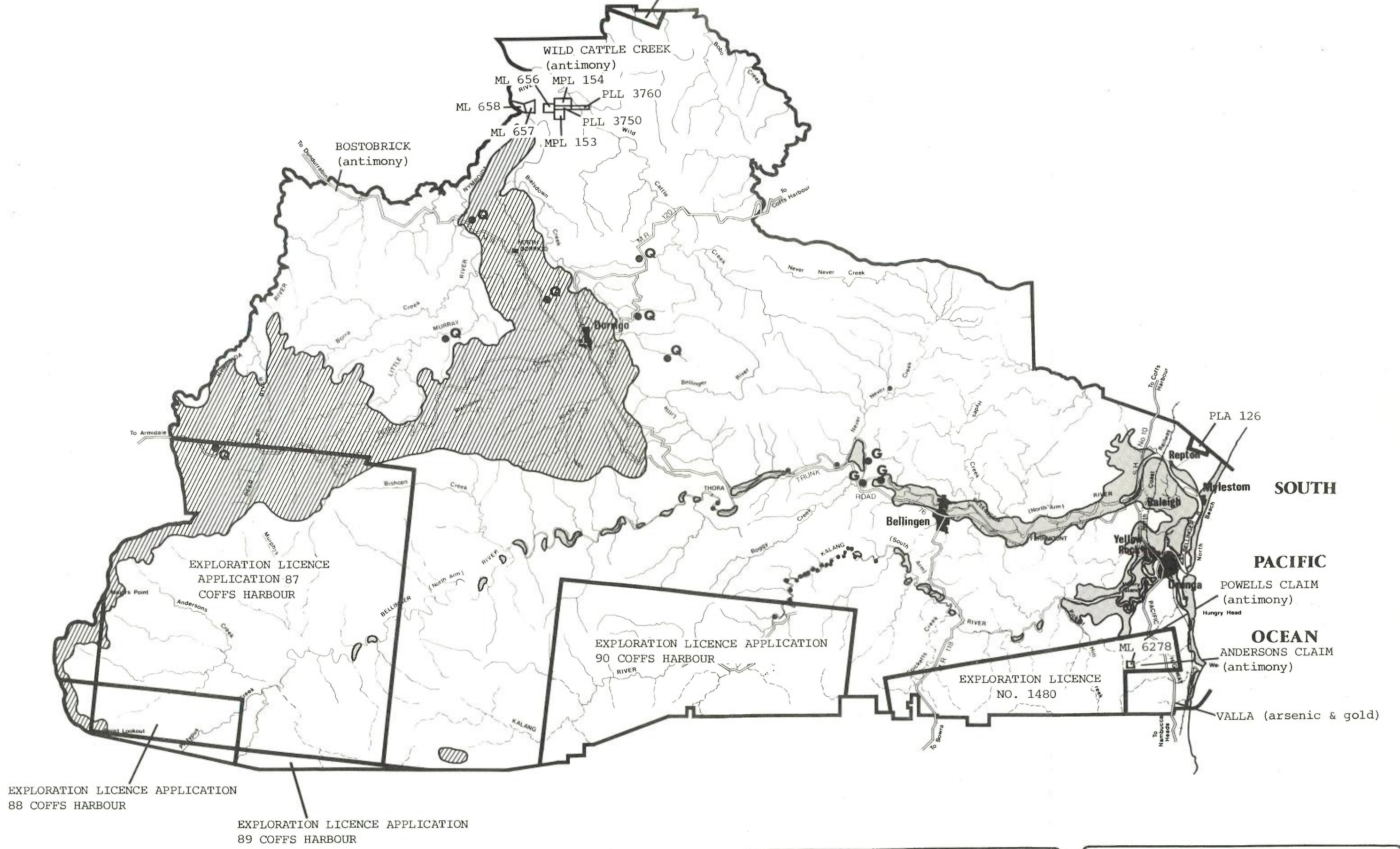
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SOURCE: Geological Survey, Department of Mines  
 Dorrigo - Coffs Harbour 1:250,000  
 Geological Series Sheets 56 - 10 & 11

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 For BELLINGEN SHIRE COUNCIL



EXPLORATION LICENCE APPLICATION  
88 COFFS HARBOUR

EXPLORATION LICENCE APPLICATION  
89 COFFS HARBOUR

POTENTIAL SAND/CLAY/GRAVEL	
TERTIARY BASALT - POTENTIAL HARD ROCK AGGREGATE	
QUARRY	
GRAVEL PIT	
SAND EXTRACTION	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**

**ECONOMIC GEOLOGY 4**

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Table 4.2: Main Geological Units of the Bellinger Shire

Stratigraphic Unit	Geological Period	Location	Description
Moombil Beds	Devonian	Broad zone in the northern part of the Shire. This formation forms the range of hills to the north of the Bellinger River, located to the north of the Crossmaglan Fault.	Very fine-grained, dark-grey siltstone which has been metamorphosed and now contains fine grains of biotite.
Brooklana Formation	Devonian	Northern part of the Shire in the vicinity of Cascade and Briggsvale.	Siliceous argillite, slate, and rare siliceous greywacke.
Permian Basic Volcanics	Lower Permian	Central part of the Shire, to the north of the Bellinger River, in the vicinity of McGraths Hump.	Basic volcanics interbedded with greywacke, slate and phyllite.
Permian Sedimentaries	Lower Permian	Extensive outcrop over much of the Shire to the south of the Bellinger River.	Slate, phyllite, schistose sandstone and schistose conglomerate.
Undifferentiated Granitic rocks	Upper Permian	Very small outcrops along plateau to the north and east of Dorrigo.	Includes granite, diorite, gabbro, granodiorite
Dundurrabin Granodiorite	Upper Permian (Hillgrove Plutonic suite)	North-western part of Shire to the west of North Dorrigo	Quartz rich, microcline-biotite, granodiorite with protoelastic texture.
Dorrigo mountain complex	Upper Permian (Hillgrove Plutonic suite)	Central part of the Shire in the south-western portion of the Dorrigo National Park.	Multiple igneous intrusions containing all or some of the following: dolerite, calcium-rich granite, gabbro, diorite, granodiorite and adamellite.
Valery Granodiorite	Upper Permian (Hillgrove Plutonic Suite)	Outcrop to the south of Gleniffer and Valery.	Quartz rich, microcline-biotite. Granodiorite, protoclastic texture.
Gleniffer Adamellite	Upper Permian (Hillgrove Plutonic Suite)	Area surrounding Gleniffer.	Quartz-rich, microcline-biotite, adamellites, protoclastic texture.
Crescent complex	Upper Permian (New England Batholith)	Very small outcrop in the upper Bellinger Valley.	Biotite - hornblende adamellite, with variable feldspar ratio.
Valla Adamellite	Upper Permian (New England Batholith)	Very small outcrop in the Newry State Forest on the southern boundary of the Shire.	Biotite - hornblende adamellite, feldspar ratio variable.
Tertiary Basalts	Tertiary	Dorrigo Plateau	Tholeiitic and alkaline basalts, minor trachyte and dolerite.
Beach dunes and sands	Quaternary	Coastal area (beaches, sand dunes, sand ridges, swamps)	Sand
Quaternary Alluvium	Quaternary	River valleys, especially along the lower reaches of the Bellinger and Kalang Rivers	Alluvial, paludal and estuarine deposits

Enormous quantities of sand suitable for construction purposes are contained within the Quaternary Coastal sequence of sediments. In some areas, gravel deposits may underly this sand sequence, or occur as lenses within it. However, extraction of beach and foredune deposits is not recommended as this could accelerate coastal erosion.

A number of the rock types within the Shire are suitable for Road Base materials. There are currently six quarries operating within the Shire, with the siltstones of the Moombil Beds and the tertiary basalts being the major rock types quarried. The Department of Mines states that the tertiary basalts in the west of the Shire have considerable potential as a source of high quality coarse aggregate and road base.

#### 4.4.7 Coal

The Joint Coal Board has advised that there are no economic coal measures in the Bellingen Shire.

#### 4.4.8 Exploration and Prospecting Leases

The exploration and prospecting leases lying partly within Bellingen Shire are listed in Table 4.3.

Table 4.3: Exploration and Prospecting Leases in Bellingen Shire

Number	Held by	Type of Deposit	Current to
EL 1480	CSR Ltd	Group 1 Minerals	31.10.82
EL No. 90 Coffs Harbour	Freeport Australia Inc.	Group 1 Minerals	Not given
EL No. 87 Coffs Harbour	Freeport Australia Inc.	Group 1 Minerals	Not given
EL No. 88 Coffs Harbour	Freeport Australia Inc.	Group 1 Minerals	Not given
EL No. 89 Coffs Harbour	Freeport Australia Inc.	Group 1 Minerals	Not given
EL 1799	Samedan Oil Corp.	Group 1	22.2.84
<u>Prospecting Licence Application</u>			
No. 126 Coffs Harbour	Havilah Gold Mining and Minerals Exploration		

#### 4.4.9 Planning Recommendations

The Shire's natural resource base forms an important part of the local economy and, as such, should be incorporated into the planning process. There are a number of existing and potential quarry sites in the Shire. Where known, these have been incorporated into the planning process. It is important to ensure that urban rural development does not sterilise or preclude the future extraction of these resources. On the other hand, the existence of such resources is not to be

considered as a total constraint to development. The timing of development and mineral extraction needs to be co-ordinated to ensure that land use conflicts are minimised. Factors to be given consideration would include the identification of suitable buffers around sites, the timing of development and means of access.

The operation of quarries in the Shire should be preceded by thorough environmental investigation as required under the Environmental Planning and Assessment Act, 1979, to ensure that the impacts of quarrying activities on the environment are minimised.

## 4.5 Soils

### 4.5.1 Introduction

This section of the report provides an overview of the main soil associations within the Shire. Information in this section is based on existing published information supplemented by field reconnaissance in the area surrounding the township of Bellingen.

The following descriptions of the soil associations were compiled from data provided in:

- \* McArthur, W.M. (1964) Soils and Landuse in the Dorrigo-Ebor-Tyringham Area, NSW, CSIRO Soils and Landuse Series No. 46.
- \* Jackett, I. (1977) A Biophysical Land Capability Evaluation for the Dorrigo Region, Northern NSW, University of New England.
- \* Atkinson, G. and Veness, R. (1980) Land Resources Study of the Coffs Harbour Region: Soil Conservation Service of NSW.

The formation and distribution of soil types within the Shire is largely influenced by the underlying geology (parent material), topography and climate. Climatic factors become increasingly important in soil formation as elevation increases. For example, on the more elevated sections of the Dorrigo Plateau, where high rainfall, relatively cold temperatures and low rates of evaporation are experienced, soils tend to be acid, strongly leached with a high organic content; the latter resulting from slow rates of decomposition. At lower elevations and progressively drier climates, the soils become increasingly less acid, with lower organic content, and exhibit a range of sub-soil colours.

Within Bellingen Shire, 11 main soil associations have been identified. The distribution and dominant soil types and characteristics within these associations are described in Table 4.4. The potential soil erosion hazard is also included in this table. Soil erosion hazard was described by Atkinson and Veness (1980) as "a combination of the inherent erodibility of the soil, the erosive power of the rainfall, the steepness and length of the slope, the topographic position and present and past land management practices".

Within the region, soils developed in bedrock generally have low erodibilities. The erosion hazard associated with these soils increases with increased slope, the frequency of high intensity rainfall and the removal of the vegetation cover. Alluvial soils, because of their topographic position have only a minor erosion hazard. The only exceptions are the soils which are subject to bank erosion. The coastal sands are subject to serious wind erosion, due to their non-cohesive nature. Organic sands and sand podsols have a low to moderate erosion hazard because they have a highly organic surface and are frequently inundated.

Table 4.4: Main Soil Associations within Bellingen Shire

Association	Distribution	Dominant Great Soil Group	Parent Material	Soil Characteristics	Erosion Hazard
<b>Dorrigo Plateau*</b>					
<b>Fernbrook</b>	Principal occurrence is the Dorrigo District, with small outliers in the Bostobrick and Deervale Districts	Krasnozem	Deeply weathered Basalt	Krasnozem soils are moderately deep, friable soils being dark red to red throughout. These soils exhibit gradational profiles, ranging from a clay loam at the surface to a light-medium clay at depth. The clay content of the subsoil may be 60 to 80 per cent. The surface structure of fine crumb, with an earthy fabric, changes to a fairly strong grade of sub-angular blocky structure below. The reaction of most of the soils is moderately acid (pH5) in the surface and changes very little with depth. In drier areas (e.g. Paddys Plains), the reaction is more typically about pH6. Krasnozems have an initially high nutrient status, but applications of nitrogen and phosphorus are necessary for peak production.	Krasnozems are generally regarded as having low erodibility, however they are subject to erosion when ground cover is removed. Topsoil is relatively stable and the subsoil highly stable on the footslopes and gentle side slopes erosion is not a problem, however erosion hazard increases as slopes increase.
<b>Meldrum</b>	Extends from Barren Mountain to Meldrum, Deervale and Fernbrook	Shallow Krasnozems	Trachyte	Typical profile shows a brown crumbly clay loam surface overlying a brown or yellowish brown clay subsoil with weathered trachyte often within 1 metre of the surface. When sheared, the colour of the profile is yellowish brown (about 10 YR 5/6). The structure of the surface soil is quickly destroyed under cultivation and these soils readily develop a loose powdery surface. Around Barren Mountain these soils are more shallow and coarse textured reflecting the more siliceous trachyte in this area.	Soils have a low erosion hazard on foothills and gentle slopes. Erosion hazard increases greatly with increased slopes.

\* Nomenclature of Soil Associations on the Dorrigo Plateau is from McArthur (1964)

Table 4.4: Main Soil Associations within Bellingen Shire (cont'd)

Association	Distribution	Dominant Great Soil Group	Parent Material	Soil Characteristics	Erosion Hazard
Ellesmere	Extends from Point Lookout to the area north of Deervale	Chocolate Soils, Reddish Chocolate Soils, Alpine Humus Soils	Basalt	<p>The <b>reddish chocolate soil</b> is the most extensive component in the association. This soil has a dark brown (chocolate) crumbly clay loam surface, with a sharp boundary to a dark red (2.5 YR 3/4) clay loam subsoil at a depth of about 30 centimetres. The depth of the profile generally varies from 60 to 120 centimetres. These soils are acid (about pH5.5).</p> <p><b>Chocolate Soils:</b> These soils have a very dark brown strongly structured clay loam surface grading to a strong brown (7.5 YR 4/6) light clay soil at about 30 centimetres. The subsoil has a weak grade of sub-angular blocky structure. The profile ranges in depth from 45 to 100 centimetres and is acid (about pH5.5).</p> <p><b>Acid Humus Soils:</b> These soils have a high organic matter content and consequently are dark and stongly acid. The surface soil is almost black loam with a very weak crumb structure changing to brown loam or clay loam at about 25 centimetres.</p> <p>Krasnozems also occur within this association.</p>	<p>Erosion hazard of reddish chocolate and chocolate soils is low unless cleared or disturbed.</p> <p>Low erosion hazard due to their topographic position.</p>
Gangara	Gangara-Marengo area to the west of Dorrigo	Red and Yellow Podzolics	Palaeozoic Sedimentary Rocks	<p>This is a catenary relationship with red podzolics occurring on the well drained slopes and crests and yellow podzolics in poorly drained areas on the lower slopes and along drainage lines. The red podzolic soil is characterised by a shallow (30 centimetres) A horizon of dark brown crumbly clay loam overlying a dark red clay (2.5 YR 3/3) B horizon which has a moderate grade of sub-angular blocky structure. The yellow podzolic is lighter in colour, with a yellowish grey surface overlying a yellow or brownish yellow clay subsoil.</p>	<p>Red Podzolics have a low erosion hazard on gently steeping slopes, with potential for erosion increasing with increased slope. Minor gullyng can occur when disturbed. Due to topographic position, yellow podzolics have a low erosion hazard.</p>
Moonpar	Are to the north of Bostobrick	Granites	Red Podzolics	<p>Soils are characterized by a very distinct surface horizon of dark brown gritty loam overlying a dark red (10 YR 3/6) gritty clay at about 55 centimetres. the surface has a moderate grade of crumb structure and this continues down into the B horizon for about 30 centimetres. There is a fairly sharp break to a strong grade of angular block structure soil which grades into weathered granite at about 1.5 metres.</p>	<p>As above</p>

Table 4.4: Main Soil Associations within Bellinger Shire (cont'd)

Association	Distribution	Dominant Great Soil Group	Parent Material	Soil Characteristics	Erosion Hazard
<b>Kotupna</b>	Drainage lines and poorly drained areas in the Point Lookout area	Peat and Meadow Soils	Colluvium and alluvium	These soils are comprised largely of organic matter. They are dark brown to black in colour and strongly acid. These soils are poorly drained.	Very low hazard due to their topographic position.
<b><u>Bellinger Valley</u></b>					
<b>Eastern Red Podzolic Association</b>	Undulating to hilly area throughout most of the Bellinger Valley.	Red Podzolic	Paleozoic Sedimentary Rocks	Red and Yellow Podzolics exist in a catenary relationship. The red podzolics are texture contrast duplex soils with a shallow greyish sandy to clayey loam A horizon overlying a predominantly red brown clay to heavy clay B horizons. These soils vary greatly in depth as a result of topographic position. The profiles are acidic. Yellow podzolics occur in areas of poor drainage. Like the red podzolics these soils have marked texture contrast characteristics with shallow to well developed grey brown loams grading into heavy clay, yellow to yellowish brown B horizons. Lithosols and patches of bare rock are present on the steeper slopes.	Red Podzolics present a low erosion hazard on the lower foothills and gentle slopes. Erosion hazard increases with increased slope, and gullying and sheet erosion will occur if vegetation cover is removed. Because of their topographic position, yellow podzolics generally present a low erosion hazard.
<b>Eastern chocolate association</b>	Steep to undulating hilly country to the north of the Bellinger River	Chocolate Soils	Permian Basic Volcanics	Friable chocolate brown soils, with a dark brown loam to clay loam A horizon overlying a strong brown light clay B horizon.	Low erosion hazard when good ground cover exists. When exposed, soils are subject to sheet, rill and gully erosion.
<b>Red Earth on Granite</b>	Hilly country to the north of the Bellinger River in the vicinity of Gleniffer	Red Earths	Adamellite and Granodiorite	Red and Yellow Earths developed on coarse-grained granitic rocks. These soils are heterogenous. The structure is usually very weak crumb at the surface becoming moderate crumbs at depth. These soils are acidic.	Erosion hazard of these soils is very low, with soils being subject to erosion when area remains cleared for an extended period.

Table 4.4: Main Soil Associations within Bellingen Shire (cont'd)

Association	Distribution	Dominant Great Soil Group	Parent Material	Soil Characteristics	Erosion Hazard
Alluvial Soils	Bellinger/Kalang River flood plains	Alluvial deposits including loams, gravels, alluvial yellow earths and greyed soils	Alluvial material	Alluvial soils are formed by successive layers of fluvial deposits, with some marine deposits in the estuarine reaches of the rivers. Alluvial soils within the Shire range from peaty deposits, which are poorly drained, to sandy deposits. In general, show little pedological development, with the exception of the accumulation of organic matter and the development of weak structure at the surface. Both stratified and dispersed gravels are found throughout the profiles.	Due to their topographic position, these soils present a very low erosion hazard. The only exception is soils adjacent to the drainage lines which may be subject to severe bank erosion.
Coastal Sands	Coastal dune system, beaches and estuarine flats	Silecous Beach Sands, Silecous Dune Sands, Estuarine Sands, Sand Podzols and Organic Sands.	Marine sediments	With the exception of sand podzols, soils within this association have uniform sandy textured profiles, showing limited or no soil profile development. The sands are generally deep, and well graded. Colour varies as a result of mineral and organic content. The sand podzols have strongly differentiated, uniform coarse textured profiles with a dark brownish grey to black A <sub>1</sub> horizon, a conspicuously bleached A <sub>2</sub> horizon and an indurated B horizon.	Because of their non-cohesive nature, the coastal sands are subject to severe wind erosion. The only exceptions within this association are the Sand Podzols and Organic Sands. These latter soils have an organic A horizon and sometimes exhibit indurated characteristics.

#### 4.5.2 Landslip Hazard

Landslips on natural slopes in the area are uncommon. Within the Shire, the only observed occurrences of landslip was along the Dorrigo Road on the steeply cut batters.

These landslips have generally occurred during periods of unusually heavy rainfall. Young (1978)<sup>1</sup>, during studies of other landslip areas in NSW has found that single high rainfall events have a greater possibility of inducing landslips if the antecedent moisture content is already high. Atkinson and Veness (1980) found that this was the case in the "Coffs Harbour region during the first 6 months of the year, when average monthly rainfall exceeds potential evaporation. This excess of rainfall over evaporation increases even more markedly with increasing elevation along the Coast Range". The same set of circumstances can be expected to apply to Bellingen Shire.

Landslip may also result from high intensity rainfall generated by cyclone storms. The likelihood of cyclonic storms is greatest in the period during February, March and April.

A number of activities may initiate landslips. An overview of these type of activities and the measures available to minimise potential landslip problems are outlined in the following extract from Quilty *et al.* (1979).<sup>2</sup>

##### "Activities that may induce Landslip

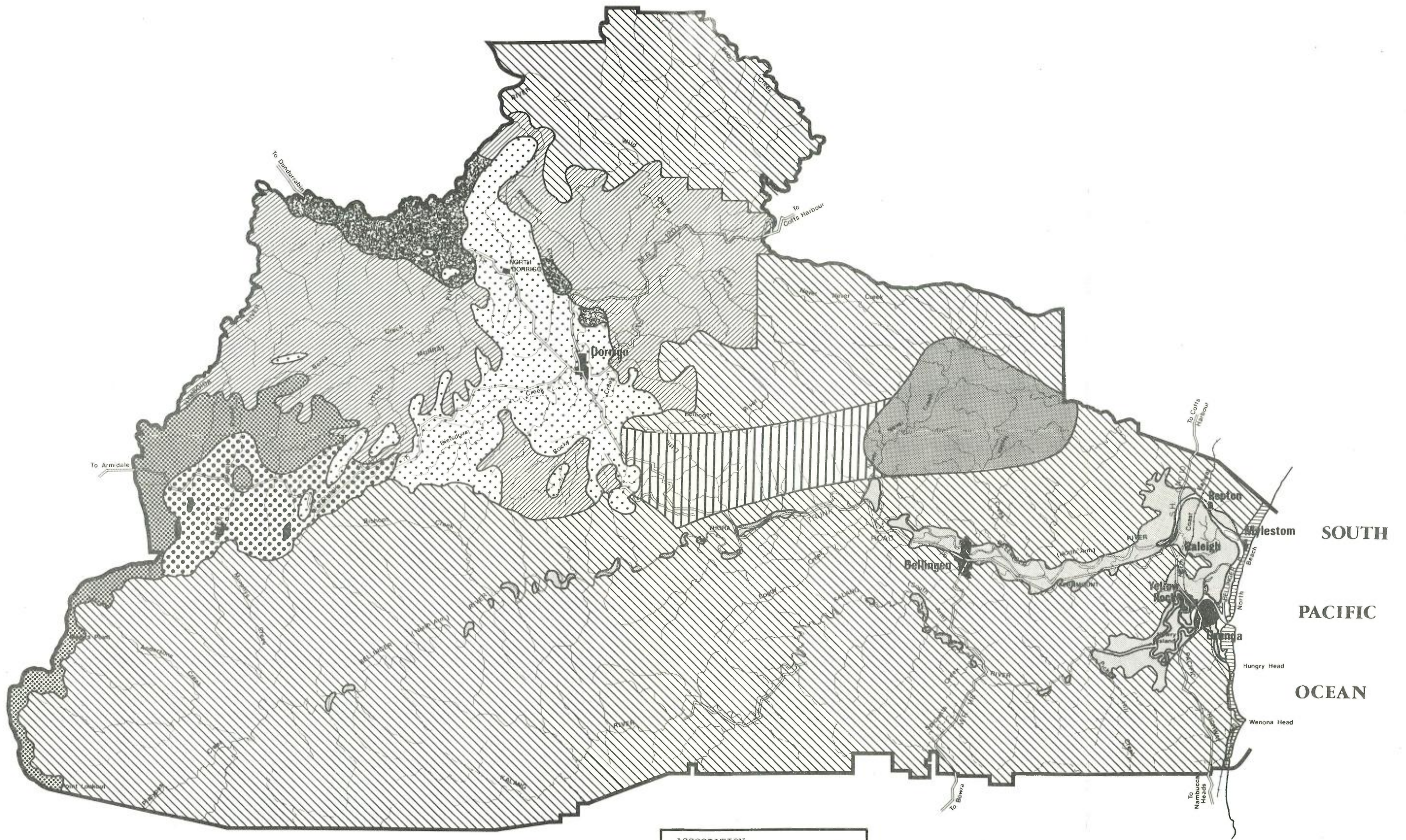
The cause of a slope failure which occurs during or immediately following construction can usually be readily identified. Often, however, there is a lag time of some years between an unwise slope modification and a triggering event which sets the slope in motion. In the latter case the cause may not be obvious.

Removal of material from the toe of a slope (especially on or below a former slip plane) often aggravates instability, while inefficient surface or subsoil drainage may lead to a rise in soil moisture which triggers slope failure. Deficiencies in design, construction or maintenance of a drainage system only become evident during periods of high intensity rain, when it may be too late to prevent a failure occurring.

Sullage pits and septic absorption fields should not be installed on areas where there is a likelihood of slope failure. These will aggravate instability by maintaining a high soil moisture content.

Where services such as sewers, water mains and stormwater drains cross a susceptible area, flexible lines should be used to reduce the likelihood of a soil movement causing a fracture in the line and subsequent leakage. Any such leakage would aggravate the instability hazard on the area.

- 
1. Young, A.R.M. (1978) The Influence on Debris Mantles and Local Climatic Variations on Slope stability near Wollongong, Australia. Catena, 5, pp.95-107.
  2. Quilty, J.A., Hunt, J.S., and Hicks, R.W., (1979) Urban Erosion and Sediment Control, Technical Handbook No. 2. Soil Conservation Service of NSW.



ASSOCIATION	
FERNBROOK	
MELDRUM	
ELLESMERE	
MOONPAR	
GANGARA	
KOTUPNA	
EASTERN RED PODZOLIC	
EASTERN CHOCOLATE	
RED EARTHS OR GRANITE	
ALLUVIAL SOILS	
COASTAL SANDS	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**

**SOILS** **5**

0 5km 10km

↑

Prepared by PLANNING WORKSHOP PTY. LTD. 346 KENT ST. SYDNEY 2000  
For BELLINGEN SHIRE COUNCIL

Removal of eucalypt forest, which, under natural conditions, can be responsible for the evapotranspiration of up to 80 per cent of the water reaching the soil, may lead to substantial increases in soil moisture and high porewater pressures.

Loading the head of an unstable slope by filling or by construction of roads or buildings will also aggravate the instability hazard on it.

### **Measures to Reduce the Hazard of Landslip**

It is undesirable to develop land which is definitely subject to mass movement, as the problem is such a serious one and it is often impractical to counter it. If, however, development occurs on land where such hazard is marginal, a number of measures can be adopted to reduce this hazard.

- (i) Cut and fill operations should be restricted to a minimum, and deep cuts and excessive fill should be avoided as far as possible. Location of roads up and down rather than across the slope, and construction of houses raised above ground level can assist this aim.
- (ii) Where batters are formed, low angles of cut or fill are desirable. High batters should, if possible, be benched. A structural facing such as gabions or a crib wall can be used to strengthen batters against failure.
- (iii) Removal of subsoil moisture assists stabilization of areas prone to mass movement, by reducing the amount of soil water available to trigger failures.
- (iv) Efficient surface drainage upslope of slip-prone areas will also reduce the hazard of failure, removing surface runoff before it can enter the soil profile. Diversion channels may be installed immediately upslope of batters for this purpose.
- (v) Sealed diversion drains formed at intervals down the face of high batters, or located on berms if these have been formed on the batter face, will prevent the accumulation of local runoff.
- (vi) An impervious surface course is desirable on pavement, to limit infiltration and water movement into the subsoil.
- (vii) Surface drainage of road pavement should not direct runoff onto fill batters.
- (viii) All household and road drainage should be carried in pipes or sealed drains away from unstable areas. The use of vegetated waterways and runoff retarding measures are not generally applicable to such areas, as the primary aim must be to remove surplus water as quickly as possible.
- (ix) Aside from drainage and structural techniques, the stability of slip-prone areas can be improved - though not so rapidly - by extensive planting of silver-leaf poplars or shrub willows. Their strong and extensive root systems bind the soil, and the trees significantly reduce soil moisture. They will regenerate if their roots are broken by soil movement. The roots are, however, a hazard for sewer lines and drainage pipes.

- (x) Further engineering techniques such as grouting, electro-osmotic draining, and chemical treatment of highly plastic clays are also sometimes used to stabilize slip-prone areas where development must take place on them.

While the above measures may reduce slip hazard, they will not always eliminate it. As a general rule, where development is proposed on suspect areas, prior geotechnical survey should be carried out. If this survey confirms a hazard of mass movement, advice should be obtained from professionals experienced in the field of slope stabilization for the design and installation of all cuts, fills, foundations and drainage."

Additional land use planning controls can be considered to control development in slip-prone land and to prevent unnecessary and wasteful soil erosion. These include:

- \* Excluding more intensive development from steep land, i.e. land generally in excess of 25 per cent slope.
- \* Excluding development from unstable coastal lands or low lying swamp lands.
- \* Giving Council control over the clearing of land, i.e. making land clearing subject to Council consent.

#### 4.5.3 Suitability of Soils for On-site Disposal of Effluent

The suitability of soils for on-site disposal of effluent is determined by a number of local factors including depth and structure of soils, drainage patterns and topography. Consequently, each site must be assessed individually taking into consideration a number of different criteria. The following extract from Quilty *et al.* (1979) provides criteria for site assessment, the soil and landform characteristics which determine site suitability and measures for controlling erosion and drainage problems which could arise from on-site disposal.

"Criteria for assessing site suitability:

- . area available for an absorption field;
- . soil depth and permeability on the proposed absorption site;
- . seasonal variations in level of the water table;
- . climatic influences on evaporation and soil moisture, such as rainfall distribution, hours of sunshine, and wind conditions;
- . possibility of seepage from higher land entering the absorption field;
- . possibility of effluent seepage affecting neighbouring property, underground water supplies, streams, lakes, or other water bodies in the area.

#### Assessing Site Suitability

Various soil and landform characteristics are critical to determination of site suitability for absorption of septic effluent.

Soils

A soil survey of the proposed site should be undertaken to determine soil texture, structure, permeability, dispersibility, erodibility and depth, as well as depth to water table. The most important soil characteristics are soil permeability and water holding capacity.

Permeability may be determined by drilling or digging a minimum of six absorption holes on the proposed disposal area. These holes (approximately 300 millimetres square) are dug to the depth of the proposed absorption drains, filled with water, and allowed to soak for 24 hours. Sandy soils do not require this pre-soaking.

Following soaking, further water is poured into the holes to a depth of 150 millimetres. The time taken for the water level to fall 25 millimetres is checked to provide an assessment of soil permeability. The soil is classified as non-absorbent if this period exceeds 30 minutes, poorly absorbent if it is between 15 and 30 minutes, moderately absorbent if it is between 5 and 15 minutes, and absorbent if it is less than 5 minutes. The rate of fall should be monitored regularly over a 3 hour time span to determine a reliable average value.

Seasonal conditions can affect soil permeability. The results of absorption tests should therefore be assessed in the light of seasonal conditions prevailing at the time these tests are carried out.

As well as high permeability, it is most important that the soil have a high water holding capacity. This is related to soil texture, structure and depth. If a permeable soil lacks this capacity, effluent will flow through it to pollute groundwater, lakes, swamps or streams, or to emerge as seepage on lower terrain.

From the above, it is apparent that a wide range of soil properties, assessment of which may be complicated by seasonal conditions, affect soil suitability for on-site effluent disposal. In determining this suitability in a new development area, the assistance of a qualified soils officer should therefore be obtained to collect and interpret the necessary data.

In certain areas the occurrence of high levels of chlorides or sulphides will, in time, reduce the efficiency of absorption fields. Effluent reacts with these salts to bring about a breakdown in soil structure and a consequent reduction in permeability.

Water Holding Capacity of Various Soil Materials

Soil Material	Depth of material (mm)		
	200	200-400	400
Sand	Low	Moderate	Moderate
Loam	Low	Moderate	High
Clay	Moderate	High	High

Permeability of Various Soil Materials

Soil Material	Structure	Permeability
Sand	Structureless	High
Sandy loam	Structureless/ weakly structured	High
Loam	Moderately structured	High
Loam	Structureless/ weakly structured	Moderate
Clay loam	Structureless/weakly structured/moderately structured	Moderate
Light clay	Moderately structured/ well structured	Moderate
Light clay	Weakly structured	Low
Medium/ Heavy clay	Weakly structured/ moderately structured/ well structured	Low

Landform

Terrain types which may present problems for on-site disposal include:

- . land which is seasonally or permanently swampy;
- . sites adjacent to streams (particularly where the water from these is used for domestic supply);
- . infilled stream channels;
- . recharge areas for aquifers which provide water for domestic or livestock consumption;
- . steep slopes where rapid sub-surface movement of effluent and its emergence on lower slopes appears likely;
- . footslopes subject to seepage from adjoining higher slopes;
- . colluvial and alluvial fans.

**Erosion and Drainage Control**

Several measures can be adopted during and subsequent to the installation of an on-site disposal system to reduce the hazards of seepage from absorption fields and of erosion around them.

- (i) Before installation of the system, topsoil should be stripped and stockpiled separately from other excavated material for later respreading over the site. Respreading of topsoil will assist in subsequent revegetation of the disposal area.
- (ii) It is helpful to revegetate the disposal area with a vigorous grass species such as kikuyu.
- (iii) Planting of trees that will shade the area, or of species such as willows and poplars, which have root systems that may penetrate and choke drain pipes, should be avoided in the vicinity of the disposal area."

## 4.6 Vegetation

### 4.6.1 Introduction

The natural vegetation of the Bellingen Shire is very diverse and complex, with the existing distribution and species composition reflecting both the physical components of the environment, especially soils and microclimate, and the level of disturbance by man.

The aim of this section is to discuss the distribution of the major vegetation formations within the Bellingen Shire and to describe the structure and floristic composition of the main associations within these formations. For this purpose the Shire is divided into the following five regions:

- \* coastal and estuarine fringe;
- \* the coastal ranges;
- \* the alluvial flats of the Kalang and Bellinger Rivers;
- \* the escarpment;
- \* the Dorrigo Plateau.

This section refers to the existing vegetation formations rather than the original formations, many of which have been either cleared completely, or undergone changes in composition largely as a result of logging and burning. Clearing for dairying and logging commenced in the Bellingen Shire in the late 19th Century and has continued through to the present day. Only in the very rugged and isolated areas of the upper valleys of the Bellinger and Kalang Rivers and along the escarpment from Point Lookout to the Dorrigo National Park do extensive areas of the original vegetation formations remain.

### 4.6.2 Coastal Fringe

Hannah (1968) identified the following vegetation formations in the coastal dune and headland system which forms the eastern boundary of the Shire:

- \* littoral strand;
- \* coastal scrub;
- \* dense littoral scrub;

- \* littoral rainforest;
- \* heath.

These formations typically occur in sequence with the littoral strand colonising the frontal sections of the dune system, and grading into coastal scrub, then sometimes into dense littoral scrub or the hind-dunes as exposure to winds and salt spray decreases, and soil and moisture conditions become more favourable.

The littoral strand shows a progression landward of vegetation types, with the halophytic runners of Spinifex hirsutus (sand spinifex) thriving in conditions of drifting sand and salt laden spray on the most exposed dunes. This grades into Ipomoea pes-caprae (morning glory), Carpobrotus aequilaterus (pig face), Osteospermum moniliferum (bitou bush - introduced species) and then into Acacia longifolia var. sophorae (coastal wattle) as the dunes become more stabilised. The height of vegetation comprising the littoral strand increases landward from a few centimetres to about 1 metre. The littoral strand is an extremely important stabilising agent in the coastal system. It actively traps wind blown sand, reduces wind speeds and provides a binding mechanism for the dune system. Destruction of this vegetation generally results in deflation hollows or blowouts along the dune system, inland migration of sand and the die-back of the hind-dune species. Some disturbance of this vegetation has occurred around Mylestom and Hungry Head. At Mylestom, a combined Bellingen Shire Council, Public Works Department and Soil Conservation Service of NSW dune stabilisation project is being carried out. This project involves the fencing of the active dune system providing controlled access points, and the planting of vegetation as stabilising agents.

The coastal scrub which occupies much of the dune system ranges in height from about 1 to 2 metres on its seaward margins, up to about 12 metres in more protected areas. Plants forming this scrub exhibit xerophytic characteristics with the dominant species being Banksia serrata, Banksia integrifolia, Pandanus pedunculatis, Acacia longifolia var. sophorae, Melaleuca leucodendron (paperbark), Leptospermum laevigatum (coastal tea tree) and Eucalyptus gummifera (red bloodwood).

In more sheltered areas, coastal scrub may grade into a zone of dense littoral scrub which reaches a height of about 6 to 12 metres. This scrub is very dense with the understorey being almost as high as the scrub layer. Species found within this littoral scrub typically include Cryptocarya sp., Cupaniopsis sp., Tristania sp., Smilax sp., Acmena smithii (lili-pilli), Stephania sp., Hibbertia dentata, Pultanaea eutrephius, Banksia integrifolia, Jacksonia scoparia, Pimelea sp., Pteridium esculentum, Notelaea longifolia, Leptospermum laevigatum, Melaleuca leucodendron, Casuarina sp. and lianas. In some cases exotics such as Lantana camara have invaded the scrub.

Small pockets of littoral rainforest occur on sheltered southerly slopes where average annual rainfall is high. Within Bellingen Shire, remnant littoral rainforest occurs immediately south of Hungry Head. This littoral rainforest contains the southern-most occurrence of Austromyrtus dulcis (midgenberry) within NSW.

Coastal heath occurs mainly on the exposed headlands at Hungry Head and Wenona Head and along exposed sandridges. The heath is typically wind-stunted, with most of the plants being woody and prickly, exhibiting xeromorphic features. Species include Hakea sp., Persoonia sp., Epacris sp., Acacia longifolia var. sophorea, Acacia juniperina (prickly Moses), Hibbertia scandens, Threlkeldia sp., Banksia serrata, Banksia integrifolia, Banksia serratifolia, Xanthorrhoea sp. (grass tree), Pultanaea sp., Eriostemon sp., Bossiaea sp., Boronia serrulata, Leptospermum flavescens, Melaleuca sp., Jacksonia sp. and Grevillea sp.

### Importance of Species

Floristically, the littoral strand, coastal scrub and dense littoral scrub have only minor conservation value, however they play the major part in stabilising the coastal dune system and protecting nearby areas from moving sand and salt-laden sea breezes. For this reason it is recommended that the coastal fringe vegetation be protected in the form of a Foreshore Protection Zoning (7f), and that any proposed disturbance to this zone, such as through sand mining, be thoroughly investigated prior to commencement.

The headland heath areas have biological conservation value since the headland heath communities are very poorly represented within NSW's Reserve system (Coffs Harbour Coastal Planning Study, Working Paper No. 11, Vegetation). In addition, these areas form part of the scenic quality of the visually prominent headlands. For these reasons, the coastal heath areas should be maintained.

The littoral rainforest to the south of Hungry Head also has important biological conservation value. Littoral rainforest has been eliminated from much of NSW by sandmining, urbanisation, burning and grazing and recreational developments. It is therefore recommended that the National Parks and Wildlife Service be requested to undertake a study to investigate the conservation status of this area.

#### 4.6.3 Estuarine Fringe

The estuarine fringe system occupies tidal mud flats and mud flats fringing parts of the lower reaches of the Kalang and Bellinger Rivers. The major vegetation community within this fringe is the mangrove belt with Avicennia marina being the dominant species.

The mangrove belt plays an important part in stabilising the estuarine fringe. This belt collects and consolidates silt deposits which results in a prograding shoreline. It also plays an important role in the maintenance of estuarine faunal populations. For these reasons the mangrove belt should be afforded protection in accordance with the Department of Environment and Planning's Wetlands Policy. In areas of gentle gradient salt marshes may fringe the mangrove community.

In a number of areas around the mouth and lower reaches of the Bellinger River, the mangrove community grades into swamp forest. The swamp forest typically consists of dense tree growth in areas of shallow still water (up to a few centimetres in depth) and in water-logged soils which are periodically inundated. Species within this forest include Melaleuca leucodendron, Casuarina glauca (swamp oak), Eucalyptus robusta (swamp mahogany) and Tristania suaveolens.

The Department of Environment and Planning has mapped the terrestrial boundary of coastal wetlands (which incorporates the mangrove community and swamp forests) within Bellingen Shire. The NSW State Fisheries have mapped the mangroves in more detail along the coastline.

Studies have not been undertaken to determine the composition or significance of these wetlands. The Department of Environment and Planning has recommended that these wetlands be zoned as Wetlands (7f zoning) and that they not be reclaimed or developed until an investigation has been undertaken to determine their conservation value.

#### 4.6.4 Vegetation of the Alluvial Plains of the Bellinger and Kalang Rivers

Much of the natural vegetation of alluvial plains of the Kalang and Bellinger Rivers was cleared for dairying in the late 19th Century. The two main vegetation formations existing before European settlement were subtropical rainforest, which occupied the major part of the area, and native grasslands which were confined largely to poorly drained, lowlying alluvial soils. These formations have been largely replaced by mixed pastures and legumes, with species such as Paspalum dilatatum (paspalum), Paspalum urvillei (vasey grass) and Axonopus affinis (carpet grass), dominating the pastures.

Within the Bellinger Valley the only remaining area of subtropical vegetation downstream of Thora is on Bellinger Island (Floyd 1979). This area has been invaded with exotic plants and is dying back.

#### 4.6.5 Vegetation of the Coastal Ranges

The coastal ranges may be defined as the hills and ranges extending from the coast to the Dorrigo Plateau escarpment. Never Never State Forest, Tuckers Nob State Forest, Pine Creek State Forest (part), Newry State Forest, Gladstone State Forest, Scotchman State Forest, Diehappy State Forest, Roses Creek State Forest, Irishman State Forest and Oakes State Forest are included within the area defined as the coastal ranges.

Within this area the floristic composition and structure of the different vegetation formations depends mainly on the degree of disturbance and management by man and physical factors such as soils, microclimate and topography. Generally, dry sclerophyll forest dominated by Eucalyptus pilularis (Blackbutt) covers the ridges and exposed slopes. This passes, by transition, through mixtures of Tristania conferta (Brushbox), Syncarpia laurifolia (Turpentine) and Eucalyptus grandis (flooded gum) to almost pure stands of Eucalyptus grandis in the major gullies. Intermixed with the Eucalyptus grandis and associated species is sub-tropical rainforest, with pure stands of subtropical rainforest occurring in the wettest gully sites. Swamp forest tends to occupy areas of heavy, poorly drained soils or where drainage is impeded.

A number of different associations within these formations have been identified by the Forestry Commission of NSW in the Plans of Management for the Newry Management Area, Pine Creek State Forest and Bellinger Management Area. Table 4.5, which describes the main associations, is compiled from these management plans.

#### 4.6.6 Vegetation of the Dorrigo Plateau Escarpment

A detailed description of the vegetation of the Dorrigo Plateau escarpment is given in Floyd (1979), *Vegetation of the Upper Bellinger Valley*. This report examines the vegetation in the area extending from the Dorrigo Plateau to Bellinger River, incorporating the Dorrigo National Park, Bellinger River State Forest, New England National Park, Black Scrub Area and Bishop Creek Forest Reserve. A list of plant species identified within this area, during field reconnaissance is given in the appendix to Floyd's Report and, as such, is not included here.

The following description of the vegetation formations is summarised from Floyd.

Table 4.5: Associations within Vegetation Formations\*

Formation	Association	Distribution	Composition	Structure
Wet Sclerophyll Forest.	Narrow leaved White Mahogany; Red Mahogany; Grey Ironbark; Grey Gum (mixed Ironbark)	Lower gully slopes typically forming a zone between Blackbutt associations and Flooded Gums.	<p><u>Dominant Species:</u> Narrow leaved White Mahogany; Red Mahogany; Grey Ironbark; Grey Gum; (mixed Ironbark)</p> <p><u>Associated Species:</u> Tallowwood, Turpentine, Brushbox and Sydney Blue Gum.</p>	Forest between 30-45 metres with a dense understorey of rainforest plants.
	Moist Blackbutt	Relatively sheltered sites, south facing slopes and lower slopes.	<p><u>Dominant Species</u> is Blackbutt which comprises at least 20% of the stand.</p> <p><u>Associated Species:</u> Tallowwood, White Mahogany, Red Mahogany, Grey Gum, Turpentine; Sydney Blue Gum, Bloodwood and Cabbage Gum.</p>	Forest up to 55 metres. Understorey of typically mesophytic shrubs and herbs.
	Flooded Gum	Moist gully sites	<p><u>Dominant Species:</u> Dominated by Flooded Gum, usually as a pure stand</p> <p><u>Associated Species:</u> Blackbutt, Tallowwood, Brushbox, Sydney Blue Gum and Turpentine</p>	Forest commonly up to 45 metres. Understorey is dominated by rainforest species.

\* Derived from Plans of Management for Newry Management Area, Pine Creek State Forest and Bellingen Management Area.

Table 4.5: Associations within Vegetation Formations\* (cont'd)

Formation	Association	Distribution	Composition	Structure
Wet Sclerophyll Forest (cont'd)	Tallowwood - Sydney Blue Gum	Gully and lower slopes	<p><u>Dominant Species:</u> Tallowwood and Sydney Blue Gum which together comprise about 50% of the stand.</p> <p><u>Associated Species:</u> Brushbox, Turpentine, Narrowleaved White Mahogany, Flooded Gum.</p>	Tall forest, occasionally exceeding 55 metres in height. Usually a rainforest understorey.
Dry Sclerophyll Woodland	Forest Red Gum	Coastal areas on exposed ridges, better drained margins of the swamp forest.	<p><u>Dominant Species:</u> Forest Red Gum is normally sole dominant.</p> <p><u>Associated Species:</u> Other Eucalypts such as Swamp Mahogany, Sydney Bluegum, Grey Gum and various Ironbarks.</p>	Tall woodland which varies in height from 10-30 metres.
			<p><u>Associated Species:</u> Smooth Barked Apple, Bloodwood, Tallowwood, Spotted Gum, Blackbutt, Red Mahogany, Sydney Blue Gum.</p> <p>Forest Oak occurs commonly as a smaller tree.</p>	Forest up to 36 metres. Undergrowth is usually sparse.

\* Derived from Plans of Management for Newry Management Area, Pine Creek State Forest and Bellingen Management Area.

Table 4.5: Associations within Vegetation Formations\* (cont'd)

Form tion	Association	Distribution	Composition	Structure
Rainforest	Subtropical rainforest	Wettest gully sites.	<p>Many areas rainforest is depauperate due mainly to past exploitation.</p> <p><u>Emergents:</u> Flooded Gum and Brushbox</p> <p><u>Canopy:</u> Includes Blackwood, Bangalow Palms, Gooyong, Coachwood, Giant Stinging Tree, Cabbage Palm, Red and White Cedar, Golden Sassafras, Tree Ferns, Lianas and Ephyphytes.</p>	<p>Emergents: 50-60 metres</p> <p>Canopy: 20-50 metres</p>
Swamp Forest	Swamp Mahogany	Heavy, poorly drained soils	<p><u>Dominant Species:</u> Swamp Mahogany comprising 50% of the stand and commonly up to 100%.</p> <p><u>Associated Species:</u> Swamp Turpentine, Paperbarks, Swamp Oak, Forest Red Gum, Red Mahogany, Bloodwoods, Leptospermum sp.</p>	Closed Eucalypt forest which rarely exceeds 30 metres. Understorey contains herbs and shrubs.
	Paperbarks	Areas where drainage more impeded and water may cover the surface for appreciable periods.	<u>Dominant Species:</u> <u>Melaleuca leucadendron</u> usually makes up to 100% of the stand.	
	Swamp Oak	Very poorly drained site, sometimes with saline soils.	<u>Dominant Species:</u> <u>Casuarina glauca</u> usually makes up to 100% of the stand.	

\* Derived from Plans of Management for Newry Management Area, Pine Creek State Forest and Bellingen Management Area.

Table 4.5: Associations within Vegetation Formations\*

Formation	Association	Distribution	Composition	Structure
Dry Sclerophyll Forest	Dry Blackbutt	Exposed ridge tops and upper slopes	<p><u>Dominant species:</u> Blackbutt comprises at least 20% of the stand, although it is generally in excess of 50%, with some pure stands occurring.</p> <p><u>Associated Species</u> include Tallowwood, White Mahogany, Red Mahogany, Grey Gum and Blackwood.</p> <p>Forest Oak is a common understorey associate.</p>	Forest of from 30 to 45 metres in height with a xeric and open understorey.
	Blackbutt - Spotted Gum	Drier ridges on poor shallow soils - generally found where conditions become marginal (through limited moisture) for the development of Blackbutt.	<p><u>Dominant Species:</u> Blackbutt and Spotted Gum both constitute over 20% of the stand.</p> <p><u>Associated Species:</u> This association contains a wide range of Eucalypts including Sydney Blue Gum, Tallowwood, Greygum, Grey Ironbark and Bloodwood.</p>	Forest up to 30 metres with open understorey.
	Grey Gum - Grey Ironbark - White Mahogany	Occupies shallow soiled ridges in areas where more favourable sites carry Blackbutt.	<p><u>Dominant Species:</u> Grey Gum - Grey Ironbark and White Mahogany.</p>	

\* Derived from Plans of Management for Newry Management Area, Pine Creek State Forest and Bellingen Management Area.

## Rainforest

Floyd has identified 4 subforms of rainforest:

- \* Subtropical Rainforest (which he further divided into high altitude and low altitude forest);
- \* Dry Rainforest;
- \* Warm Temperate Rainforest; and
- \* Cool Temperate Rainforest.

### Subtropical Rainforest

This subform occupies two separate ecological niches, namely the low altitude alluvial flats and the higher altitude sheltered moist shelves and saddles on deep fertile soil.

Subtropical rainforest is characterised by its uneven canopy level due to emergents, predominantly buttressed trees such as Sloanea woolsii (yellow carabeen), Heriera actinophylla (black booyong) and Toona australis (red cedar), thick vines and trunks mainly obscured by stem-clinging climbers and large epiphytes.

High altitude subtropical rainforest occur at altitudes from 610 to 1,040 metres on the most protected slopes, with consistently moist and deep fertile soils, in areas such as the heads of Dardanelles and Bishops Creeks, Bishops Creek Forest preserve and the Black Scrub. The typical emergent trees are Heritiera actinophylla (black booyong) and Dendrocnide excelsa (giant stinging tree). The canopy is mainly Geissois benthami (red carabeen), Schizomeria ovata (crabapple), Dysoxylum fraserianum (rosewood), Ackama paniculata (corkwood), Doryphora sassafras (sassafras) and Daphnandra micrantha (socket wood). Polyomosa cunninghamii (featherwood) and Alangium villosum (black muskheart) characterise the lower layer, with the shrub layer mainly consisting of Cyathea leichhardtiana (prickly tree fern), Linospadix monostachyus (midginbil palm), Tasmannia insipida (tasteless pepper bush) and Citriobatis paucifloris (orange thorn). Ferns comprise most of the herb layer and include Arachniodes aristata (shield fern), Blechnum patersonii (strap water fern) and Pteris umbrosa (jungle brake). Large woody vines are less common than at lower altitudes, but the Arthropteris beckleri (climbing fishbone fern) of Ripogonum discolor (two-tone supple-jack) are common amongst the smaller vines. Epiphytes are mainly Asplenium australasicum (birds nest ferns) with occasional Platyserium bifurcatum (elk horn ferns). The rare ravine orchid (Sarochilus fitzgeraldii) is found at the head of Bishops Creek.

The low altitude subtropical rainforest originally extended along the alluvial flats and lower foothills of the Bellinger River and the lower reaches of its tributaries such as Rosewood, Bishops and Woods Creeks, however it has been cleared for agriculture. The most extensive remaining areas are along Rosewood Creek in the Dorrigo National Park, followed by Bishops Creek. Smaller areas occur along Dardanelles Creek and Crescent Creek. Bellingen Island represents the last remnant of low altitude subtropical rainforest downstream from Thora. This area is dying out due to infestation of exotic plants and choking vines such as jalap and flying foxes.

In the low altitude subtropical rainforest, the floristic diversity is greater than the high altitude subtropical rainforest, with 52 to 69 tree species being identified in the lowland sites surveyed by Floyd, compared with 26 to 42 tree species being identified at high altitude sites. The dominant emergents are still Argyrodendron

actinophyllum (black booyong) and Dendrocnide excelsa (giant stinging trees), but the diversity of the canopy is greatly increased. Species restricted to the lowland areas include Archontophoenix cunninghamiana (bangalow palms), Ficus sp. including F. macrophylla (Moreton Bay), F. obliqua (small leaved), F. watkinsiana and F. superba var. henniana (strangler and deciduous figs), laurels including Beilschmiedia elliptica (grey walnut), B. obtusifolia (hard bolly gum), Cinnamomum olivera (oliver's sassafras), C. virens (red bark sassafras), Cryptocarya meisnerana (thick leaved laurel), Flindersia schottiana (bumpy ash), Euroschinus falcata (Chinaman's cedar), Alphitonia excelsa (red ash), Elaeocarpus grandis (blue fig), Sloanea australis (maidens blush), myrtles, Polyscias elegans (celery wood) and Emelina leichhardtii (white beech). The shrub layer is herbaceous ground cover layers which are likewise more diverse in the low altitude subtropical rainforest, with the herbaceous ground cover being comprised of 41 species at low altitude sites, in comparison with only 15 species at high altitude sites. Vines and epiphytes are also better represented.

### Dry Rainforest

Dry rainforest is found on steep north facing slopes or narrow spurs with very shallow soils. Associations within this subform include the grey myrtle (Backhousia myrtifolia) and mock olive (Notelaea venosa) - watergum association (Tristania laurina), and the hoop pine (Araucaria cunninghamii) association. The species diversity in these areas is considerably lower than in the subtropical rainforest.

A major requirement for the growth of this type of forest appears to be disturbance creating bare soil conditions which are necessary for germination of the short-lived seed. Landslips on steep slopes provide a suitable seed bed with minimal competition from other species. Consequently, this type of forest may also occupy steep unstable slopes in subtropical and warm temperate rainforest.

### Warm Temperate Rainforest

Warm temperate rainforest mainly occurs just below the antarctic beech mist belt at about 800 to 1,000 metres altitude on poorer soils and rocks which will not support subtropical rainforest. It is characterised by plants with smaller (notophyll) leaves than the subtropical rainforest, an even canopy of only a few dominant species and the rarity of buttresses, thick vines and large vascular epiphytes.

Tristania conferta (brushbox) is the dominant emergent with the major tree species forming the canopy layer including Ceratopetalum apetalum (coachwood), Ackama paniculatum (corkwood), Doryphora sassafras (sassafras), Schizomeria ovata (crab apple), Austrobuxus swainii (pink cherry) and Tristania laurina (water gum).

### Cool Temperate Rainforest

Cool temperate rainforest is restricted to the base and tops of the escarpment and into the nearby sheltered valleys in areas where the updraft of chilled moist air off the sea commonly produces mists. Within Bellingen Shire, the best examples of cool temperate rainforest are in the New England National Park at about 1,350 metres, on the top of the escarpment near Barren Mountain, and along the Little Murray River (1,370 metres). On the McPherson Range it is restricted to above 1,100 metres with a few stunted trees down to 945 metres altitude. At the head of Dardanelles and Bishops Creeks, scattered trees are found down to 730 metres at the base of waterfalls in south-facing valleys which are also protected from the westerlies. In the eastern Dorrigo National Park area, cool temperate rainforest occurs scattered along creeks at 525 metres near Timmsvale and at 480 metres on Bo Bo Creek.

Cool temperate rainforest is characterised by toothed, simple small leaved (microphyll) plants, no buttresses, numerous slender and wiry vines Petermannia cirrosa (tendrill yam) and Ripogonum discolor (two-tone supple-jack) and conspicuous non-vascular epiphytes (such as lichens and hanging mosses).

At altitudes above 1,250 metres, cool temperate rainforest is dominated by a single species Northafagus moorei (Antarctic Beech), while at lower altitudes Northafagus moorei and Ceratopetalum apetalum (coachwood) form the dominant species. Other associated tree species include Doryphora sassafras (sassafras), Anopterus macleayanus (Tasmanian laurel), and Quintinia sieberi (brown possum wood), Quintinia verdonii (grey possum wood), Ackama paniculata (corkwood), Schizomeria ovata (crabapple), Vesselowskya rubifolia (southern marara), Pennantia cunninghamii (brown beech) and Tristania laurina (water gum). Dicksonia antarctica (soft tree fern) and the epiphytes such as Dendrobium falcorostrum (beech orchid) and Fieldia australia (fieldia) are typical of cool temperate rainforest.

### **Wet Sclerophyll**

Wet sclerophyll forest generally occupies the moister south and east facing slopes, at lower altitudes (and lower rainfall) on the Dorrigo Plateau escarpment. Wet sclerophyll is characterised by a tall open tree layer of eucalypts, Tristania conferta (brushbox) and Syncarpia glomulifera (turpentine), with a scattered small tree layer of Casuarina sp. (she-oaks), Acacia sp. (wattles) and rainforest pioneer species. The ground cover is composed of broad leaved shrubs and herbs.

Floyd has identified three associations (brushbox/tallowwood/Sydney blue gum association; moist blackbutt association; and New England blackbutt association), the distribution of which are dependent largely upon soil moisture, fire frequency and altitude.

#### Brushbox/Tallowwood/Sydney Blue Gum Association

The brushbox/tallowwood/Sydney blue gum association tends to occupy the moister gullies and lower slopes. Tristania conferta (brushbox) represents the dominant species, with Eucalyptus microcorys (tallowwood) and Eucalyptus saligna (Sydney blue gum) being the main associated species. The understorey generally consists of well developed rainforest species. The composition of the forest depends largely on fire frequency. With long intervals between fires, this association may develop into subtropical rainforest with Tristania conferta (brushbox) emergents. Where burning is frequent, Eucalyptus microcorys (Tallowwood) and Eucalyptus saligna (Sydney blue gum) may become dominant as a result of their greater fire resistance and faster growth rates respectively.

#### Moist Blackbutt Association

The moist blackbutt association occupies much of the lower slopes of the Dorrigo Plateau escarpment. Eucalyptus pilularis (blackbutt) is clearly the dominant species, with E. microcorys (tallowwood), E. intermedia (pink bloodwood), E. Umbra ssp. carnea (white mahogany) Syncarpia glomulifera (turpentine) and E. saligna (Sydney blue gum) as associated species. The understorey consists of a scattered layer of smaller trees which include Casuarina torulosa (forest she-oak), Synoum glandulosum (scentless rosewood), Ackama paniculata (corkwood), Daviesia arborea (tree bitter pea) and Trochocarpa laurina (tree heath).

### New England Blackbutt Association

The New England Blackbutt Association occurs on stony ridge tops and in areas of north to north-west aspects, at altitudes from 400 to 800 metres. E. andrewsii spp. campanulata (New England blackbutt) is the dominant species, although E. pilularis (blackbutt) and E. microcorys (tallowwood) may be present as associated species. The small tree layer includes species such as Banksia integrifolia (white banksia), Endiandra sieberi (hard corkwood), Trochocarpa laurina (tree heath), Davlesia arborea (tree bitter pea) and Hakea eriantha (tree hakea).

### **Dry Sclerophyll Forest**

Dry sclerophyll forest is generally restricted to the dry stony, steep northern aspects up to about 850 metres altitude. E. pilularis (blackbutt) is the clear dominant, with E. umbra ssp. carnea (thick leaved white mahogany), E. microcorys (tallowwood), E. intermedia (pink bloodwood) and Synacarpia glomulifera (turpentine) forming a dominant layer of trees. Casuarina torulosa (forest she-oak), Davlesia arborea (tree bitter pea), Elaeocarpus reticulatus (lily-of-the-valley tree) and Exocarpos cupressiformis (native cherry) form a scattered small tree layer. The shrub layer generally consists of narrow thick leaved species, such as Xanthorrhoea australis (giant grass tree), Jacksonia scoparia (dogwood) and Oxylobium ilicifolium (holly shaggy pea). The herbaceous layer is mainly grasses such as Themeda australis (kangaroo grass).

### **Woodland and Dry Scrub**

Woodland occurs in restricted areas of dry shallow soils over rock. E. umbra spp. carnea (thick leaved white mahogany) and E. notabilis (Blue Mountain mahogany) are generally the dominant species, with E. intermedia (pink bloodwood), E. pilularis (blackbutt), Synacarpia glomulifera (turpentine), Tristania conferta (brushbox), Casuarina littoralis (black she-oak) and C. torulosa (forest she-oak) as minor species. Typically, the woodland reaches heights of 8 to 12 metres, with trees tending to be knarled and heavily branched. A dense scrubby layer of rigid and/or prickly plants may be present, and include species such as Leptospermum flavescens (lemon scented tea-tree), Prostanthera ovalifolia (oval mint bush), Hakea eriantha (tree hakea), Oxylobium aciculiferum (prickly shaggy pea), Beyeria viscosa (pink wood), Leucopogon juniperium (prickly beard heath) and Logania albifera (narrow leaf logania). The sparse ground cover between the rocky outcrops consists mainly of Xanthorrhoea australis (giant grass trees), Themeda australis (kangaroo grass) and Plectranthus graveolens (sticky cockspur flower).

Where there is adequate soil to support small trees, dry scrub occurs. Shrubs are generally rare being Ficus rubiginosa (rusty fig) and Rulingia dasyphylla (kerrawang) with typical rock crevice herbs such as Pellaea paradoxa (large leaved sickle fern), Plectranthus graveolens (sticky cockspur flower) and Peperomia leptostachya (slender pepper plant).

### Importance of the Species

The vegetation formations of the Dorrigo escarpment are all represented within the New England National Park and the Dorrigo National Park and the proposed National Park extension areas. These areas contain a number of rare species which include Ficus coronata (creek sandpaper fig), Helicia glabriflora (pale oak), Endiandra crassiflora (Dorrigo maple), Abarema grandiflora (pink laceflower), Didymocheton rufum (hairy rosewood), Polyscias murrayi (pencil cedar), Eupomatia bennettii (small Bolwarra), Calanthe tripticata (Christmas orchid), Mischocarpus sundaicus (shiny brush apple), Sarcochilus fitzgeraldii (ravine orchid) and Backhousia annisata.

Backhousia annisata is a tree which is unique to the Bellinger Valley. It does not occur in any other parts of the world. To date, there has been no comprehensive research undertaken to indicate the distribution of this species within the valley. It is recommended that such research be undertaken in order to ensure the future protection of this species. Because of the rarity of this species, it is recommended that Council consider making a tree preservation order with respect to Backhousia annisata.

Consideration should also be given to the protection of areas of cool temperate rainforest dominated by Northofagus moorei which lie outside the National Park areas. Floyd (1979) states that:

"... few people would argue against the contention that the antarctic beech forests have special emotional, aesthetic and scientific values; and that because of their limited area, should be preserved."

These forests, which have only very limited distribution within Australia, represent an important component of the flora at the time of separation (postulated at 65 million years ago) of the continents of Australia, New Zealand and South America (Floyd 1979).

Within the forest communities, Astelia and Cyttaria species also indicate linkages with New Zealand and South America to the east, while Acradenia, Anopterus and Cyttaria species indicate linkages with Tasmania to the south.

Some of the Northofagus moorei forest is contained within the National Parks, however, Floyd (1979) notes that there are significant areas of Northofagus moorei forest on the escarpment which occurs on private property and is currently subject to logging. In addition, the boundaries of the Dorrigo and New England National Parks are not fenced and there have been incursions into these areas by adjacent property owners. Floyd (1979) recommended that the boundaries be fenced so that future incursions can be detected or prevented and, in addition, "... that an evaluation of the antarctic beech resource on private lands should be carried out so that a plan of acquisition can be drawn up, particularly of areas adjoining the Park and State Forest".

#### 4.6.7 Vegetation of the Dorrigo Plateau

Information on vegetation on the Dorrigo Plateau is summarised by McArthur in 'Soils and Land Use in the Dorrigo-Ebor-Tyringham Area NSW' (CSIRO 1964). The formations recognised by McArthur are rainforest, sclerophyll forest (wet and dry), woodland and heath.

##### Rainforest

McArthur has identified sub-forms of rainforest - the Heritiera<sup>1</sup> community, the Ceratapetalum (coachwood) community and the Northofagus moorei (Antarctic beech) community.

##### Heritiera Community

The Heritiera community once occupied the red basaltic soils around Dorrigo. Today, only very small remnant patches remain.

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1. This was originally called Tarrietia by McArthur.

Structurally, this community is comprised of a very dense canopy at 35 to 60 metres, a well defined understorey, and a prolific growth of vines, lianas, and epiphytic plants. Dominant species are Heritiera actinophylla (black booyong) and H. trifoliata (white booyong). Associated species include Dysoxylum fraserianum (rosewood), Toona australis (red cedar), Doryphora sassafras (sassafras) and Gmelina leichhardtii (white beech). Dendrocnide excelsa (giant stinging tree) and Sloanea woolsii (yellow carabeen) may be co-dominant in some areas where the forest has been disturbed. Northofagus moorei (Antarctic beech) may grow in the lower topographic positions. The understorey consists of Laportea spp., Alocasia spp. and Helicia spp. with tangled vines and lianas.

#### The Ceratopetalum (Coachwood) Community

The Ceratopetalum community is very widespread in high rainfall areas on the Dorrigo Plateau, especially in the Bostobrick-Deervale-Tyringham area. In drier areas, it is confined to moist southerly aspect slopes.

The community consists of two or three tree layers, the highest layer being about 30 metres, with buttressing being common on the larger plants. The understorey is generally dense with vines and epiphytes dominating. Ceratopetalum apetalum (coachwood) is the dominant species, with Schizomeria ovata (crabapple), Doryphora sassafras (sassafras) and Ackama paniculata (corkwood) as associated species. Northofagus moorei may occur in some localities, while Araucaria cunninghamii (hoop pine) may emerge from the general level of the forest canopy.

#### The Northofagus Moorei

The Northofagus moorei community occurs mainly on the edge of the escarpment where average annual rainfall ranges from 1,750 millimetres to 2,125 millimetres and there is a high incidence of wet and misty days. It also occurs as isolated stands within the Ceratopetalum communities on steep slopes with southerly aspects, and along gullies and creeks where there is abundant moisture and high humidities.

The structure and importance of the Northofagus moorei community has been described earlier in this section of the report.

### **Sclerophyll Forest**

#### Wet Sclerophyll Forest

Wet sclerophyll forest occurs in areas of abundant moisture and deep soils, such as gullies and southerly facing slopes. Eucalypt species are generally the dominant species with Tristania conferta (brushbox) and Syncarpia lauriflora (turpentine) as the main associates. Rainforest species may occur in moister areas.

The composition of the forest depends largely on moisture and soil conditions. On the shallow podzolic soils around Leigh and Gangar, the dominant tree species is Eucalyptus benthami (Nepean River gum) with some Northofagus moorei along the gully. On the deeper soils around Bostobrick and Dome Mountain the dominant tree species are Eucalyptus campanulata (New England blackbutt), E. saligna (Sydney blue gum), E. microcorys (tallowwood) and E. grandis (flooded gum) and E. Acmenoides (white mahogany).

### Dry Sclerophyll Forest

Dry sclerophyll forest occupies drier, more exposed areas, with shallow storey soils. The composition and structure of these forests is similar to that described earlier.

### **Woodland**

The woodland formation occupies the higher altitudes in the area extending north from Point Lookout to Deervale. This formation consists of scattered small trees, dominated by Eucalyptus pauciflora (snowgum), with a ground cover dominated by Themeda australis (kangaroo grass), Poa caespitosa (snowgrass), Sorghum leicoladum (wild sorghum) and Sporobolus elongatus (slender rat tail grass).

The composition of the formation alters with distance from the scarp. On the high country adjacent to the scarp E. pauciflora (snowgums) are the dominant tree species on the upper slopes, with mixed E. pauciflora (snowgum) and E. stellulata (black sally) in lower positions. Further inland (1.5 to 2 kilometres from the scarp) messmate forests dominated by E. obliqua (messmate) and E. fastigata (brown barrell) become significant. Stands of E. obliqua (messmate) and E. fastigata (brown barrell) may also occur on the southern slopes within the E. pauciflora (snowgum) community.

In areas of waterlogged soils or permanent surface water, Spagnum bogs and sedge communities have developed.

### **Heath**

Heath consists of low scrub and is restricted to the high country along the edge of the escarpment near Barren Mountain and at Wrights Lookout. The scrub reaches a height of about 2 metres and is very dense. The major species is E. approximans (mountain mallee) associated with Banksia spp., Casuarina spp., Melaleuca spp.. Themeda australis (kangaroo grass) occurs on the margins of the scrub. Large patches of bare rock supporting mosses and lichens are common within this formation.

## **4.6.8 State Forests**

### **State Forests - Management and Organisation**

The public forests within the Shire of Bellingen are run by the Forestry Commission of NSW under a number of Forestry Acts, the most important being the Forestry Act of 1916. Management functions are regionalised with a second level of districts within each region. Forests in the northern part of the Shire lie within the Coffs Harbour Forestry Region (Dorrigo Forestry District and Coffs Harbour Forestry District) while the remaining forests are located within the Urunga District of the Port Macquarie Forestry Region. While the management plans for each district tend to be reasonably similar, there is potential for a variety of management procedures affecting the forests in the Shire.

### **Location**

The forests of the Shire can be divided into three main geographic categories: the coastal belt, valley slopes and mountainous country to the north.

Three State forests are located in the coastal belt - Pine Creek, Newry and Little Newry. These form the northern and southern gateway to the Shire along the Pacific Highway. The highway provides good access between the less steep parts of these forests and the mills, and good road and rail linkages provide access to markets in Brisbane and Sydney.

The valley forest systems are the largest and most important in the Shire. These are subject to a separate Plan of Management covering an area from Bellingen in the east to the Dorrigo Plateau escarpment. It includes the following State forests (or part thereof).

Table 4.6: Areas of State Forests in Bellingen Shire

State Forest	Mapped Area (ha)
Tuckers Nob (part)	1,385
Never Never (part)	3,480
Bellinger River	9,214
Scotchman	3,245
Diehappy	2,113
Roses Creek	2,313
Oakes (part)	6,005
Irishmans (part)	1,175
Gladstone (part)	4,664

As can be seen from the map, these forests are located on the steeper slopes of the Bellinger and Kalang River Valleys and form a major part of the catchment areas of these rivers. Together with the New England National Park, they provide a great deal of protection to the river catchment areas. The river flats and foothills have been generally cleared and are thus not included in the State forests. The forests are located generally on steeper land with 60 per cent of the total area being located on slopes in excess of 20°. <sup>1</sup> Thus, State forests in this area are located on the steeper slopes some distance from the major roads network. This makes logging and carting difficult and expensive.

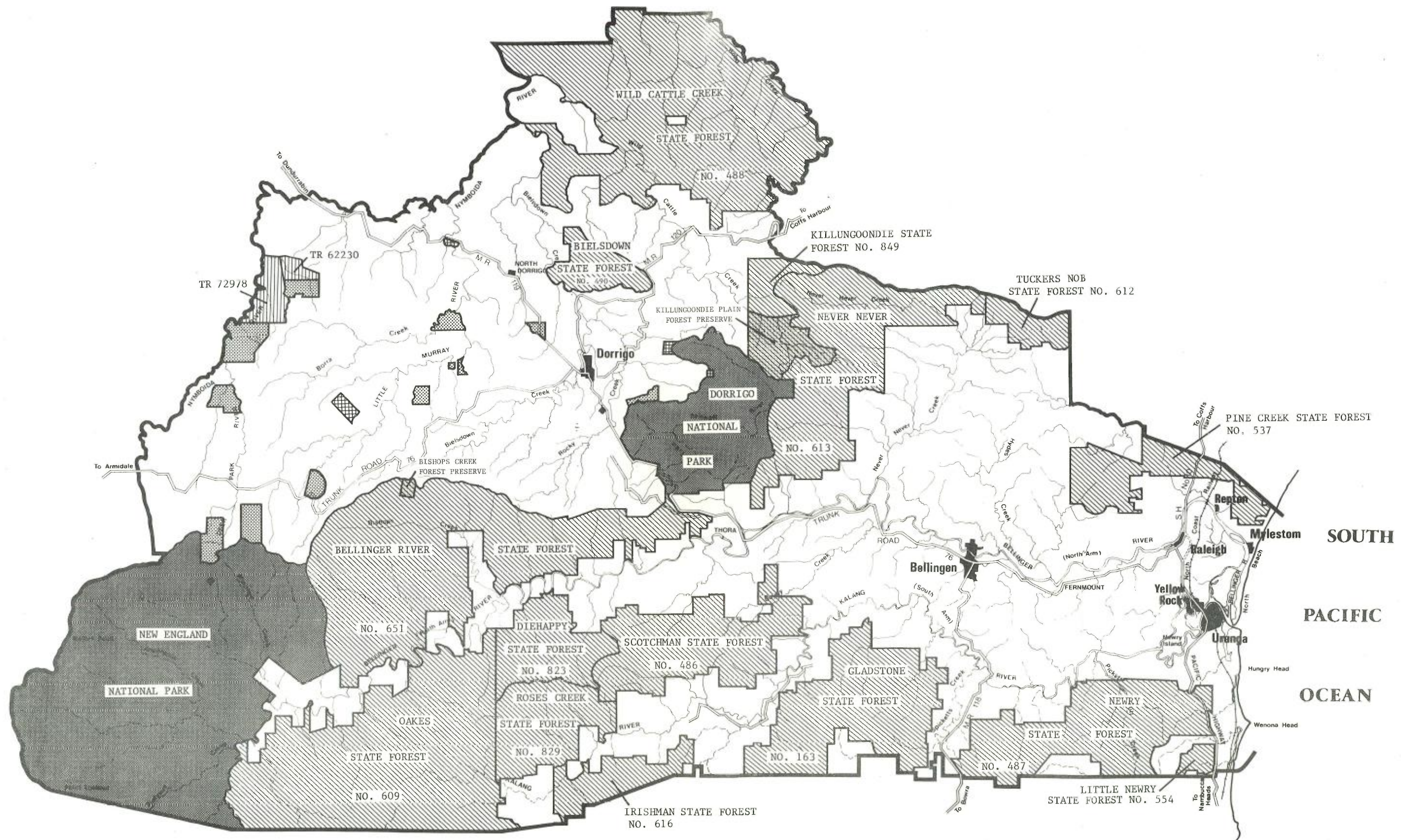
The remaining areas of State forests in the Shire lie to the north of the Shire and include Wild Cattle Creek and Bielsdown State Forests.

### Current Forest Management

#### Coastal Belt

The management and development patterns for Pine Creek and Newry State Forests are similar. Forests were declared in portions largely between 1890 and 1900, and virgin stands were logged for the mature trees continuously up to about 1920, at which time, control plans were prepared. The forests have been continually managed according to a working plan since then, with detailed management plans commencing in 1954.

1. Source: "Plan for Bellingen Management Area", Forestry Commission of NSW, July 1977.



STATE FOREST	
TIMBER RESERVE	
PRESERVED FOREST AREAS	
VACANT AND RESERVED CROWN LAND	
LEASEHOLD LAND	
FREEHOLD LAND	
NATIONAL PARK, NATURE RESERVE	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**STATE FORESTS AND NATIONAL PARKS**

6

0 5km 10km

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 For BELLINGEN SHIRE COUNCIL

Within these forests, there is a total length of road of approximately 160 kilometres, with the Pacific Highway and 6 kilometres of Shire road running through the Pine Creek State forest.

The following hardwood timber types are found in the forests (in decreasing order of occurrence):

- \* Dry Blackbutt;
- \* Moist Blackbutt;
- \* Forestry Plantations;
- \* Narrow leafed white and red mahogany - Grey Ironbark, Tallowood;
- \* Flooded Gum;
- \* Sydney Blue Gum, Tallowood;
- \* Grey Gum - Grey Ironbark.

Over the years 1954 to 1973, the following volumes were logged from the coastal forests.

Hardwood sawlogs	166,130 m <sup>2</sup> gross
Poles, piles, girders	49,415 m <sup>2</sup> gross
Sawn products	8,070 m <sup>2</sup> gross

The current management objectives of these coastal forests are as follows:

- "a. To supply a sustained yield of sawlogs in conjunction with other areas in the general supply zone.
- b. To increase the level of production where economically justified.
- c. To establish a resource capable of supplying part of the requirements of a pulp industry in the Coffs Harbour Zone.
- d. To supply other forest products where compatible with (a), (b) and (c) above.
- e. To preserve natural forest vegetation to an extent adequate to maintain:
  - (i) stable soil conditions;
  - (ii) satisfactory hydrological conditions;
  - (iii) a habitat suitable for indigenous wildlife.
  - (iv) an aesthetic forest environment.
- f. To provide for use of the forests for public recreation in the context of the Forestry Commission's general policy on recreation in State Forests.
- g. To provide grazing and other forest uses when compatible with other management objectives.

- h. To maximise the nett financial return of fees, royalties and rentals to the extent possible under the preceding management objectives."<sup>1</sup>

As can be seen, from a timber production viewpoint the coastal forests are planned to provide sawlogs on a continuous basis over time as well as to provide a potential supply of pulpwood (to be grown largely in the areas of low productivity) for the Australian Paper Mills proposed paper mill in the Coffs Harbour Region.

Yields are to be kept low with harvesting concentrating on the economically viable components of the valley forests until the stock matures.

Currently, the annual sawlog yield stands at 9,700 cubic metres, and this level will not be exceeded so as to ensure a long term sustained yield. The logging of the coastal forests is integrated with that of the valley forests of the Bellinger Management Area and quotes are fulfilled from within these forests.

Forests will also be logged for salvage timber - poles, piles, girders, sleepers, pit props, packing cases, etc., as demand requires and in accordance with silvicultural techniques.

#### Valley Forests

The forests of the Bellinger Management area have only been exploited relatively recently, the impetus for logging stemming from post-war economic growth. Logging commenced in the 1950's in the more accessible eastern parts of the area, moving slowly west as demand required and as accessibility improved.

Within these forests there are 234 kilometres of forest roads (as at June 1976) and 150 kilometres of trails. Because of the rough terrain, the road and fire trail pattern are difficult to maintain in a desirable fashion.

Between 1950 and 1976, an average of 31,700 cubic metres (as at June 1976) of hardwood sawlogs were harvested from the forests. Harvesting of poles, piles and girders occurred but only to a minor extent.

Blackbutt and moist hardwood forest types are the most important in the area accounting for 80 per cent of the total sawlog yield each year. The Blackbutt timber is found on the steeper ridges with the moist hardwoods (tallowood, brushbox, turpentine, blue gum, flooded gum) on less steep, moister and more fertile sites. The brushwoods (subtropicals and depauperates) are found in the gullies.

Logging costs in the Bellinger Management Area are generally high, which significantly depress royalty returns to about 65 per cent of the State average. As a result of this, it is not economic to provide roads to the more inaccessible areas, such as the Bishops Creek and south-west sections of Bellinger River State Forest, the Black Scrub, and parts of the Oakes State Forest.

The forests in this Management Area fulfil a major catchment protection, recreation and flora and fauna protection role within the Shire and the fulfillment of these ideals is incorporated into plans of management.

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1. Source: Pine Creek and Newry State Forest Management Plans.

Although soils in the forests, as in the Shire as a whole, are generally stable, careful consideration has to be given to logging operations and road works to minimise soil movement and stream turbidity. Given the intentions of the forestry Commission in this regard, it is likely that the catchment area of the Bellinghen and Kalang Rivers is more adequately protected with the majority of land in public ownership than in private ownership.

The forests of the river valleys have significant tourism and recreational potential in the following ways:

- \* The forests dominate the skyline from almost every road in the Shire, particularly the trunk and main roads. The rugged terrain and tall timbers provide a scenic backdrop to the towns and villages of the Shire. Also, many Shire roads pass through the forests thus adding to the scenic quality of the drive.
- \* The forests contain features of natural attraction such as lookouts, and picnic sites and provide the opportunity for passive recreational pursuits.

The Management Plan for the Bellinghen Management Area was released in 1977, and is currently being reviewed by the Forestry Commission.. The management objectives of the area are:

- "1. To continue to supply the current hardwood sawlog commitment within the constraints imposed by economic and environmental limitations.
2. To restrict supply of forest products from rainforest stands to a level which will allow continued maintenance of the rainforest structure of such stands.
3. To supply other forest products where economically justifies and compatible with 1 and 2.
4. To maintain a natural forest vegetation cover to an extent adequate to:
  - (a) conserve the soil resources and water catchment capabilities;
  - (b) maintain a diversity of habitat suitable for wildlife indigenous to the area;
  - (c) retain an aesthetic forest environment acceptable to the public generally.
5. To maintain any unique or rare ecological, historical, floral, faunal or other scientific values occurring within the Area.
6. To provide for grazing and other forest uses where compatible with other management objectives.
7. To provide for the use of the Management Area for public recreation in the context of the Forestry Commission's general policy on recreation in State Forests.

8. To maximise nett financial returns to the extent possible under other management objectives."

These are likely to remain the management objectives for the next planning period.

In the 1977 Plan of Management, the cutting cycle of the forests was due for completion in 1985. After that time, sawlog production will decrease until currently regenerating forests reach a usable size. This is likely to be in about 40 years time.

Production from the forests is set to cover existing commitments to sawmillers and no increase in production is envisaged. The quota currently stands at 20,200 cubic metres, approximately 10,000 cubic metres a year less than the average yield from 1950 to 1976.

Current and future logging operations are based on existing stand conditions. Different forms of logging occur over different areas depending on the stand condition. For example, mature and over-mature virgin stands will yield a fairly significant sawlog quota, whereas previously logged stands are not likely to yield any sawlogs but will possibly yield packing timber, sleepers, piles, poles, girders, etc.

Of a total area of 33,608 hectares within the Bellingen Management Area (most of which is located within Bellingen Shire), 6,518 hectares or 20 per cent is still virgin bush (as at 1977). Most of this is in the Bellingen State Forest. Of a total area of 9,214 hectares in the Black Scrub, 1,960 hectares had been logged (at 1977), 2,104 hectares was considered uneconomic, 2,000 hectares was considered suitable for logging, particularly with the construction of a road into the Black Scrub and 3,150 hectares was rock and rainforest.

Economically viable virgin stands will provide quota sawlogs in the current cutting cycle. When these areas are logged, sawlogging operations will cease until the forests have rejuvenated (a period of approximately 40 years).

Once the current cutting cycle has been completed, logging commitments will be transferred to adjoining forests.

Timber from the Valley and coastal forests are allocated to a number of sawmills in the area - the principal ones in Bellingen Shire being Thora Sawmilling Pty Ltd and W.H. Wills Pty Ltd, Bellingen. Other mills utilising timber grown in forests in the Shire are located elsewhere and include Biggin's at Bonville and Allan Taylor at Bowraville.

Management plans for the coastal and valley forests have recently been reviewed although we are informed by the Forestry Commission that management objectives, procedures and logging commitments have not varied markedly from the information presented above.

The recent announcement to transfer part of the Bellingen State Forest to the New England National Park and part of Never Never State Forest to the Dorrigo National Park has meant that there will need to be a change to the plans of management of the forests in the Bellingen, Pine Creek and Newry Management Areas. The details of this change are currently being finalised within the Forestry Commission.

In conclusion, the present management regime for the coastal and valley forests is one of sustained yield to ensure the long term production of timber of various types and for various uses. Such an approach implies that changes to the management plans will be incremental so as to ensure that logging and thinning operations enable efficient forest regeneration.

#### Plateau and Mountain Forests

Forests in this area fall mainly within the Dorrigo Forestry District of the Coffs Harbour Forest Region. Forest types are generally similar to the remainder of the Shire except that there appears to be a higher rainforest element. Forests in this group include:

- \* Killungoondie State Forest;
- \* Never Never State Forest (part);
- \* Bielsdown State Forest;
- \* Wild Cattle Creek State Forest (part).

The first three of these forests are mainly forested with temperate rainforest types consisting mainly of Coachwood, Beech and Hoop Pine. Wild Cattle Creek forest is more similar to the forests to the south of the Shire with Blackbutt on the ridges and moist hardwood (Blue Gum, Tallowood and Brush Box) on the less steep valley slopes.

Management principles in these forests are similar to those elsewhere in the Shire, although substantial parts have been logged in the past. Logging operations are expected to continue in the Dorrigo Management Area over the next five years or so, with the annual cut not exceeding 9,000 cubic metres. After this time, all logging operations in these forests for sawlogs will cease in the current 20 year cutting cycle. These forests also play an important recreational role which should be more actively pursued.

Quotas from the Dorrigo District are currently allocated to the following mills:

- \* Allen Taylor and Co Ltd, Dorrigo;
- \* G.L. Briggs and Sons Pty Ltd, Briggsvale;
- \* Duncans Holdings Limited, South Grafton;
- \* Mates Limited, Bostobrick.

Smaller parcels sales and licences for smaller timber (thinnings etc.) are distributed to a number of smaller mills including Allen Taylor and Co Ltd, Uralla.

#### **4.6.9 Private Forests**

APM Forests Pty Ltd, the subsidiary company of Australian Paper Mills Limited responsible for forest activities, first commenced acquiring land in the Coffs Harbour area in 1958. Of a total holding of approximately 16,400 hectares, 9,540 hectares are located in Bellingen Shire. These areas are either managed as native forests or as established hardwood plantations. Approximately 5,100 hectares of hardwood plantation have been established in total (see Map 7).

Originally the forests were established to provide a stable supply for a proposed paper mill in the Coffs Harbour area. Initially due for construction in the 1970's, plans have been somewhat delayed. At the present, there is no firm proposal for the size, location or timing of the paper mill. In the meantime, the forests will be maintained and managed with new plantations being established at a rate of approximately 100 hectares per annum although this varies over time. The company lets timber licences to logging companies and will continue to do so in the near future, although this will be probably reappraised in conjunction with an eventual decision on the paper mill.

## 4.7 Climate

### 4.7.1 General Characteristics of the North Coast Region

The following extract from the North Coast Region Resources Inventory and Land Use Planning Guidelines to the year 2001<sup>1</sup> provides a concise description of the climatic regime of the North Coast Region.

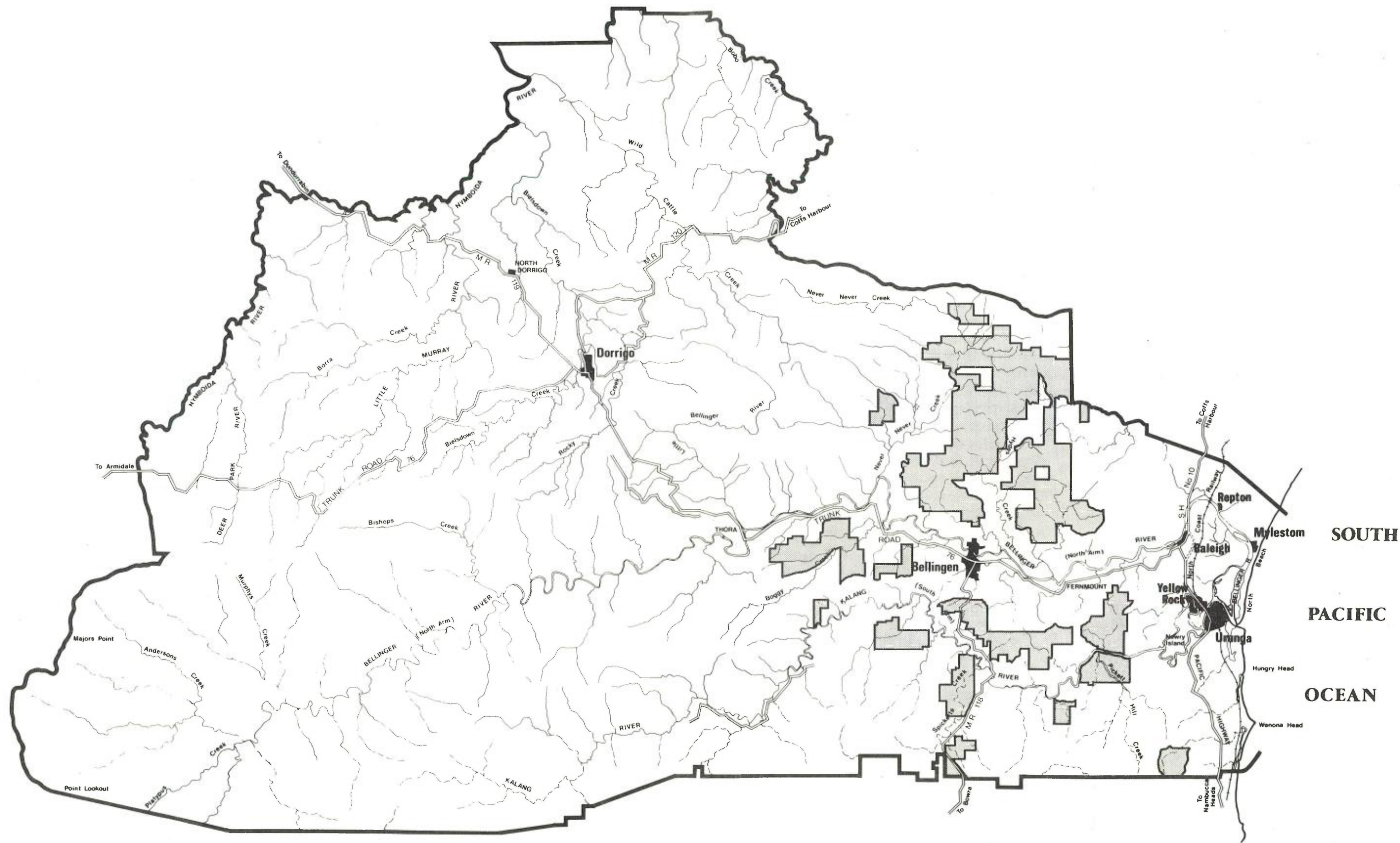
"The North Coast of New South Wales is regarded as having one of the most pleasant climates for human habitation in the continent. The summers are generally warm to hot in the north, while winters are mild. Rainfall is regular, though extremes of droughts and storms associated with tropical cyclonic depressions occur. Climatically much of the area may be classified as humid-subtropical. The presence of the relatively warm Pacific Ocean along the Eastern boundary causes an east to west variation in climatic parameters. The changing pattern of topography along the coastal fringe however modifies this variation to give each location its own particular climate."

The climate within the region is mainly controlled by the seasonal migration of the trade winds to the north and the anticyclone belt to the south.

"At the beginning of the year, the anticyclone belt is well south of the Region. Consequently, warm, humid conditions associated with the easterly trades are experienced. The anticyclone belt begins to move northward during April and generally lies over the Region by July. Rainfall averages and the water vapour content of the air (the humidity) decrease during this period. From July to September, the anticyclone belt is over, or slightly northward, of the Region. This period is the relatively dry season of the year and the light winds and clear skies associated with anticyclone centres are conducive to the formation of frost at places in the Region away from the immediate coast, even though there is a relatively warm ocean to the east of the Region. Humid conditions return and rainfall averages increase as the anticyclone belt moves well south of the area in November."

(Munro et al., 1976.)

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1. Munro R.G., Jelliffe P.A., den Exter P., Mackay N.J. and Heugh J.P. (1976) North Coast Region Resources Inventory and Land Use Planning Guidelines to the Year 2001, Research Unit, Northern Rivers College of Advanced Education.



**SHIRE OF BELLINGHEN ENVIRONMENTAL STUDY**  
**A.P.M. LAND** **7**

0 5km 10km ↑

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 For BELLINGHEN SHIRE COUNCIL

The humid sub-tropical climate, together with the attractive scenery and beaches makes the area an ideal focal point for tourist growth.

**4.7.2 Characteristics of Bellingen Shire**

The Australian Bureau of Meteorology currently operates one climatic station, located at Bellingen Post Office and 4 rainfall stations at Urunga, Dorrigo, Deer Vale and Raleigh.

**Precipitation**

The distribution of rainfall within the Bellingen Shire is controlled to a large extent by the topography, with the annual median rainfall tending to be higher in the elevated western parts of the Shire. This distribution results from the orographic effect of moist maritime air being forced to converge and rise over the coastal ranges. The median rainfall ranges from 1,499 millimetres at Dorrigo and 1,349 millimetres at Deer Vale in the west of the Shire to 1,066 millimetres at Urunga on the coast.

Rainfall is seasonally distributed, with a late summer/early autumn peak. March is the wettest month and August the driest month at Bellingen, Deer Vale, Raleigh and Urunga, while February is the wettest month and July the driest month at Dorrigo. The median monthly rainfall for Bellingen, Deer Vale, Dorrigo, Raleigh and Urunga is given in Table 4.7.

Heavy rain may occur over the Shire at any time of the year, however, it is more prevalent in the late summer/early autumn period, being generally associated with cyclonic activity. The highest incidence and intensity of rainfall occurs in higher elevated areas on easterly to southerly facing slopes. In these areas, the amount of rainfall in a 24 hour period may exceed 75 millimetres.

Table 4.7: Median Rainfall Characteristics (mm)

Month	Bellingen	Deer Vale	Dorrigo	Raleigh	Urunga
January	149	194	215	131	113
February	154	179	235	183	150
March	186	206	225	199	173
April	96	127	148	130	142
May	73	78	100	90	88
June	60	69	75	68	64
July	30	48	50	46	43
August	29	46	51	33	31
September	37	60	59	51	42
October	71	77	77	59	56
November	86	105	88	71	53
December	112	160	176	128	111
Year	1,083	1,349	1,499	1,189	1,066

Months receiving no rain within the Shire are extremely rare. For example, of the 297 months of rainfall records available for Bellingen, no rainfall was experienced in only 2 months. On average, Bellingen records 120 raindays per year, with March having the highest number and July-August the lowest number. The mean number of raindays per month at Bellingen is given in Table 4.8.

Other forms of precipitation within the Shire are snow, hail and fog. Snow has been reported in the higher sections of the New England Plateau in the far south-west of the Shire, however, there is no climatic station in this area to record such events.

Hail is a highly infrequent, localized phenomena which can be expected to occur during any month of the year. At Bellingen, the frequency of occurrence is highest in late spring and early summer.

Fog is also a highly localized phenomena, depending largely on the local topography, altitude and aspect. The frequency of occurrence is highest during winter.

Table 4.8: Mean Number of Raindays - Bellingen PO

Month	Number
January	13
February	14
March	15
April	10
May	9
June	8
July	6
August	6
September	7
October	10
November	10
December	12
Year	120

### Temperature

Temperatures experienced in Bellingen Shire vary in accordance with proximity to the coast and local relief factors, which include elevation, exposure, position in relation to areas of cold air drainage, and local radiation effects.

In general, temperatures are warm to hot in summer and cool to mild in winter. January is generally the hottest month and July the coldest. Temperatures in excess of 32°C have been experienced in the period August to April, however they are more frequent between November and February. Heatwave conditions (temperatures exceeding 37°C) have been recorded in the months of September, November, December, January and February. These conditions tend to arise when north-westerly winds bring hot, dry continental air from Central Australia. A frequency analysis of maximum temperatures for Bellingen has been prepared by the Bureau of Meteorology: an extract from this analysis is given in Table 4.9.

A frequency analysis has also been prepared by the Bureau of Meteorology for minimum temperatures experienced in Bellingen. A summary from this analysis is given in Table 4.10, and shows that minimum temperatures less than 0°C have been experienced during the period May to September, with July and August having the highest occurrence of low temperatures.

Temperature extremes are usually moderated on the coastal strip by cooling south-easterly and north-easterly sea breezes.

Temperature is not generally a limiting factor in determining the length of the growing season of subtropical and temperate crops, however low temperatures in winter can severely damage many of the tropical crops. Microclimatic variations in temperature as a result of aspect and terrain affect the suitability of an area for tropical crops and banana plantations. North-easterly facing slopes, because of their higher insolation budgets, are more favoured for tropical crop/banana production, while valley bottoms and lower slopes are generally avoided because of the effects of cold air drainage or stagnation.

Table 4.9: Frequency Analysis - Maximum Temperatures: Bellinghen

Range (°C)	J	F	M	A	M	J	J	A	S	O	N	D
32 - less than 33	66	47	56	9	-	-	-	1	9	33	39	53
33 - less than 34	55	51	28	5	-	-	-	-	3	29	29	41
34 - less than 35	29	20	17	7	-	-	-	-	2	8	21	22
35 - less than 36	24	18	7	1	-	-	-	-	2	6	14	32
36 - less than 37	26	12	5	-	-	-	-	-	2	5	15	20
37 - less than 38	17	11	1	-	-	-	-	-	1	-	9	11
38 - less than 39	6	12	-	-	-	-	-	-	-	-	7	13
39 - less than 40	4	-	-	-	-	-	-	-	-	-	6	7
40 - less than 41	5	-	-	-	-	-	-	-	-	2	2	4
41 - less than 42	3	-	-	-	-	-	-	-	-	-	2	4
42 - less than 43	1	-	-	-	-	-	-	-	-	-	1	3
43 - less than 44	-	-	-	-	-	-	-	-	-	-	1	-
Greater than 44	-	-	-	-	-	-	-	-	-	-	1	-

Source: Bureau of Meteorology

Table 4.10: Frequency Analysis - Minimum Temperatures: Bellinghen

Range (°C)	J	F	M	A	M	J	J	A	S	O	N	D
-4 to less than -3	-	-	-	-	-	-	3	1	-	-	-	-
-3 to less than -2	-	-	-	-	-	-	9	2	1	-	-	-
-2 to less than -1	-	-	-	-	-	5	17	4	-	-	-	-
-1 to less than 0	-	-	-	-	3	7	27	10	-	-	-	-
0 to less than 1	-	-	-	-	9	19	89	30	4	1	-	-
1 to less than 2	-	-	-	-	12	47	78	73	10	1	-	-

Source: Bureau of Meteorology

### Frost

The occurrence of frost in the Shire is governed by local conditions, with slope, elevation and aspect being the main influencing factors. The immediate coastal region is practically frost free, while the lower parts of sheltered valleys and depressions in the west of the Shire experience the most severe frosts.

At Bellingen, frosts have been observed during the period May to October with July experiencing the most frosts. Light frosts (screen temperatures less than 2.2°C) can be expected from May to October at Bellingen, while heavy frosts (screen temperatures less than 0°C) could be experienced from May to September (see Table 4.10).

Areas subject to frost are not suitable for tropical crops and banana plantations.

### **Winds**

Wind analyses have been undertaken by the Australian Bureau of Meteorology for Bellingen. These analyses indicate that at 3 pm, north-easterly and south-easterly sea breezes dominate, with occasional stronger southerly winds. This pattern is maintained in early autumn with a weakening of north-easterly winds in late autumn. In winter and early spring, south to south-westerly winds predominate, although by October, the summer sea breeze pattern is beginning to re-emerge. At 9 am, winds are more variable, and reflect cold air drainage along the Bellinger River Valley. Wind roses for Bellingen are given overleaf.

Wind strength is usually greatest on the coast, tending to decrease inland. Strong winds (winds in excess of 50 kilometres per hour) may be experienced in any month, with the period December to February having the highest frequency. Strong winds mainly arise from the south-east to south direction and are associated with cyclonic depressions. According to Munro (et al., 1976) tropical cyclones are normally experienced along the eastern coast about 3 times in each cyclonic season (December to mid-April). The percentage chance of a tropical cyclone endangering coastal areas of the North Coast Region is given in Table 4.11.

Table 4.11: % Chance of Danger to Coastal Areas by Tropical Cyclone

Month	% Chance
January	6
February	16
March	16
April	6

Source: Munro et al., 1976.

### **Relative Humidity**

The relative humidities recorded at Bellingen reflects its relatively coastal position. At 9 am the average monthly relative humidity ranges from 64 per cent in October to 88 per cent in July. At 3 pm average relative humidities range from 50 per cent in August to 66 per cent in March. The average monthly relative humidities for Bellingen are given in Table 4.12.

Table 4.12: Mean Monthly Relative Humidities for Bellingen

Month	9 am	3 pm
January	75	63
February	80	65
March	79	66
April	82	62
May	85	60
June	88	60
July	82	52
August	76	50
September	66	49
October	64	55
November	65	57
December	67	58

**4.8 Coastline and Coastal Erosion**

**4.8.1 Data Sources**

Detailed coastal process studies have not been undertaken for the Bellingen Shire Coastline. The following information was supplied by the Department of Public Works, and is based on a report prepared by the Department entitled "Coastal Engineering Advice on Proposed Subdivision at Mylestom" and on a qualitative assessment of available aerial photography and site inspections of the region.

**4.8.2 The Coastline**

The coastline within the Shire extends from Oyster Creek in the south to approximately mid embayment along North Beach. This stretch of coastline is interrupted by the entrance of the Bellinger River at Urunga.

Within the coastal system there is a marked northerly littoral sediment transport system. Preliminary investigations by the Public Works Department in Coffs Harbour indicate a northerly littoral drift approaching the harbour of 30,000 to 100,000 cubic metres of sediment per annum. Recent investigations at South West Rocks (to the south of Bellingen Shire) assessed that the northerly net littoral drift at this location was of similar magnitude to that monitored at Coffs Harbour. No significant sediment losses or sources have been identified between Smoky Cape and Coffs Harbour and the bar conditions at the Entrance of the Bellinger River indicate a northerly net littoral drift of the same order of magnitude in this location.

**4.8.3 Areas Susceptible to Coastal Erosion**

Recent studies have identified a trend of long term recession of beaches along NSW in the period since European settlement. Rates of erosion of up to 2 metres a year have been identified along sections of the coastline. Within Bellingen Shire there is very little published information relating the changes in coastal configuration during the last 200 years. As part of the Mylestom study, the Public Works Department undertook a qualitative assessment based on available aerial photographs. These photographs date back to 1954 and consequently provide only very limited information on the coastline.

Examination of these photographs have shown that the location of the foredune and escarpment on North Beach has not varied significantly in the last 25 years. In 1974, however, the escarpment was subjected to wave attack during cyclonic storm conditions. The 1974 storm is estimated to have a recurrence interval of 1 in 15 years. This suggests that there is a high potential for beach recession in a major storm event. A design storm with a pressure drop of 31 millibars (central pressure 979 millibars) off the coast of Coffs Harbour was modelled to determine water elevations during a major storm event. A comparison of the storm water surge levels resulting from the storm and the height of the foredune system on North Beach showed that in some areas storm waves would overtop the dune system, resulting in salt water inundation in the low-lying areas.

Based on this information, the Public Works Department has identified a number of areas within the Shire which are considered susceptible to coastal erosion. On the general level, the Department notes that any beach/dune system on a high net littoral drift section of the coastline must be considered in a delicate state of balance. Therefore, for the beach systems within the Shire to be maintained in their present condition, at a given location, the quantity of sand reaching that location from updrift must balance the quantity of sand leaving downdrift. Any imbalance resulting from loss of the littoral sand from factors such as supply by construction of structural stabilisation measures such as groyne fields and training walls, or by sand extraction or localised erosion can result in immediate and irreversible loss of sediment from the beach face. This is manifested in a landward movement of the shore line. A major source for potential loss of sand within the Shire is from erosion of the dunal system as a result of the destruction of vegetation on the foredune system. This can be brought about by factors such as uncontrolled pedestrian and vehicular access, grazing of stock or from fire.

On a more specific scale, the Department has identified a number of areas which could possibly be at risk during a major storm event. These areas are as follows:

**Area 1:** Crown Land Reserve R13646 - The main North Coast Railway Easement passes through this Reserve and in one area is situated only 100 metres from the dune erosion escarpment (Site A). In the long term, the railway line could be threatened by the landward retreat of the dune system. Previous erosion scars can be identified in the frontal dune.

**Area 2:** Crown Land Reserve R 1082 - at Oyster Creek near the southern boundary of the Shire. The Main North Coast railway line is also considered under threat in this area. It is possible that a breach of the dunes could occur during a major storm, or series of storm events.

**Area 3:** Dunal spit to the south of Mylestom. This spit is particularly susceptible to river breaches. This occurred during the 1950 flood when the entrance of the Bellinger River migrated some 500 metres to the north of its present position. A revegetation programme was undertaken to stabilise the spit, however a threat still exists today of another flood breakthrough.

**Area 4:** Mylestom. There is a possibility of saltwater inundation from the ocean in lowlying areas on the coastal plain during a major storm event.

#### 4.8.4 Recommendations

Given the long term trend in beach recession in NSW and the potential erosion and associated inundation hazard during major storm events, the Public Works Department has made the following recommendations on development within the coastal zone. The Department emphasises that these recommendations are not

based on a detailed coastal processes study but rather on limited quantitative data and qualitative analysis. Consequently the following recommendations may require modification when detailed information becomes available. The Department states that in the absence of detailed information, it may be prudent to assign as an administrative measure the following coastal impact zones along the coastline in which no permanent development should be undertaken.

- "(a) Both the Urunga Lagoon transgressive dune situated between Urunga Lagoon and the ocean, and the Spit north of the Bellingen River up to Mylestom, are sensitive areas and as such no development of them should be considered.
- (b) From the northern Shire boundary to Mylestom previous advice has been that generally no development should be located 150-200 metres measured landward from the top of the existing erosion escarpment. It is now suggested that this distance be increased to 200-250 metres as a planning measure until studies of specific erosion rates are determined and the coastal processes understood in this area.
- (c) Along the section of coastline from Hungry Head to the southern Shire boundary there should also be maintained an adequate buffer zone from development in the absence of detailed investigations and a full understanding of the coastal processes, it may be prudent to raise the previously mentioned distance of 150-200 metres to a value of 200-250 metres. Certainly no development should occur in the area between the eastern bank of Oyster Creek, McGrath's Creek, Dalhousie Creek, and the Pacific Ocean. In addition particular care should be given to Sites (1) and (2) as the railway line could be threatened during a major storm event. Any relocation of the railway line should be away from the coast and removed from the sand dunal areas."

In providing this advice, the Department has considered that:

"There is a zone of variable width measured from the top of the existing erosion escarpment along the coastline within which development would be adversely affected by coastal processes or would adversely affect coastal processes, within a selected time period and consequently recommends against development in this zone.

There is also an area immediately landward of the escarpment wherein development would be immediately affected by the next storm events and consequently the Department recommends that no development should be permitted within this immediate impact area.

The approximate width of this immediate impact area can be adopted as 50 metres, but is site specific.

In addition the Department considers that the overall impact zone must also recognise two planning periods, these being:

- (a) 50 years in developed areas; and
- (b) 100 years in undeveloped areas.

The shorter planning period of 50 years is for developed areas and reflects the expected economic life of the structure and the extent and presence of existing development.

The 100 year time span caters for major development and any contingencies arising from increased pressures on the coastline resulting from intense development."

In regard to beach stabilisation, the Department recommends implementation of management plans to reduce the rate of coastal recession and maintain the beaches in as stable a form as possible. These programmes should be undertaken in sensitive areas along the coastline, in the buffer zones mentioned above and in high use areas. The objective of the beach management programmes should be to retain, manage and maintain the existing dune vegetation. Dune stabilisation works have already been carried out at Mylestom in the vicinity of the new Surf Club as part of the Department's Beach Improvement Programme.

In addition, the Department of Environment and Planning has zoned a number of areas along the Coastal Strip for Coastal Protection.

#### **4.9 Areas of Environmental Significance**

##### **4.9.1 Introduction**

The Shire of Bellingen has an area of 160,458 hectares, of which a major component comprises both National Parks and State Forests. Approximately 18,088 hectares of land within the Shire are within the National Park boundaries, whilst State Forests account for 57,000 hectares. Thus, 46.79 per cent of the Shire is designated either State Forest or National Park. Add to this the forested land owned by Australian Paper Manufacturers Ltd (which comprises 9,539 hectares) and it results in at least 52.7 per cent of the Shire area being either Park or forest.

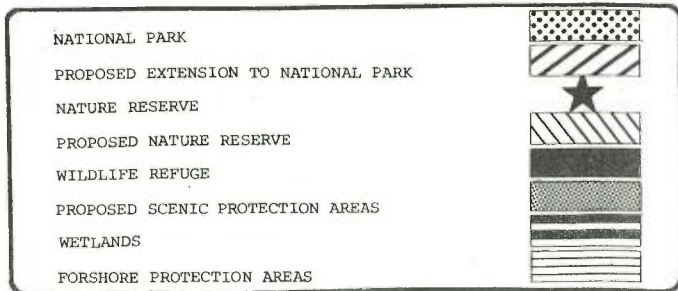
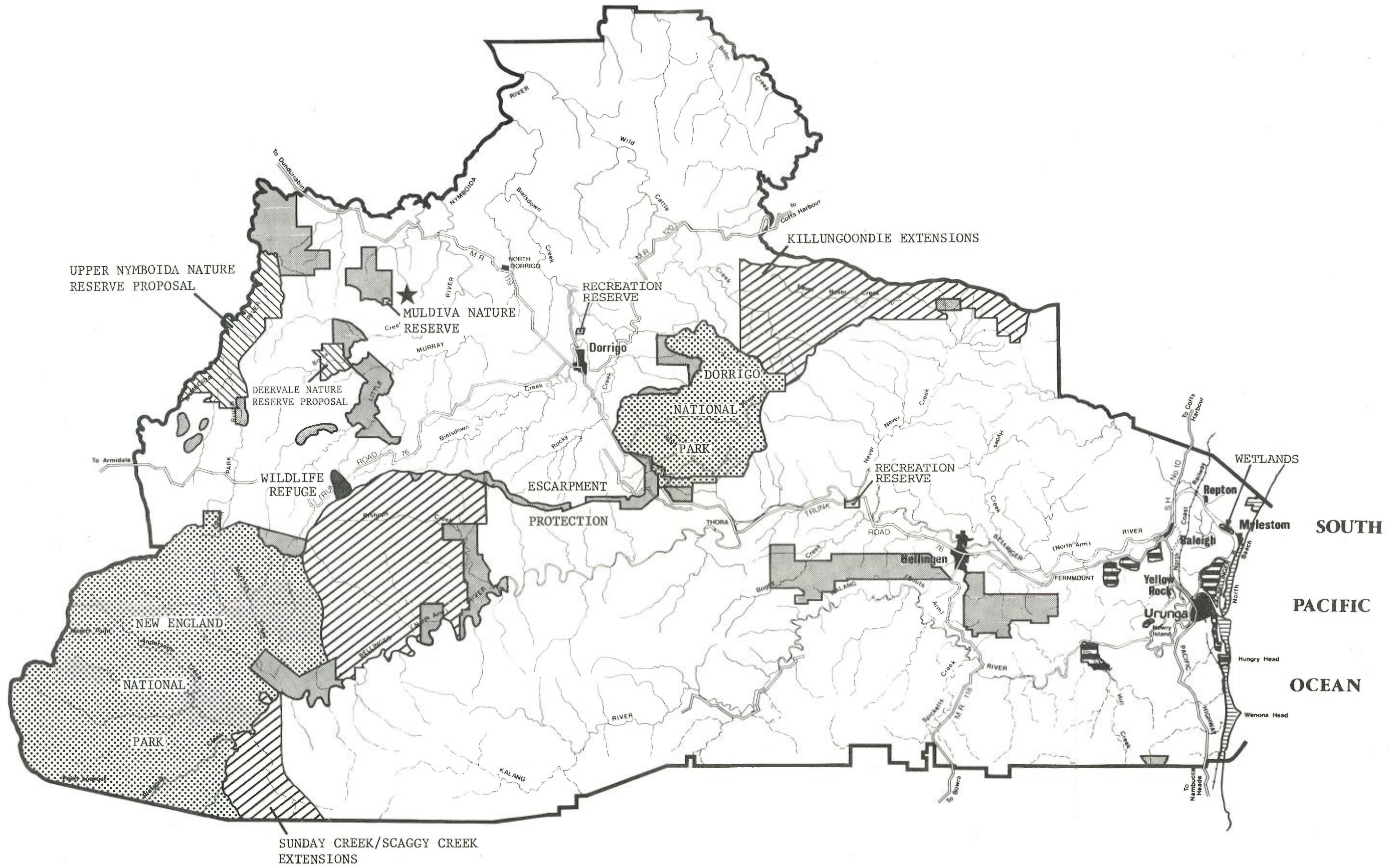
Whilst the proportion of the local government area designated as National Park or State Forest results in a relatively limited rate base for the Shire, the opportunities which such vast natural resources present for tourist purposes are considerable. Recent State Cabinet determinations in respect of proposed extensions to the National Park boundaries of New England and Dorrigo could, on gazettal, greatly improve the recreational and tourism potential of the Shire of Bellingen, although, as Council points out, possibly to the detriment of the logging industry.

##### **4.9.2 National Parks**

###### **New England National Park**

Approximately 60 per cent of the New England National Park is located within the Shire of Bellingen amounting to approximately 14,122 hectares. Proposed extensions to the Park in a south-easterly direction to encompass the catchments of Scraggy Creek and Sunday Creek (only part of which is within the Bellingen Shire) will occupy land now currently managed by the Forestry Commission - Oaks State Forest. The most significant extension to the New England National Park, however, is to be in a north-easterly direction, which will result in the Park encompassing the Bellingier River State Forest and, more specifically, an area known as the Black Scrub.

New England National Park was established in 1931 and contains what must be some of the most spectacular natural scenery in north-eastern NSW.



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According to the National Parks and Wildlife Service, the Park was established to provide the following significant conservation and other values:

- " a large representative area of outstanding escarpment landscape;
- . protection of outstanding forest samples, including extensive stands of Antarctic Beech, moist eucalypt forest, temperate rainforest, snowgum woodland and heath communities;
- . protection and natural propagation of native fauna;
- . an outstanding area for passive recreation, environmental education and scientific use;
- . an area large enough and remote enough to qualify as a meaningful wilderness area."

The New England National Park occupies a vast tract of escarpment, access to which is almost solely from the plateau. There are several lookouts along the plateau edge, the principal focus of recreational activity being Point Lookout, an important mythological Aboriginal site which is visited by some 40,000 people each year. The plateau provides outstanding views eastward across the rugged headquarters of the coastal rivers.

The Park contains stands of temperate rainforest (Antarctic Beech) and includes sub-tropical rainforest, snowgum woodland and heath. The Park contains within its boundaries reasonably large tracts of undisturbed wilderness area, and a great variety of vegetation communities, particularly in its central sections where relatively recent headward erosion of the coastal rivers has resulted in the deep dissection of palaeozonic sedimentary rocks. This range of communities is largely attributable to the altitudinal, climatic and geological variations exhibited by the Park. Point Lookout has an altitude of 1,560 metres, whilst the lowest point in the Park is only 200 metres. Temperatures at the Plateau edge can fall as low as  $-10^{\circ}\text{C}$ , but rarely fall to freezing point in the lower parts of the Park. The plateau edge also receives much more rain and mist than either lower parts of the Park or the nearby areas of tableland.

The active erosion caused by the headward erosion of the coastal rivers has resulted in the exposure of the escarpment in the relatively resistant volcanics. This in turn has created a range of landforms which are of major scientific, educational and conservation value.

However, it is probably the range of vegetation types that give the Park its major conservation value. The major vegetation and their respective dominant communities are listed below.

Temperate rainforest:

Antarctic Beech  
 Coachwood  
 Sassafras  
 Corkwood  
 Pepper Bush  
 Native Wineberry  
 Mountain Laurel  
 Rough Possum Wood  
 Prickly Ash  
 Mountain Blueberry

Sub-Tropical Rainforest:	Booyongs Yellow Carabeen Red Cedar Hoop Pine Strangling Figs Flame Trees Large Epiphytic Ferns
Lower wet sclerophyll forest:	Blue Gum Tallowood New England Blackbutt Brush Box
Upper wet sclerophyll and grassy forest:	Messmate Shining Gum Manna Gum Brown Barrell New England Blackbutt
Dry sclerophyll forest:	Forest of small to medium Eucalypts Narrow Leaf Peppermint Mountain Gum Snowgum Messmate
Woodland:	Low Eucalypts Snow Grasses Snow Gum Shining Gum Messmate
Heath and Mallee:	Low Green Heath (near cliff edges on plateau surface) Dry Heaths Wet or closed Heath Barren Mountain Mallee (rare) Shrubby She-oak Whitebeards
Swamp:	Sedges Spagnum Bog Swamp Hakea Mountain Baeckia Swamp Tea-tree

This diversity of communities provides a wide range of animal habitats. Platypus, echidna, feathertail gliders, brush tail possums, pygmy possums, bandicoots, kangaroos, native cats and dingoes are some of the mammals found in the Park. Approximately 110 species of birds have been recorded including the lyrebird, white headed pigeon, king parrot and rufous fantail. Various species of reptiles and amphibians inhabit the Park including goanna, bearded blue tongued lizards, leaf tailed gecko's, water dragons, red-bellied black snakes, tiger snakes and many species of frogs. Within the Park there are abundant varieties of invertebrate animals including the world's largest species of earwig and one of the world's smallest dragonflies.

Council has expressed concern that the transfer of the Bellinger River State Forest to the New England National Park could be detrimental to the public interest because of the loss to the local economy brought about by a loss of logging potential. It is desirable that this loss of potential timber resources to the local economy be compensated. It is apparent that the inclusion of the State Forest into the National Park would expand the tourist resource base of the Shire. Adequate access is needed into the Black Scrub area to take advantage of this tourist potential. Application by Council for funds to develop these tourist roads should be treated favourably to enable the local economy to adjust to the loss of resource base associated with the transfer of State Forest to National Park.

Management responsibility for the New England National Park was transferred in 1976 from a trust, appointed to manage the area in 1933, to the National Parks and Wildlife Service.

It is thought that most visitors to the Park (40,000 per annum) visit simply to admire the spectacular views afforded by some of the lookouts. The Park is popular with bushwalkers, who take advantage of both the scenery and the rugged wilderness. Point Lookout is effectively the only point of the Park to which practical vehicular access is available.

The National Parks and Wildlife Act, 1974 (Section 75) requires that a Plan of Management be prepared to provide clear guidelines for the use and protection of the Park, and to make a commitment for the provision of access, facilities and other services. At the time of writing, a Preliminary Draft Plan of Management had been prepared, but it is understood that, at this stage, this remains a confidential document.

#### **Dorrigo National Park**

At the present time, Dorrigo National Park covers a much smaller area than that of its western counterpart. The Park covers an area of 3,956 hectares. It is understood that recent Cabinet determinations in respect of the conservation of rainforests will result in the Park being extended eastward as far as Tuckers Knob to encompass land that is presently designated a State Forest. The effect of this extension will be to double the area of the Dorrigo National Park.

In respect of the proposed extensions to the Park, the National Parks and Wildlife Service has provided the following information on what is referred to as the 'Killungoondie Extension'.

"This area is of importance as an extension to Dorrigo National Park for the following reasons:

- . The area contains outstanding botanical and ecological features. In particular, much of the area is covered by a rainforest community of quite remarkable composition. It is a cool temperate rainforest dominated by Antarctic Beech Nothofagus moorei, Coachwood Ceratopetalum apetalum, Water Gum Tristania laurina and Sassafras Doryphora sassafras. It is understood that, outside East Dorrigo, the only other known occurrence of the mixing of Nothofagus and Araucaria, is in the New Guinea Mid Mountain forests. Most of the Antarctic Beech in the Dorrigo/Ebor area usually grows on basalt soil, however the Killungoondie occurrence is on yellow podsollic soil which makes it unusual and adds to its diversity.

- . The area encompasses the complete headwaters catchment of Wild Cattle Creek and therefore represents an ecological unit.
- . The area protects an additional section of escarpment.
- . The escarpment lookouts and other scenic features will provide opportunity for passive recreation."

According to the National Parks and Wildlife Service, the history of the Park is as follows:

"The nucleus of the Park was first established when the Sherrard and Newell Falls reserves were dedicated for public recreation and the preservation of native flora on February 9th, 1901. Further reservations were made in 1913 and 1917, with the Park (then known as the Dorrigo Mountain Reserve) then containing about 1,260 hectares. Numerous extensions have taken place since and the Park has been established for the following reasons:

- . the protection and preservation of an outstanding flora and fauna habitat particularly rainforest;
- . the protection and preservation of an important scientific area;
- . the protection and preservation of an outstanding escarpment landscape and scenic area;
- . the protection and preservation of an important passive recreational resource;
- . the protection and preservation of an important educational area."

As a result of its greater accessibility, the Park attracts twice as many visitors per annum than the New England National Park - a total of approximately 80,000 persons. The Dorrigo Park has much in common with the New England Park, being an area of great scenic beauty, biological diversity and representing a remnant sample of the original forests of the Upper Bellinger Valley and the Dorrigo Plateau. Occupying a considerable tract of the escarpment, the Dorrigo Park shows many of the topographic, geological, climatic, vegetation and faunal characteristics of the New England National Park, however, altitudes within the Park are not as great as those at New England. The Park takes in the head of the Rosewood River catchment, the river having cut a deep and narrow valley which, in part, forms the eastern boundary of the Park. As the Park is largely in its natural state and encompasses the whole of the Rosewood River catchment, the river provides clear water to the Bellinger River, at their confluence at Thora.

As with the New England Park, rainforests probably represent the most complex and valuable ecosystem. The diversity of plant species and fauna, the interaction between individual organisms and the abundance of growth are principal reasons for the area's National Park status, its attraction to visitors and its value in both biological and scenic terms. The Dorrigo Park is predominantly rainforest which extends from the plateau down the gullies, to the alluvial flats along Rosewood River. The rainforest growing on the terraces of the Rosewood River is one of the few remaining areas of lowland subtropical rainforest in alluvial soils in NSW. Warm temperate and dry rainforest also occur along the escarpment.

On the basalt cap circling the western boundary of the Park the following species predominate in the subtropical rainforest areas: Yellow Carabeen, Black Booyong, Strangler Figs, Giant Stinging Tree, Prickly Ash and Blackapple. This is the largest remaining sub-tropical rainforest fragment of the Dorrigo plateau scrub. The lower altitude rainforest is dominated by Yellow Carabeen, White Booyong, Bush Cherry, Olive, Sassafras, Giant Stinging Tree, Red Carabeen and Blue Fig.

Of particular interest is the presence of ringwood (*Backhousia annisata*) within the lower altitude rainforest - this species occurs nowhere else in the world, only in the Bellinger River Valley. Research should be undertaken to indicate the exact number and whereabouts of this species in order to ensure its future protection. Council should consider making a tree preservation order with respect to all Backhousia annisata within the Shire regardless of their location. Other trees may also be considered for protection in the future, but the uniqueness of Backhousia annisata to the Bellinger Valley makes it important that it be covered by a tree preservation order at the earliest time. Furthermore, certain of the rainforest gullies contain grooves of large Red Cedar, once common to the area but now quite rare.

Within the dry rainforest section of the Park (less extensive than sub-tropical), along the Dorrigo Mountain Road, species include Koda, Shiny Leaved Stinging Tree, Coogera, Bauerella, Native Frangipany, Bellfruit, Brush Bloodwood, Red Kamala, Native Rosella, Native Cascarilla and Twin Leaf Coogera.

The second major rainforest community is warm, temperate rainforest which occurs chiefly on the northern plateau section of the Park. The major tree species are Coachwood, Sassafras, Corkwood, Jackwood, Crab Apple, Prickly Ash and Dorrigo Plum. This type of rainforest has generally been heavily logged but slowly, beneath the fast growing species, the mature rainforest species are regenerating. It could be 250 years before such species reach maturity.

Of significance is the hoop pine: Dorrigo National Park is the only reserve in NSW with a major representation of the Hoop Pine/warm temperate rainforest association.

Also occurring within the Park are isolated elements of cool temperate rainforest (Antarctic Beech), tall open forest (one of the major vegetation types in the Park) which has been the subject of heavy logging for Tallowood and Brush Box, coastal Blackbutt which has very high commercial value, and heath/scrub and grassland.

As with the New England Park, the Dorrigo Park constitutes a significant habitat for fauna, and particularly birds, of which 128 species have been recorded, including fruit eating pigeons, buff-breasted pittas, regent bower birds, rifle birds and catbirds. There are numerous species of mammals, amphibians and reptiles in the Park and a wide variety of native fish in the Rosewood River.

Compared with the New England Park, Dorrigo is considerably more accessible. Trunk Road 76 (known as the Dorrigo Mountain Road) is a major link between the Pacific Highway and the New England Highway. The Park adjoins this road from a point approximately 1 kilometre south of Newell Falls to the edge of the plateau. Thus a significant portion of the Park is visible to traffic travelling from Dorrigo, or Armidale, to Bellinger and the coast and vice versa. There is a shelter shed and rest area at Newell Falls.

Dome Road links TR76 with the northern and western sections of the Park. Dome Road leads from TR76 at a point approximately 2 kilometres south of Dorrigo. The first 4 kilometres have been tar sealed. The road terminates at Never Never picnic area, 11 kilometres from the Dorrigo Mountain Road. Lyrebird Lane is the first entrance to the Park for visitors approaching from the coast and gives access to the visitors centre before linking up with Dome Road. There are two walking tracks within the Park, one associated with the Glade picnic area (near the information centre) and the other associated with Never Never picnic area. The former has a length of 5.6 kilometres, the latter 13 kilometres (although 4 routes of varying distances are promoted).

Clearly the considerable eastward extension of the Park will place added pressure on the Never Never picnic area as a passive recreational resource. Eastward extension of the Park also takes the Park closer to Coffs Harbour Shire, and a rapidly increasing residential and tourist population. With both the proposed opening of the Dorrigo Steam railway museum and the Park extensions, increasing pressure will be brought to bear for a more direct link to be provided between Dorrigo and Coffs Harbour.

A draft Plan of Management for the Park has been prepared but, at the time of writing, this remains a confidential document.

#### **4.9.3 Nature Reserves**

##### **Existing**

The National Parks and Wildlife Service presently manages one nature reserve within the Shire - Muldiva. This reserve, located in the north-western section of the Shire, has an area of 10.4 hectares and was established on May 29th, 1981 at the request of several local people to protect a high plateau remnant of sub-tropical rainforest (see Map 8).

Access to the reserve is from Muldiva Road which links Muldiva with Bostobrick.

##### **Proposed**

The National Parks and Wildlife Service has provided information relating to two areas which are envisaged to be included within nature reserves.

##### Upper Nymboida Nature Reserve

The land subject of the above proposal is located on the extreme western boundary of the Shire and, in fact, extends into the adjoining Nymboida Shire. The proposed reserve is of substantial size, having a north/south depth of approximately 8 kilometres. It would appear that the majority of the land is either timber reserve (TR 62230 and TR 72978), or leasehold Crown land. However, the proposed reserve encompasses several portions or part portions of freehold land.

Reasons for classifying the land as nature reserve would appear to lie in the following features:

- " Rob Roy Falls on the Nymboida River which is one of the larger scenic falls occurring on the Dorrigo Plateau.
- . The Silent Pool which is part of one of the very interesting geological faults on the plateau.

- . Several remnants of rainforest including Antarctic Beech and warm temperate rainforest.
- . The scenic gorge and river landscape."

#### Deervale Nature Reserve

An area of 200 hectares is encompassed by this proposal. The land is located towards the western boundary of the Shire, to the north of Deer Vale Road and to the north-east of Tree Fern Vale. It would appear to comprise solely freehold land. Reasons for classifying the land as a nature reserve are given as follows:

"Although the area is small in size it provides three major rainforest sub-forms comprising five associations as follows:

- . sub-tropical rainforest which contains Black Booyong and Red Cedar regeneration is understood to be the best remaining sample on the Dorrigo Plateau;
- . warm temperate rainforest containing Coachwood-Crabapple-Sassafras association and Coachwood-Crabapple-Lilly Pilly association; some coachwood trees are of exceptional size and appearance;
- . cool temperate rainforest with Antarctic Beech association; this forest could become an important educational and ecological research area."

Both nature reserve proposals will be referred to the Council for its consideration prior to their classification of such.

#### **4.9.4 Wildlife Refuges**

The National Parks and Wildlife Service is responsible for the conservation of wildlife in NSW and helps design and implement wildlife management programmes throughout the State.

The NSW National Parks and Wildlife Act 1974 officially describes a Wildlife Refuge as being dedicated for:

"the purpose of preserving, conserving, propagating and studying wildlife; conserving and studying natural environments, and creating simulated natural environments."

The Act also requires that a Plan of Management for a Wildlife Refuge "shall contain a written scheme of the operations which it is proposed to undertake therein or in relation thereto to carry out the purpose and objects of this Act." In practice, this simply means that a Wildlife Refuge may only be proclaimed over suitable land whose owner is prepared to make a positive contribution to wildlife conservation by applying techniques of habitat and wildlife management recommended by the National Parks and Wildlife Service with mutual co-operation and assistance (Boyd and Breckwoldt, the National Parks and Wildlife Service). It should be noted that wildlife refuges lack any substantial degree of security. The agreement entered into between a landowner and the National Parks and Wildlife Service can be terminated at any time by either party. When land on which a wildlife refuge has been established changes hands, the new owner may wish not to dedicate portions of his land for wildlife refuge purposes.

Private landholders, local governments and government departments who are legally recognised owners or occupiers of land can consequently assist in the preservation of wildlife by having their properties proclaimed Wildlife Refuges in the terms of the National Parks and Wildlife Act. The proclamation of such areas is particularly significant in areas adjoining National Parks and nature reserves, to assist in the protection of wildlife habitats and breeding grounds.

At present, only one wildlife refuge exists within the Shire and this is known as the Valley View Wildlife Refuge owned by M. and D. Sawtell at Fernbrook (see Map 8).

Fernbrook is located near the edge of the Dorrigo Plateau, north of the New England National Park. This refuge protects a regenerating cool temperate rainforest on the escarpment adjoining the Bellinger River State Forest. It also includes several other small communities such as wetlands and forest Leptospermum.

#### 4.9.5 Archaeological Sites

The National Parks and Wildlife Service is responsible for the protection and preservation of all Aboriginal relics in NSW.

A relic is defined as "any deposit, object or material evidence (not being a handicraft made for sale), relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of the area by persons of European extraction." (For Planners and Developers: Aboriginal Sites in NSW, 1979).

In addition to relics the Act protects Aboriginal Places. These are areas gazetted as having, in the opinion of the Minister, special significance to Aboriginal Culture. Gazettal of Aboriginal Places protects sites which may be important to Aborigines, but which are not technically relics. Natural features of the landscape with mythological significance are one type of site which can be declared an Aboriginal Place.

Areas of unoccupied Crown Land which contain important relics may be dedicated as Aboriginal Areas. These are managed entirely by the Service, in the same way at National Parks and Historic Sites.

Anyone who discovers a relic, whether it is the property of the Crown or not, must report the discovery to the Director, National Parks and Wildlife Service, within a reasonable time of the discovery, unless he/she believes that the Director already knows of its existence and location.

It is illegal to disturb, damage, deface or destroy a relic or Aboriginal Place, without the Director's prior written consent. If this consent is refused the applicant may appeal to the Minister.

The National Parks and Wildlife Service has recommended that for any development undertaken in the Shire, an Aboriginal Relics survey should consequently be carried out by a qualified archaeologist. Any sites discovered will require the Director's permission before any disturbance or salvage archaeology is carried out. The Service further advises that only four Aboriginal sites have been listed within the Bellinger Shire. These include one sacred site, one burial site, one ceremonial ground and one mythological site. It is not the policy of the service to encourage details of such sites to be published in order to ensure their protection. However, more specific details of these sites can be obtained as required.

#### 4.9.6 Wetlands

Bellingen Shire does not contain extensive estuarine wetland areas although a number of mangrove communities occur along the river banks and around the edges of the lagoons and islands.

The Department of Environment and Planning has undertaken preliminary investigations and mapped the extent of wetlands on the north coast of NSW. These investigations have shown that there are a number of small wetland areas along the lower reaches of the Bellinger and Kalang Rivers. These have been identified in more detail by NSW State Fisheries and are shown on Figure 8. Studies have not been undertaken to determine the composition or significance of these wetlands. The Department of Environment and Planning has recommended that wetlands be zoned as wetlands (7f zoning) and that they not be reclaimed or developed until an investigation has been undertaken to determine their conservation value. Council has also requested that swamp land at Camerons Corner and at Dorrigo be recommended for protection. These areas are also shown on Figure 8.

#### 4.9.7 Areas of Conservation Value

In response to a request for information, the National Parks and Wildlife Service provided a comprehensive statement of matters for which it has responsibility in the Bellingen Shire. In addition to statements regarding the National Parks, Nature Reserves, Wildlife Refuges and Aboriginal Sites, the Service also provided information on other areas of the Shire, having some degree of conservation value. Presumably the Service has made note of such areas as part of its responsibility, established by the National Parks and Wildlife Act, to promote awareness, understanding and appreciation of wildlife, National Parks and all aspects of conservation.

The Service has stressed that areas having conservation value, either identified and potential, should not be automatically interpreted as areas being necessarily proposed for reservation as a National Park, nature reserve or State recreation area, and has stated that "indeed, many natural lands in the Shire are unlikely to be sought for park or reserve purposes. In some cases consideration of acquisition or reservation will be tempered by the degree of formal protection afforded under a Local Environmental Plan. All park and reserve proposals will in any case be referred to Council for consideration."

The area of potential conservation value, broad details of which have been provided by the Service, include areas of natural vegetated lands or lands of possible historic or Aboriginal value. These areas have not been investigated in any detail by the Service but have been recognised as being potentially important as a result of literature pertaining to the area, remote sensing (i.e. use of aerial photography, Landsat etc.) or reports from local residents and the general public.

Areas of potential conservation value within the Shire of Bellingen include:

- \* escarpment lands;
- \* scenic lands;
- \* foreshore lands;
- \* estuarine wetlands on the Bellinger and Kalang Rivers;
- \* wildlife refuges.

### **Escarpment Lands**

Bellingen Shire is unique in the northern half of the State in that the escarpment deviates so close to the coastline. Therefore the escarpment is very prominent in the landscape from the adjacent coast and from the main transport link between the coast and the tablelands (TR 76).

Besides scenic attraction, this escarpment provides an outstanding flora and fauna habitat, water catchment protection and considerable opportunities for passive recreation.

Almost the entire length of this escarpment is within the Bellingen Shire and covers a length of approximately 80 kilometres. It rises to about 760 metres ASL on the edge of the Dorrigo Plateau, and to 1,580 metres ASL at Point Lookout.

Most of the steep escarpment and lower gullies are covered with natural rainforest, with moist eucalypt forest growing on the lower ridges.

Almost the entire length of the Bellingen Shire escarpment is Crown land administered by the Forestry Commission and the National Parks and Wildlife Service and therefore has varying degrees of wildlife protection under these organisations.

Along the escarpment rim there are several portions of freehold land which have not been cleared or only partially cleared and the National Parks and Wildlife Service has recommended "that these portions be zoned with appropriate conditions attached to prevent wholesale clearing or development."

### **Scenic Land**

The Service has identified various lands within the Shire as being worthy of scenic protection measures. These areas should not be considered as isolated elements, but as being a small part of a greater area which in itself has high scenic value. Any detrimental development of these individual elements might therefore prejudice the value of the greater area and, as such, should be either handled in a sensitive manner or be discouraged. Examples of this are the several portions of freehold land on the northern side of the Bellinger River which encroach into the forests of New England National Park and Bellinger River State Forest. Should these areas become cleared in the future, they would show up as prominent intrusions into the forested landscape below the escarpment.

Similarly, the clearing or development of prominent ridges within the Shire should be avoided and, in this regard, the Service makes specific reference to the high ridges of the Scotsman Range, both to the west and south of the Bellingen township. Large tracts of this land are owned by Australian Paper Mills and are obviously intended for large scale clearance at some future date. At the present time, these ridges form a backdrop to the town of Bellingen.

The Service identifies the following ridges/prominent scenic landscapes to be worthy of protection measures (see Map 8):

- . northern side of Pickett Hill, located towards the south-eastern corner of the Shire;
- . area adjoining and between the western slopes of Dome Mountain and Rocky Peak;
- . the area on and surrounding Mount Christopherson;

- . the main ridge to the north-west of Mount Christopherson.

These areas are all indicated on the accompanying map.

Other areas noted by the Service for their botanical interests, in addition to their scenic importance are as follows:

- . Three discrete remnants of higher plateau cool temperate rainforest, dominated by Antarctic Beech and containing dispersed specimens of Ribbon Gum, located within Portions 2, 6 and 110, Parish of Meldrum Downs, such portions being situated in the extreme eastern part of the Shire, approximately 1 kilometre to the north of the Dorrigo-Armidale Road. The Service states that:

"Although bogged in the past, it would be preferable for these important remnants to be undisturbed in the future."

- . Located approximately 1 kilometre to the east of the above rainforest remnants, on Portions 104 and 31 Parish of Meldrum Downs is Deer Park Creek which, having cut back into the basalt of the high part of the plateau to form a steep sided valley and waterfall, supports rainforest and moist eucalypt forest. It contains species of Yellow Carabeen and Rosewood as well as Antarctic Beech, this is a high altitude occurrence for sub-tropical rainforest.

- . To the north, in fact in the extreme north-western part of the Shire, Portions 45, 46, 48, 50 and 51, Parish of Fenton, contain a remnant of cool temperate rainforest, dominated by Antarctic Beech, with some Coachwood, Sassafrass and Mountain Walnut. The Service states:

"On the warm northern aspect, transitional sub-tropical rainforest has developed. This area also provides an excellent additional scenic and wildlife habitat island on the plateau."

- . In the central western part of the Dorrigo Plateau, Portions 26, 35, 36, 38 and 76, Parish of Fenton, contain one of the largest remaining rainforest-wet sclerophyll forest remnants on that section of the Dorrigo Plateau located within the Bellingen Shire. The Service states that:

"Although a full investigation of the area has not been possible, it would appear that the warm temperate rainforest (Coachwood type) of the area is a significant stand in excellent condition."

- . To the north-west of the above-mentioned extensive stand of rainforest is a further predominantly warm temperate rainforest area which adjoins the proposed Deer Vale Nature Reserve. This latter area is located within Portions 24, 25 and 28, Parish of Bostobrick.

In addition to these scenic areas, Council should give consideration to controlling development on ridgelines and lands immediately surrounding the National Parks.

#### Recreation Reserves

The following three recreation reserves are presently under Council control and according to the National Parks and Wildlife Service "should be further protected against unnecessary environmental damage including timber cutting".

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- . Portion 5, Parish of Leigh, County of Fitzroy: Located to the north of Dorrigo this portion accommodates the Dangar Falls Recreation Reserve which is predominantly forested with Antarctic Beech. On the southern side of Bielsdown Creek is a community of Port Jackson Cypress (Callitris rhomboidea).
- . Portion 119, Parish of South Bellingen, County of Raleigh: This land is located on the southern side of the Bellinger River approximately mid-way between Bellingen and Thora and is predominantly forested with Bluegum-Tallowood type moist eucalypt forest with some rainforest species in the gullies. The Service has stated that:
 

"Logging has taken place in the past but should be discontinued."
- . Portion 2, Parish of Oakes, County of Raleigh: This portion is located immediately to the east of the New England National Park near the confluence of the Bellinger River and Woods Creek. The Service states that:
 

"Although small, the portion contains several excellent species of mature Red Cedar trees. The site also offers a camping spot for bush walkers on the head of the Bellinger River."

There are also potential recreational areas under the control of the Forestry Commission such as Campion Mountain reserve in Bielsdown State Forest, close to Dorrigo. Such areas should be promoted for passive recreational uses.

### 4.9.8 Control of Development in National Parks and Nature Reserves

In its submission to the Environmental Study, the National Parks and Wildlife Service asked that Council give consideration to an 800 metre buffer zone around National Parks and the escarpment "to ensure that commercial developments and numerous small subdivisions do not encroach on the environmental and management values of the National Parks and Nature Reserves, and that the scenic beauty and future public use of the escarpment rim is not eliminated". It is felt that the encroachment of such development would not be a problem generally for the following reasons:

- \* Except for the Dorrigo National Park in the vicinity of the Dorrigo Road, there is not likely to be pressure for substantial development in proximity of the national parks.
- \* The study does not recommend more intensive development adjacent to a National Park.
- \* The scenic qualities of the escarpment are protected by proposed specific environmental protection zoning. Also it is proposed that there be controls on development on ridgelines.

It is therefore felt that a separately zoned buffer zone of 800 metres is not warranted to restrict commercial development. However, it is **recommended** that the Local Environmental Plan contain a special provision so that in considering applications for development within 800 metres of a National Park or Nature Reserve, Council take into consideration the likely effects of that development on the environment and management of the National Park or Nature Reserve. Such applications may be referred to the Service for comment.

#### 4.9.9 Conclusion and Recommendations

Almost half of the total area of Bellingen Shire is designated either State Forest or National Park. Recent State Cabinet decisions in respect of extensions to the National Parks of New England and Dorrigo is a reflection of the environmental importance of the escarpment which bisects the Bellingen Shire. Notwithstanding the significant tracts of land which presently are subject to stringent environmental controls, the National Parks and Wildlife Service considers other areas of the Shire to be worthy of environmental protection and nature conservation measures. The Service has stated that:

"... these resources will become increasingly important due to the population growth of Bellinger Valley and the adjoining coastal resorts. It seems essential that environmental protection for shrinking natural resources be a priority if the future is to benefit from present planning."

It must be stressed that Bellingen Shire and the wider community in general, will benefit from environmental protection measures. Very few local government areas in NSW, indeed Australia, contain within their boundaries such a wide diversity of flora and fauna, climatic conditions and scenic vistas. These natural attributes are undoubtedly worth preservation, not only from an ecological viewpoint, but also as they represent a major attraction for visitors to the Shire. Preservation and promotion of these attributes should be regarded as important elements of a strategy to bolster the economy of the region, both in the short and long term.

#### Recommendations

- \* That appropriate environmental protection zones be applied to the lands identified as environmentally significant on Map 8.
- \* Existing environmental protection zones should be retained.
- \* That areas of proposed extension to the Dorrigo and New England National Parks be zoned as National Park.
- \* That provisions be included in the draft Local Environmental Plan to control development on ridgelines.
- \* That in considering development applications within 800 metres of a National Park or Nature Reserve, Council takes into consideration the effects of such development on the environment and management of the Parks and Reserves. It is further recommended that such applications be referred to the National Parks and Wildlife Service for comment.
- \* That Council give consideration to requiring Council approval for clearing land in visually prominent areas, ridgelines and steep land.
- \* That Development Control Plans be prepared for rural residential zones incorporating guidelines for the preservation of visually prominent areas.
- \* That design guidelines be prepared to assist rural home builders in locating dwellings so as to preserve the rural character of the Shire.
- \* That substantial development of previously undeveloped areas likely to contain aboriginal relics should be preceded by an archaeological survey.

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- \* That the National Parks and Wildlife Service be advised of development proposals on land likely to contain aboriginal sites or relics.
- \* That the continued assistance of the Forestry Commission be sought to protect areas of State Forest of floral, faunal and scenic importance and to promote and develop passive recreational activity within the Shire's State Forests.

5. ASSESSMENT OF EXISTING SOCIAL AND ECONOMIC STRUCTURE

5.1 Population Characteristics and Growth

5.1.1 Regional Overview

The North Coast Region stretches from Taree in the south to the Queensland border in the north. It contains the rapidly growing centres of Port Macquarie, Coffs Harbour, Lismore and Tweed Heads.

Population growth in the region has been accelerating in recent years. Table 5.1 shows how dramatic this growth has been.

Table 5.1: Annual Compound Growth Rates, North Coast Region 1921-81

Year	Growth Rate
1921-33	1.52
1933-47	0.64
1947-54	1.24
1954-61	0.17
1961-66	-0.11
1966-71	1.44
1971-76	2.86
1976-81	4.09*

\* Preliminary 1981 Census figures  
 Source: Australian Bureau of Statistics

During the period 1961 to 1971 the total population of the North Coast was very stable, with the population gains in the coastal centres being equal to the population losses in the rural areas. In the period 1971 to 1976, the population showed a relatively large increase. During this period, the coastal areas continued to have high growth. However, the most dramatic change was in the rural areas, where the population decline was arrested and began to increase, particularly in coastal rural areas. This was usually achieved by net inflows of young families and retired people, together with a net outflow of people in the 15 to 24 years age group.

Population estimates published by the Australian Bureau of Statistics for the 1981 Census indicate that the growth rate is increasing, as can be seen from Table 5.2 which shows growth rates for a number of local government areas on the North Coast.

Table 5.2: Population Growth in Selected LGA's, 1971-76 and 1976-81

LGA	ABS 1981 Preliminary Results	Annual Growth Rate	
		1971-76	1976-81
Bellingen Shire	8,873	2.28	4.28
Coffs Harbour Shire	35,154	5.99	7.49
Nambucca Shire	11,662	2.22	3.81
Macleay Shire	10,823	2.79	4.80
Port Macquarie Shire	35,493	7.77	6.99
Hastings Shire	13,650	2.73	2.64
Ulmarra Shire	3,872	2.09	5.65
Mid North Coast Statistical Division	178,635	3.36	4.67

Source: Australian Bureau of Statistics

As can be expected, growth rates are more dramatic in coastal settlements and it is expected that recent high growth rates will continue on the coast till an acceptable level of full development is reached. Migration trends to the North Coast from capital cities and country areas is strong. A survey conducted by Australian National Opinion Polls of living preferences of the NSW population conducted for the Department of Industrial Development and Decentralisation in September, 1981 showed a preference for population decentralisation in NSW away from major urban centres. These preferences for a quieter lifestyle can be matched to increased mobility of some groups of the community caused by factors such as higher levels of disposable income, improved transport and communication, and higher levels of retirement benefits (superannuation etc.).

The Research Unit of the Northern Rivers College of Advanced Education (1976) identified the following demographic trends which are likely to influence the future population of the North Coast Region:

- "1. Rates of natural increase lower than State and National figures largely owing to an increasingly higher proportion of aged people.
2. A possible reduction in the general retirement age, suggesting an even higher influx of older persons.
3. A marked development in holiday resort facilities, with both suppliers and users contributing to an increase in population.
4. The effects of metropolitan congestion which are likely to contribute to a continuing increase in immigration but possibly at a lower rate as pressures in Sydney ease with lower overseas immigration (depending, however, on Government Policy).
5. A shift from rural to urban areas within the North Coast Region generally - movements particularly acute in 15-24 and 65+ age groups, because of employment needs and the provision of community services, respectively.

6. An out-migration of people in 15-24 age groups from both rural and urban areas - employment opportunities and metropolitan attractions being the main explanation; strong in-migration of aged people into coastal urban centres.
7. An in-migration of people in middle-age groups to North Coast urban centres, although movements to date have not been proportionate to population size - the development of urban growth may see this rate of in-migration increase with the provision of more services and increasing numbers of visitors, particularly to the coastal resorts of the area."

**5.1.2 North Coast Region - Population Projections**

In June 1982, the NSW Population Projections Group of the Department of Environment and Planning published a report entitled 'Interim Population Projections for New South Wales 1981-2001'. The projections are termed 'interim' because they have not been revised to coincide with the new Australian Bureau of Statistics official estimation procedures (i.e. from June 30th, 1981, official Australian Bureau of Statistics quarterly population estimates are to be of the residential population, that is, population will be estimated on the basis of place of usual residence). A new set of projections are to be issued when more detailed census information is available. The interim projections made provide three estimates within which it is thought future population in the State will fall unless unforeseeable events occur. The report states:

"The Northern Region is expected to increase its share of the State Population primarily due to rapid growth on the North Coast. The medium increase for this region between 1981 and 2001 is almost one half compared to increases of about a fifth in the western and a quarter in the southern region."

Specifically of the North Coast, the report states:

"Since the North Coast has maintained the fastest regional growth rate in the State . . . current and proposed developments make an upward revision of the projections essential. These include tourist and residential developments, regional commercial centres etc."

The Department of Environment and Planning report gives the following figures for the North Coast Region.

Table 5.3: Population Figures (%)

	1976	1977	1978	1979	1980	1981
Growth rate p.a.	2.29	2.56	3.53	3.50	8.72*	
Percentage State population	5.33	5.41	5.49	5.60	5.72	6.13
Percentage NSW Growth	14.15	12.43	14.54	14.70	36.00*	

\* This indicates underestimates in Australian Bureau of Statistics intercensal annual totals rather than an enormous increase in 1980-81.

In terms of projections, the Department of Environment and Planning report gives the following low-level, medium level and high level forecasts.

Table 5.4:

	1981	1986	1991	1996	2001
Low level	320,200	363,300	408,000	453,000	497,000
Medium level	320,200	373,000	430,000	486,000	542,000
High level	320,200	383,000	451,000	519,000	586,000

Translated into annual average compound growth rates, these figures represent the following increases in population.

Table 5.5:

	1976	1981	1986	1991	1996	2001
Low level	4.09	2.54	2.36	2.11	1.88	
Medium level	4.09	3.10	2.87	2.49	2.19	
High level	4.09*	3.65	3.32	2.85	2.46	

\* In the Department of Environment and Planning report, the average annual compound growth rate is given as 4.31 per cent per annum. This is believed to be an error.

The above table represents the most recent and comprehensive population forecasts for the North Coast Region. Once population projections are made on the basis of resident population, these tables will need to be amended accordingly. At present, though, these tables suffice as an adequate representation of low, medium and high projections for the North Coast Region.

The extent to which Bellingen Shire exhibits the demographic characteristics identified above for the region as a whole is investigated in the following subsection.

### 5.1.3 Bellingen Shire

#### Population Change

As it is situated in part on the coastal belt, Bellingen Shire combines the decline or stabilisation of certain rural areas with the increasing growth in the coastal centres (such as Urunga).

Table 5.6 shows the population of Bellingen Shire from 1947 to the most recent census in 1981.

Table 5.6: Population of Bellingen Shire 1947-1981

Year	Average Number Growth Rate (%)	Annual Compound
1947	7,482	
1954	7,854	0.70
1961	6,929	-1.77
1966	6,676	-0.74
1971	6,558	0.36
1976*	7,500	2.72
1981	8,873	3.42

\* Adjusted

The table indicates that the Shire's population declined between 1954 and 1971 and only established a growth trend in the last decade.

Comparing Bellingen Shire's annual compound growth rate with that of the North Coast Region in the period 1947-1981, it is evident that the growth that became evident in the North Coast Region after 1966 did not become evident in Bellingen Shire until after 1971. However, between 1971 and 1976 and between 1976 and 1981, the growth rate of Bellingen Shire's population was similar (slightly lower) than that of the North Coast Region as a whole.

### Age Structure

The nature of the community of Bellingen Shire is illustrated by examining various population characteristics and in particular the age structure of the population.

Table 5.7 indicates that the age structure of Bellingen Shire has changed over the period 1976 to 1981 in a similar way to the North Coast as a whole. The proportion of young people aged 0 to 19 years has declined slightly, as it has in the Mid-North Coast Statistical Division (SD) and in NSW. However, Bellingen had a slightly higher percentage of people in this age group than either the Mid-North Coast SD or NSW in 1976 and 1981.

The proportion of people in the Shire aged 20-44 increased slightly between 1976 and 1981, as it did in the Mid-North Coast SD. However, Bellingen Shire has a slightly lower proportion of people aged 20 to 44 than NSW.

The proportion of people in the Shire aged 45-64 years declined slightly during the period, as it did in the Mid-North Coast SD and NSW. The increase in the proportion of the Shire's population aged over 65 years is typical of Australia as a whole. However, Bellingen Shire and the North Coast Region have a higher proportion of people aged over 65 years than NSW, which reflects the area's attraction for retired people.

Table 5.7: Age structure 1976 and 1981

Age Range	Bellingen Shire				Mid-North Coast SD				NSW			
	1976		1981		1976		1981		1976		1981	
	No.	% of Pop.	No.	% of Pop.	No.	% of Pop.	No.	% of Pop.	No.	% of Pop.	No.	% of Pop.
0 - 4	647	9.0	707	8.0	12,477	8.6	13,541	7.6	415,151	8.7	383,507	7.5
5 - 9	695	9.7	813	9.2	13,166	9.1	15,506	8.7	418,074	8.8	432,197	8.4
10 - 14	660	9.2	805	9.0	13,809	9.5	15,760	8.8	422,198	8.8	433,701	8.5
15 - 19	643	8.9	618	7.0	12,100	8.3	13,116	7.3	418,086	8.8	428,320	8.4
20 - 29	823	11.4	1,202	13.5	18,712	12.9	24,104	13.5	778,371	16.3	837,555	16.3
30 - 44	1,182	16.4	1,665	18.8	24,812	17.2	33,820	18.9	890,264	18.6	1,052,823	20.5
45 - 59	1,279	17.8	1,407	15.9	24,874	17.2	28,348	15.9	784,135	16.4	797,135	15.6
60 - 64	409	5.7	476	5.4	8,120	5.6	10,487	5.9	209,063	4.4	221,235	4.3
65+	856	11.9	1,180	13.3	16,856	11.6	23,953	13.4	441,765	9.2	539,210	10.5
TOTAL POPULATION	7,195	100.0	8,873	100.0	144,925	100.0	178,635	100.0	4,777,108	100.0	5,125,683	100.0

Table 5.8: Age Distribution

% of Population	Bellingen		Dorrigo		Urunga		Total Shire	
	1971	1976	1971	1976	1971	1976	1971	1976
0 - 4	9.5	7.3*	9.3	9.8	8.3	8.1	9.0	9.0
5 - 14	23.3	17.6	21.3	19.8	21.3	16.1	22.7	18.8
15 - 19	7.7	11.3	8.3	9.2	7.5	6.9	7.9	8.9
20 - 64	48.8	48.6	53.3	52.4	49.2	51.7	50.9	51.3
65+	10.7	15.2	7.7	8.8	13.7	17.1	9.5	11.9

\* Altered from figure provided by Council

Within the Shire there are marked variations between the urban centres in terms of age distribution. The variations are particularly evident in the 65+ years age group which in 1976 comprised 20.7 per cent of the Urunga population, 18.4 per cent of the Bellingen population, and 8.4 per cent of the Dorrigo population. Proximity to the coastline and access to facilities would be the major causal factors for this distribution. The declining percentage of population in the 0-14 years group and the rising percentage of 65+ years group are factors to be noted from Table 5.8, Age Distribution 1971-1976-1981.

**Family Structure**

The structure of households in Bellingen Shire is apparent from an examination of the marital status of residents and the breakdown of 'family type'.

Table 5.9: Marital Status, 1976 (1981)

Status	Proportion of Population (%)					
	Bellingen Shire		Mid-Nth Coast SD		NSW	
Never Married under 15 years	27.8	(26.3)	27.2	(25.1)	26.3	(24.5)
Never Married 15+ years	15.5	(16.8)	15.1	(16.0)	18.4	(20.3)
Now Married	48.2	(46.8)	48.9	(48.8)	46.2	(44.8)
Permanently Separated	1.8	(2.0)	1.7	(1.8)	1.8	(1.9)
Divorced	1.2	(2.8)	1.4	(2.6)	1.9	(3.1)
Widowed	5.5	(5.4)	5.7	(5.7)	5.4	(5.5)
Total	100.0		100.0		100.0	

Table 5.10: Family Type, 1981

Status	Proportion of Families(%)		
	Bellingen Shire	Mid-North Coast SD	NSW
Head only	18.5	18.4	20.8
Head, children only	4.6	4.3	3.9
Head, spouse only	24.5	26.1	22.5
Head, spouse, children	28.0	28.3	27.7
Head, other adults, only	4.4	4.4	5.1
Head, other adults, children	1.7	1.5	1.4
Head, spouse, other adults	7.0	7.6	9.1
Head, spouse, other adults and children	11.4	9.5	9.5
Commune	0.0	0.0	0.0
Total	100.0	100.0	100.0

From the above tables, it is evident that in 1976 the majority of the residents in Bellingen Shire were married couples with children. The proportion of each family type in Bellingen Shire is similar to that in the Mid-North Coast SD. Generally, the North Coast has a higher proportion of married couples with and without children than NSW.

It is interesting to note that Bellingen Shire has a higher proportion of households denoted 'Head, spouse, other adults and children' than either the Mid-North Coast SD or NSW.

### **Spatial Distribution**

Table 5.11 shows the population distribution between the different areas of the Shire in 1971, 1976 and 1981. From this table it is evident that between 1976 and 1981 the largest growth overall occurred in the rural district of the Bellinger Valley which experienced a population increase of 51.5 per cent).

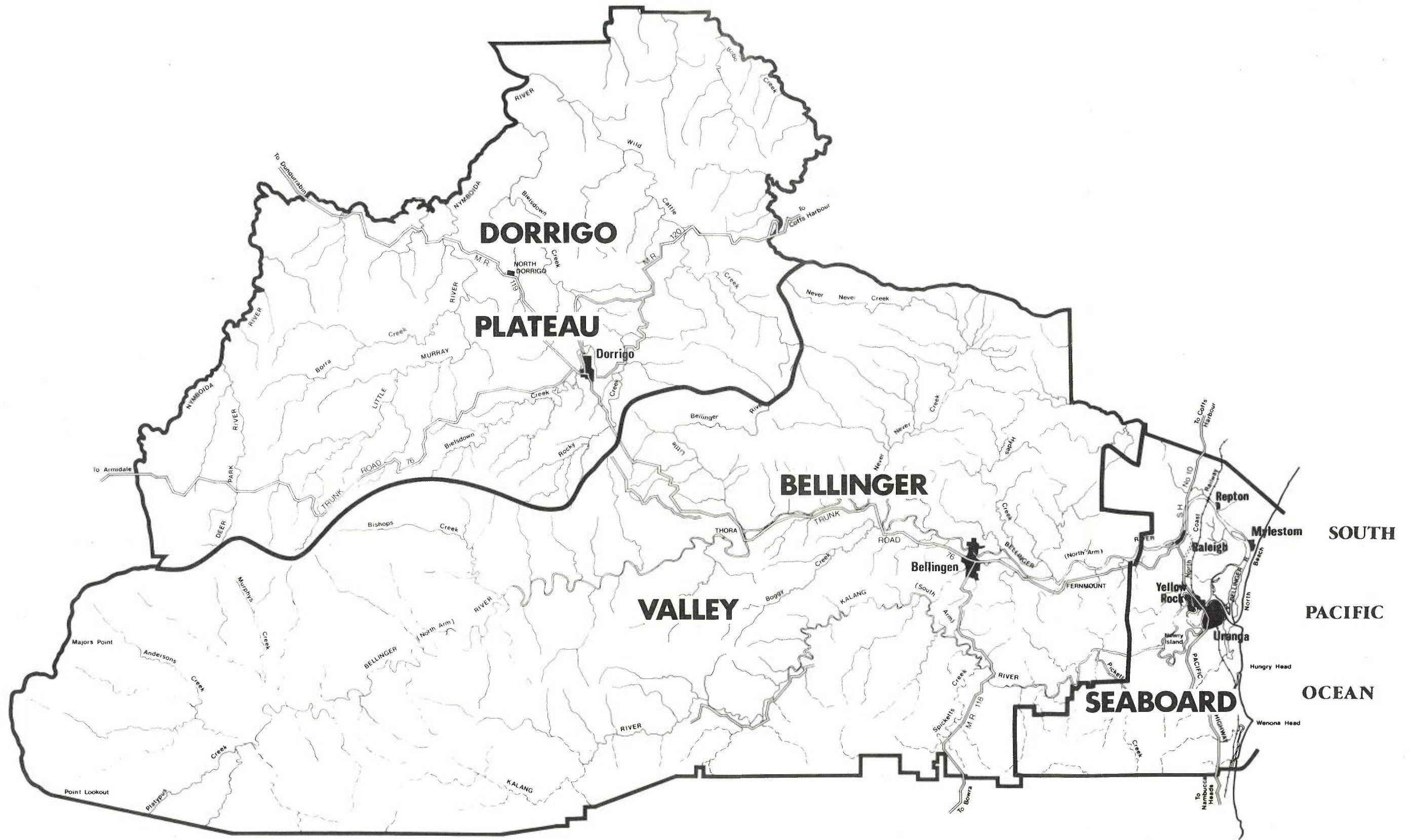
Quite significant population increases occurred in all areas, except the established urban centres of Dorrigo and Bellingen, as well as the Dorrigo Plateau, where only small increases occurred. This trend reflects the concentration of growth in coastal settlements and coastal rural districts.

Table 5.11: Spatial Distribution of Population of Bellingen Shire 1976 and 1981

Area	1976		1981		% Change 1976-81
	No.	% of Shire Pop.	No.	% of Shire Pop.	
<b>Rural Districts</b>					
Dorrigo Plateau	1,021	14.2	1,114	12.6	9.1
Bellinger Valley	1,092	15.2	1,655	18.7	51.5
Seaboard (incl. Raleigh & Repton)	667	9.3	886	10	32.6
<b>Total Rural</b>	<b>2,780</b>	<b>38.6</b>	<b>3,655</b>	<b>41.2</b>	<b>31.5</b>
<b>Urban Districts</b>					
Dorrigo	1,152	16.0	1,182	13.4	3.5
Bellingen	1,398	19.4	1,593	18.0	13.9
Urunga	1,601	22.3	2,045	23.0	27.7
Myelstom	265	3.7	388	4.4	46.4
<b>Total Urban</b>	<b>4,416</b>	<b>61.4</b>	<b>5,218</b>	<b>58.8</b>	<b>18.2</b>
<b>TOTAL</b>	<b>7,195</b>		<b>8,873</b>		<b>23.3</b>

The populations of both the Dorrigo and Bellingen urban centres declined as a proportion of the total Shire population. In fact, the proportion of people living in urban areas in the Shire declined by approximately 3 per cent between 1976 and 1981.

The high growth rate of the Bellinger Valley rural sector (8.67 per cent annual average compound growth rate) is largely a result of increased interest in multiple occupancy as an alternative life-style (and also hobby farms and rural retreats). Little, if any population growth can be attributed to rural residential

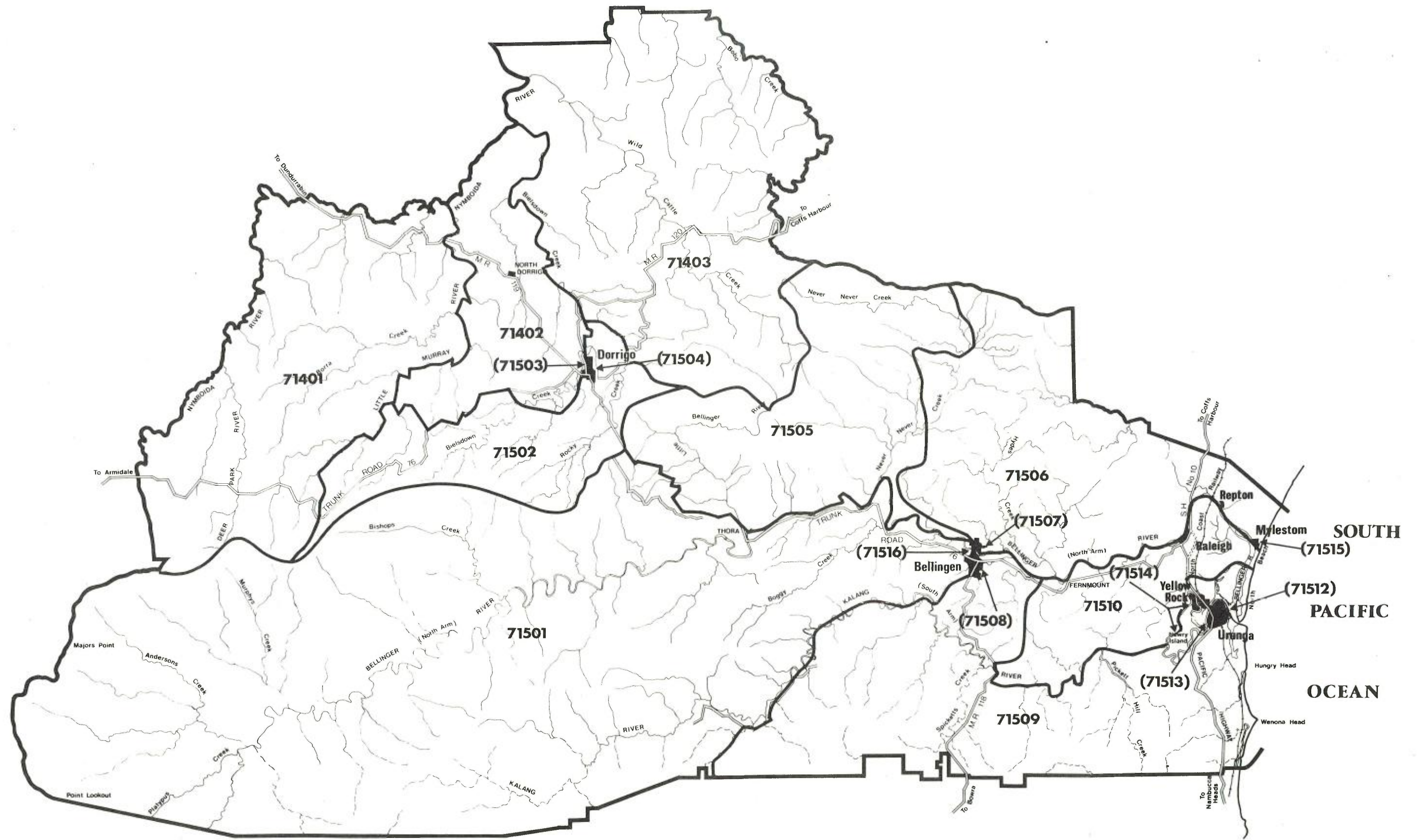


**SHIRE OF BELLINGER ENVIRONMENTAL STUDY**  
**GEOGRAPHICAL DISTRICTS 9**  
**ADOPTED BY COUNCIL RECORDS**

0 5km 10km

↑

Prepared by PLANNING WORKSHOP PTY. LTD. 346 KENT ST. SYDNEY 2000  
 For BELLINGER SHIRE COUNCIL



**SHIRE OF BELLINGHEN ENVIRONMENTAL STUDY**  
**COLLECTION DISTRICTS 10**

0 5km 10km

↑

Prepared by PLANNING WORKSHOP PTY. LTD. 346 KENT ST. SYDNEY 2000  
 For BELLINGHEN SHIRE COUNCIL

development. Most of the areas released for this type of development have been in the rural seaboard zone. The large tract of land zoned Non-Urban 1(c2) at the confluence of Never Never Creek and the Bellinger River was only gazetted for such purpose in March 1981 and no population growth in the rural area can be attributed to this release.

Rural repopulation is therefore an identifiable trend within the Bellingen Valley. The rural areas of the seaboard have also shown considerable increase in population between the period 1976-1981. However, the rural areas of the Dorrigo Plateau, by reason of climate, vegetation, aspect and, undoubtedly, predominant land holding sizes, have not experienced the growth of the coastal plain rural areas. Table 5.12 gives a more detailed analysis of the spatial distribution of population and dwellings within the Shire.

The rural lands of the Bellingen Valley indicate a growth rate in excess of the urban area of Urunga and areas in excess of the growth rate of the Shire of Coffs Harbour (7.49 per cent, 1976-1981). The population growth of this rural sector is mirrored by the building activity in the area. Between 1976 and 1981 the total number of dwellings increased by 54.2 per cent as opposed to 37.1 per cent in the rural seaboard sector, and a decrease of -1.0 per cent in the Dorrigo rural sector. In fact, there were as many new dwellings constructed in the Bellinger Valley rural lands (199) in the period 1976-1981 as were constructed in Mylstom and Urunga combined during the same period.

#### **Population Forecasts - Bellingen Shire**

Few specific forecasts have been made for the future population levels of Bellingen Shire. The most recent and comprehensive of the forecasts that have been made are to be found in a publication entitled 'North Coast Region Population Trends and Projections 1976-2001, Impact on the College' prepared by Dr. R.G. Munro of the Northern Rivers College of Advanced Education and Dr. R. Gibberd of the Department of Mathematics, University of Newcastle. Both of the above-mentioned were responsible for the document entitled 'Population Trends 1971-76 and Projections 1976-2001, Volume 4, The North Coast Region', which was published in February 1978.

The latter document produced forecasts based on three models, each of which utilised the cohort-survival projection technique.

A summary of the forecasts made is as follows:

**Model 1:** Uses the total net migration rates calculated for each of the areas of the Shire, where the rates are obtained by linear extrapolation for the years not shown in the table.

**Model 2:** Assumes that the individual age-specific rates calculated for the period 1971-1976 would remain fixed for the whole projection period 1976-2001.

**Model 3:** Assumes that there would be no further migration into the regions.

Model 1 was assumed by the authors to be the most realistic projection.

Population projections based on each of the above models were then made for Bellingen, Dorrigo, Urunga and the rest of the Shire for the years 1986 and 2001. The actual 1981 Census figure is provided in parenthesis for comparison.

Table 5.12: Population and Dwellings, Distribution by Area, Shire of Bellingen

Collection District		Population			Dwellings				
1981	(1976)	1976	1981	% Incr.	1976	1981 Occ. Unocc.	Total	% Incr.	
<u>Dorrigo Plateau Rural</u>									
071401	(13/1)	195	227	16.4	85	69	11	80	-5.9
071402	(13/2)	349	370	6.0	127	111	7	118	-7.1
071403	(13/3)	260	282	8.5	98	94	6	100	2.0
071502	(14/2)	217	235	8.3	79	74	13	87	10.1
Sub-Total		1,021	1,114	9.1	389	348	37	385	-1.0
<u>Dorrigo Plateau Urban</u>									
071503	(14/3)	647	679	4.9	220	215	23	238	8.2
071504	(14/4)	505	513	1.6	162	161	11	172	6.2
Sub-Total		1,152	1,192	3.5	382	376	34	410	7.3
TOTAL DORRIGO PLATEAU		2,173	2,306	6.1	771	724	71	795	3.1
<u>Bellingen Valley Rural</u>									
071501	(14/1)	410	648	58.0	137	194	30	224	63.5
071505	(14/5)	122	221	81.1	44	68	6	74	68.2
PT071506	(14/6)	246	361	46.7	83	109	6	115	38.6
PT071509	(14/9)	178	253	42.1	57	80	11	91	59.6
PT071510	(PT14/10)	136	172	26.5	44	52	7	59	34.1
Sub-Total		1,092	1,655	51.5	365	503	60	563	54.2
<u>Bellingen Valley Urban</u>									
071507	(14/7)	297	391	31.6	98	114	8	122	24.5
071508	(14/8)	500	572	14.4	173	186	16	202	8.6
071506	(14/16)	601	630	4.8	184	202	7	209	3.5
Sub-Total		1,398	1,593	13.9	455	502	31	533	17.1
TOTAL BELLINGEN VALLEY		2,490	3,248	30.4	820	1,005	91	1,096	33.7
<u>Seaboard Rural</u>									
PT071506	(051406)	61	89	45.9	21	27	1	28	33.3
PT071509	(051409)	93	136	46.2	30	43	6	49	63.3
PT071510	(14/10)	314	403	28.3	102	120	18	138	35.3
071511	(14/11)	199	258	29.6	60	72	5	77	28.3
Sub-Total		667	886	32.8	213	262	30	292	37.1
<u>Seaboard Urban</u>									
071512	(14/12)	564	633	12.2	234	215	63	278	18.8
071513	(14/13)	777	906	16.6	285	322	21	343	20.4
071514	(14/14)	260	506	94.6	100	140	24	164	64.0
071515	(14/15)	265	388	46.4	145	131	49	180	24.1
Sub-Total		1,866	2,433	30.4	764	808	157	965	26.3
TOTAL SEABOARD		2,533	3,319	31.0	977	1,070	187	1,257	28.6
BELLINGEN SHIRE		7,195	8,873	23.3	2,568			3,148	22.6

Source: Bellingen Shire Council

Table 5.13: Population, Selected LGA's and Mid North Coast SD: Components of Natural Increase and Net Migration

	Pop. 1971	Natural Increase No.	%	Net Migration No.	%	Total Increase	Pop. 1976	Natural Increase No.	%	Net Migration No.	%	Total Increase	Pop.* 1981
Bellingen Shire	6,700	303	37.5	500	62.5	800	7,450	397	25.0	1,200	75.0	1,600	9,050
Coffs Harbour Shire	19,100	1,065	16.3	5,400	83.7	6,450	24,500	1,246	12.9	8,450	87.1	9,700	34,200
Nambucca Shire	9,050	265	23.8	800	76.2	1,050	9,850	268	16.1	1,300	83.9	1,550	11,400
Mid-North Coast SD	128,100	5,223	22.9	17,850	77.1	23,150	144,050	5,292	16.5	26,900	83.5	32,200	176,250

\* Estimated resident population

Source: Australian Bureau of Statistics Estimated Resident Population and Components of Change in Population of Local Government Areas (Preliminary) New South Wales 1976-1981

The forecasts below in Table 5.14 were made in 1978. The actual 1981 census figures indicate that the Model 1 projections are largely gross underestimates of the actual population levels.

Table 5.14: Population Projections for Bellingen Shire, Munro and Gibberd, February 1978

Location (actual Census figure 1981)	Model 1		Model 2		Model 3	
	1986	2001	1986	2001	1986	2001
Bellingen (1,593)	1,380	1,360	1,380	1,330	1,420	1,520
Dorrigo (1,192)	1,210	1,220	1,270	1,350	1,220	1,320
Urunga (2,045)	2,390	2,860	2,810	5,394	1,560	1,500
Rest of Shire (4,043)	3,230	3,330	3,490	4,180	3,240	3,580
Shire Total (8,873)	8,210	8,770	8,950	12,254	7,740	7,920

In the June 1981 population projections made by Munro and Gibberd, use could not be made of the 1981 census data which was then unavailable. This time population projections were made for 1981, 1986 and 2001. In the table below, the Model 1 projections derived from the 1978 forecasts are provided for comparison in parenthesis. Beneath the names of the areas is the actual 1981 census total.

The 1981 forecasts are considerably higher than the projections made in 1978. It can be seen however, that the assumed 1981 population levels were considerably higher than the actual June 1981 census totals.

Table 5.15: Population Projections for Bellingen Shire, Munro and Gibberd, June 1981

Location (actual census figure 1981)	1981	1986	(Model 1 1986)	2001	(Model 1 2001)
Bellingen (1,593)	1,884	2,377	(1,380)	3,798	(1,360)
Dorrigo (1,192)	1,591	2,069	(1,210)	3,397	(1,220)
Urunga (2,045)	2,813	4,102	(2,390)	7,975	(2,860)
Rest of Shire (4,043)	4,356	5,545	(3,230)	9,270	(3,330)
Shire Total (8,873)	10,644	14,093	(8,210)	24,440	(8,770)

Munro's population forecasts indicate a growth rate (annual average compound) of 8.15 per cent between 1976 and 1981 whereas the actual growth rate was 3.42 per cent. For the period 1981-1986 Munro predicts a growth rate for the Shire of 5.77 per cent. If this rate is applied to the **actual** 1981 Census total, the resultant 1986 population projection for the Shire is 11,746. Similarly, between 1986 and 2001, Munro predicts a growth rate of 3.74 per cent. Applied to the 1986 forecast of 11,746, the 2001 projection for the Shire is 20,374 (at an increase of 3.74 per cent the 1991 population would be 13,113 and the 1996 population 16,957). A summary of these projections is provided below.

Table 5.16: Population Projections for Bellingen Shire using 1981 Census Total and Munro and Gibberd Growth Rates

Year	Population	Munro Growth Rates (annual av. compound %)
1981	8,873	
1986	11,746	5.77
1991	14,113	3.74
1996	16,957	3.74
2001	20,374	3.74

As stated above, Munro's methodology represents the most comprehensive and technical forecasts available for the Shire of Bellingen. A recent publication by the Health Commission of NSW (addressing the organisation of hospital roles and the development needs and priorities for the next 5 years in the North Coast Region) includes population projections for 1986. The document does not explain the methodology used to calculate the projections.

The 1986 population total for Bellingen Shire is given as 10,082. Presumably the document published in May 1982, had the benefit of 1981 Census figures. The above total indicates an annual average compound growth rate for the Shire of 2.59 per cent. Given that the actual 1971 and 1976 growth rate was 3.42 per cent per annum, then this forecast would seem unusually low. At the other end of the scale, figures were quoted in the Bellingen Shire Tourist Supplement, December 1981 from a publication of the Department of Industrial Development and Decentralisation. That document stated that the department expects "the Bellingen Shire's current population of 13,168 to increase to 17,435 by 1986 and to 30,236 by 2001." Ignoring the gross overstatement of the 1981 population (13,168 as opposed to a June 1981 total of 8,873) the growth rates indicated are 5.77 per cent for the period 1981-1986, and 3.74 per cent for the period 1986-2001. It is clear that Munro's growth rates have been adopted for these projections.

The rate of growth predicted for the Shire by Munro of 5.77 per cent per annum represents a considerable increase to the 1976-1981 Bellingen Shire growth rate of 3.42 per cent. Similarly the predicted rate of growth of 5.77 per cent is higher than the Department of Environment and Planning growth forecasts for the North Coast Region as a whole (Department of Environment and Planning 1981-86 low, medium and high growth rates being 2.54, 3.10 and 3.65 per cent respectively).

Should the Shire population growth mirror the forecasts of the Department of Environment and Planning in respect of the region, then the future population levels will be as follows.

Table 5.17: Population Projections for Bellingen Shire based on DEP Growth Rates for North Coast Region

	1981	1986	1991	1996	2001
Low level	8,873	10,058	11,302	12,545	13,769
Medium level	8,873	10,336	11,906	13,463	15,003
High level	8,873	10,614	12,496	14,381	16,239

It is possible to gain an indication of present growth rates through an analysis of building statistics and marginal occupancy rates. Marginal occupancy rates are determined by dividing the change in population in a given time period by the change in the number of dwellings in that period.

$$\begin{aligned}
 \text{Marginal occupancy rate} &= \frac{\text{Population 1981 (8,873)} - \text{Population 1976 (7,500)}}{\text{Dwellings 1981 (3,148)} - \text{Dwellings 1976 (2,568)}} \\
 &= \frac{1,373}{580} \\
 &= 2.37
 \end{aligned}$$

This figure indicates that for each additional dwelling constructed in the Shire between 1976 and 1981 an additional 2.37 people was added to the population total of the Shire.

During 1981, 120 dwellings were approved in the Shire. As the Census was undertaken in June it can be assumed that 50 per cent of the above total were constructed between July 1st 1981 and December 31st 1981. In the same period, 15 flats were constructed. Up until May 30th 1982, 118 dwellings had been approved in the Shire and 11 flats. This gives a total of 178 dwellings and 26 flats approved in an 11 month period. This is equivalent to approximately 222 dwellings per annum (includes flats). Analysis of Council's building records indicates that between January 1977 and December 1981, there were 686 dwelling (includes flats) approvals given by Council. Between June 1976 and June 1981 the dwelling stock of Bellingen Shire increased by 580. The proportion of building completions to building approvals is therefore 84.5 per cent. Applying this percentage to the number of dwellings approved since June 1981, a figure of 188 is derived. Application of the marginal occupancy rate of 2.37 indicates an annual increase (June 1981 to June 1982) to the population of 456 persons.

Given that the June 1981 Shire population was 8,873, this is equivalent to an annual increase of 5.1 per cent. The figure provides an indication that Munro's 1981 to 1986 growth rate of 5.77 per cent is perhaps a little high. A projection of the 1981 population total of 8,873 at an annual average compound growth rate of 5.77 per cent results in a 1986 population level of approximately 11,750. A projection at a rate of 5.1 per cent results in a 1986 population level of 11,378.

As predicted in both the Department of Environment and Planning population projections and Munro's population projections, it is expected that the rate of growth will decline between 1986 and 1991. Munro's growth rate for this period is 3.74 per cent per annum. The Department of Environment and Planning low, medium and high growth rates are 2.36, 2.87 and 3.32 per cent respectively. Given that the 1986 population is estimated to be 11,378 the application of these rates will result in the Shire population totals in 1991 of:

13,670	(3.74%)	Munro 1981
12,898	(2.36%)	DEP 1981
13,107	(2.87%)	DEP 1981
13,396	(3.32%)	DEP 1981

Compared with the Department of Environment and Planning's low, medium and high projections, all of the above estimates are greater than the 1991 high level projection, and are even higher than the low level 1996 projection.

Obviously, the assumed 1971-1986 growth rate of 5.1 per cent pushes the estimates over and above the Department of Environment and Planning rates which depend on a much lower projected growth rate.

In conclusion, it would appear reasonable to assume that the 1986 population of the Shire appears well represented by the figure 11,378. The 1991 estimate (much more uncertain) can be summarised as follows:

- High Estimate = 13,670 derived from Munro 1981 growth rates
- Medium Estimate = 13,800 derived from DEP high level growth rates for region
- Low Estimate = 13,500 derived from DEP Medium Level growth rates for region

Beyond 1991, population forecasting for the Shire of Bellingen becomes increasingly difficult and uncertain. Munro has forecast an annual average compound growth rate of 3.74 per cent for the period 1986 to 2001.

Assuming that the 1991 medium estimate is reliable, the application of this growth rate will result in estimated Shire populations of 16,095 in 1996 and 19,339 in 2001.

These must be considered as high estimates, particularly in the light of the Department of Environment and Planning forecasts for the North Coast Region. The Department forecasts the following growth rates for the 1991-2001 period:

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	1991-1996 %	1996-2001 %
High estimate	2.849	2.459
Medium estimate	2.488	2.189
Low estimate	2.108	1.879

---

Applied to the 1991 estimates derived above the following Shire population totals can be arrived at:

	1996	2001
High estimate	15,731	17,763
Medium estimate	15,147	16,879
Low estimate	14,548	15,967

For the purposes of this study, the above population totals are considered appropriate. A summary of the population forecasts for the Shire of Bellingen is, therefore, as follows (figures have been rounded off to the nearest 50):

	1981	1986	1991	1996	2001
High			13,670	15,731	17,763
Medium	8,873	11,378	13,396	15,147	16,879
Low			13,107	14,548	15,967

It is considered that the above forecasts reflect most accurately the anticipated future levels of population within the Shire. They are largely based on the 1981 Census, current growth trends, marginal occupancy rates, and annual average compound growth rates predicted for future periods by the Department of Environment and Planning. It should be noted that Munro has made recent population projections (July 1982) using 1981 Census data, specifically for the Byron and Ballina Shires, but involving predictions for other LGA's in the North Coast Region. The forecasts are found within a report entitled 'Regional Demographic Analysis for the Raintrees Project' prepared by Munro for a private firm. Munro predicts that the Shire of Bellingen will have a population of 17,435 in 1986 and 30,276 in 2001. Such projections seem unrealistically high, particularly when considered in the light of previous projections made by Munro in June 1981 (see Table 5.15).

#### **Bellingen Town - Population Growth**

The population of the town of Bellingen rose from 1,418 in 1961 to 1,593 in 1981, an increase of 175 persons. The intercensal annual compound growth rates are compared below with the corresponding growth rates for Bellingen Shire, the North Coast Region and the State of NSW.

As the table below indicates, growth in the town since 1971 has been at a lower rate than in the Shire as a whole. In turn, the Shire in the same period has grown at a slightly lower rate than the entire North Coast Region.

Table 5.18: Population Growth, Town of Bellingen, 1961-81

Year	Population	Annual Compound Growth Rate (%)			
		Town	Shire	N.C. Region	NSW
1961	1,418	-0.398	-0.74	-0.11	1.90
1966	1,390	-0.274	-0.36	1.44	1.56
1971	1,371	0.390	2.72	2.86	1.65
1976	1,398	2.646	3.42	4.09	1.00
1981	1,593				

Source: Australian Bureau of Statistics

It can be seen from the above table that the North Coast Region and the Shire as a whole have increased at a much higher rate than the State between 1976 and 1981.

Various population projections have been made in respect of the township of Bellingen indicating no real consensus on the scale of future growth.

The community Water Supplies Investigation Report No. 4 'Macleay Nambucca and Bellingen Areas' prepared by Gutteridge, Haskins and Davey in April 1978 made population projections based on past growth rates (i.e. to 1976), consideration of constraints, discussion with community leaders and a study of population projections made by the Department of Decentralisation and Development, the NSW State Planning and Environment Commission, the Department of Geography of New England University and Telecom, Australia. The projection for the town of Bellingen was as follows:

Table 5.19: Community Water Supplies Investigation Report: Forecasts for Town of Bellingen, April 1978

Year	Projected Mid-Year Population	Predicted Peak Summer Population
1981	1,410	1,960
1986	1,420	1,988
1996	1,450	2,030
2006	1,490	2,086

In 1980 Soros-Longworth McKenzie and Gutteridge Haskins and Davey produced a report entitled Bellingen Valley Flood Plain Management Study for the Public Works Department. This report gave the following population projections adopted by the Bellingen Shire Council and the Department of Public Works for design of extensions to the water supply system.

Table 5.20: Bellinghen Valley Flood Plain Management Study: Forecasts for Town of Bellinghen, 1980

Year	Population
1980	1,600
1990	1,750
2000	1,900
2010	2,050

In 1981, Dr. R.G. Munro and Dr. R. Gibberd prepared a report entitled 'North Coast Region - Population Trends and Projections 1976-2001 Impact on the College' for the Principals Committee of the Northern Rivers College of Advanced Education. This report commented principally on regional growth but made population projections using the vital rates method. This method uses assumptions involving future death rates, birth rates and net migration rates. The projections are as follows:

Table 5.21: North Coast Region - Population Trends and Projections, 1976-2001: Forecasts for Town of Bellinghen, June 1981

Year	Population
1981	1,884
1986	2,377
2001	3,798

A summary of three population forecasts for the town of Bellinghen is therefore as follows:

Table 5.22: Summary of Population Forecasts for Town of Bellinghen

Year	Community Water Supplies Report (GHD)	Flood Plain Management Report (SLM & GHD)	North Coast Region Report (Munro et al.)
1980	-	1,600	-
1981	1,410	-	1,884
1986	1,420	-	2,377
1990	-	1,750	-
1996	1,450	-	-
2000/1	-	1,900	3,798
2006	1,490	-	-
2010	-	2,050	-

Each of the above projections was made without the benefit of 1981 Census statistics. The population of Bellinghen as at June 30th, 1981 was 1,593.

The Community Water Supplies Report represents an obvious underestimate of future population levels in the town. With a projected population of 1,490 by 2006, this estimate is 103 below the actual 1981 census figure for the town of Bellinghen. The flood plain management report would appear to more accurately assess current population levels giving an estimated 1980 total of 1,600 whereas the actual figure for June 1981 was 1,593. This projection thereafter becomes simplistic, giving population increases of 150 for each ten year period after 1980, resulting in a total population of 2,050 by 2010.

By far the most sophisticated of the projections is that made by Munro in 1981, although these were made without the benefit of 1981 Census statistics. The 1981 population estimate made by Munro was 1,884, compared to the actual census total of 1,593. After 1981, Munro forecasts an annual average compound growth rate of 4.759 per cent for the period 1981-1986 and 3.174 per cent for the period 1986-2001 resulting in a total village population of 2,377 in 1986 and 3,798 in the year 2001. Such a total population for the year 2001 is 154.8 per cent greater than the Community Water Supplies report total for 2006 and 85.2 per cent greater than the Flood Plain Management Report total for 2010.

The identification of future population levels is important for forward planning purposes. Given the difficulties and uncertainties involved in population projections (as evidenced by the great range of forecasts given above) it is better for planning purposes to over-estimate rather than underestimate.

Projections can easily be subject to criticism for under-estimation or over-estimation. However, they are a necessary input to the planning process and, as such, serve a valuable purpose. Sight should not be lost, however, of their uncertainty and they should be regarded only as best estimates.

The table on the following page (Table 5.23) represents a range of population projections based on past average annual compound growth rates for the town, sub-region, the North Coast Region and the forecast annual average compound growth rates adopted by Munro. For the purposes of this study, Forecasts 1 and 4 have been adopted.

Table 5.22: Town of Bellinghen - Population Forecasts 1986-2001

	1981	1986	1991	1996	2001
Low	1,593	1,816	2,068	2,357	2,685
Medium	1,593	1,946	2,259	2,641	3,087
High	1,593	2,010	2,350	2,747	3,212

The principle purpose of population projections is to assess the likely future demand for housing, land and community facilities and services. In order to translate population projections into figures for future housing demand it is necessary to assess any trends in dwelling provision and then utilise marginal occupancy rates.

Table 5.23: Population Projections for Town of Bellingen Based on Various Assumptions

Assumption	1981	1986	1991	1996	2001
1. Assumes population of town increases at 2.646% (i.e. 1976-81 growth rates)	1,593	1,816	2,068	2,357	2,685
2. Assumes population of town increases at 4.09% (i.e. 1976-81 North Coast Region growth rates)	1,593	1,946	2,378	2,906	3,551
3. Assumes population increase of 4.759% (i.e. Munro's growth rate '81) for 1981-86)	1,593	2,010	2,536	3,199	4,036
4. Assumes population growth of 3.174% for 1986-2001 based on each of above '86 figures (Munro growth rate 1986-2001)	1,593	1,816 1,946 2,010	2,123 2,259 2,350	2,482 2,641 2,747	2,902 3,087 3,212
5. Assume population growth of 5.23% (i.e. Nambucca, Coffs Harbour, Bellingen LGA growth rate 1976-81)	1,593	2,055	2,652	3,422	4,416

Table 5.24: Total Dwelling Stock in Town of Bellinghen, 1961-81

Year	Occupied Dwellings	Unoccupied Dwellings	Total	Increase	Annual Av. Compound Growth Rate (%)	
					Pop.	Dwellings
1961	378	20	398			
				6	-0.4	0.30
1966	378	26	404			
				20	-2.7	0.97
1971	397	27	424			
				31	0.39	1.42
1976	421	34	455			
				78	2.65	3.22
1981	502	31	533			

As can be seen, the number of dwellings has increased at a higher rate of growth than the population. This implies that the occupancy rate (i.e. number of people per dwelling) is declining.

Table 5.25: Occupancy Rates/Marginal Occupancy Rates in Town of Bellinghen, 1961-81

Year	Occupancy Rates	Marginal Occupancy Rates
1961	3.6	
		-4.7
1966	3.4	
		-0.95
1971	3.2	
		0.9
1976	3.1	
		2.5
1981	3.0	

As can be seen from the table, occupancy rates have been declining constantly over time representing a national trend towards a small household size. Marginal occupancy rates represent the ratio of the increase in population to the increase in dwellings. Marginal occupancy rates are determined by dividing the change in population in a given time period by the change in the number of dwellings during that period.

$$\text{Marginal occupancy rate} = \frac{\text{Population 1981} - \text{Population 1976}}{\text{Dwellings 1981} - \text{Dwellings 1976}}$$

Marginal occupancy rates are determined by growth rates. As a town expands the overall marginal occupancy rates tend to diminish. This results from a decrease in the occupancy rate in the more established areas and an increase in occupancy rates in the newer areas. If a rapid influx of young families occurs, marginal occupancy rates will rise. Likewise, if there is a net migration of persons out of an area, the marginal occupancy rates will decrease rapidly, and will become negative if there is an increase in the dwelling stock during the same period.

The table also indicates that the 1961-1966 and 1966-1971 marginal occupancy rates are representative of the net migration of residents out of the town between 1961 and 1971 whilst the marginal occupancy rates for 1971-1976, and 1976-1981 reflect the in-migration of persons and relative growth of the town.

#### Residential Land Requirements - Town of Bellingen

The marginal occupancy rates calculated overleaf can be used to estimate the additional dwellings needed to accommodate the expected increase in population. From estimates of the number of additional dwellings required it is possible to forecast the future land requirements of the town. Consideration of future land requirements must take into account the existing supply of residential lots which generally falls into two categories: vacant residential lots, and unsubdivided residentially zoned land within the village boundary. The land use survey of the town undertaken in August 1982 by the staff of Planning Workshop revealed that within the existing village boundary there are approximately 250 vacant residential blocks (this includes the subdivision of land to both the east and west of Lyon Street). There are no significant parcels of land which have yet to be subdivided. Should the draft local environmental plan for the eastward extension of the village zone of Bellingen be gazetted in its present form, it can be expected that the additional number of residential lots available for future development will be 296. This results in a total for the town of Bellingen of 546 residential blocks. Given that the total number of dwellings within the town at June 30th 1981 was 533 it can be seen that there is adequate land available for considerable future growth.

Assuming that the 1976-1981 marginal occupancy rate of 2.5 is representative of future ratios of persons to dwellings, then the existing number of residential blocks could accommodate an additional population of 1,365 (assuming also that one dwelling only is erected on each individual block). This represents an 85.7 per cent increase to the June 1981 population total, resulting in a total population capacity of 2,858.

Even assuming a population growth of 5.23 per cent which represents the annual compound growth rate of the Shires of Nambucca, Coffs Harbour and Bellingen between 1976-1981, the estimated population for 1991 is only 2,652.

Should the town continue to grow at the present rate (i.e. 2.646 per cent annual compound growth rate 1976-1981) the total village population in 2001 will be 2,685. It is clear that there is, at present, adequate residential zoned land to accommodate this envisaged population (assuming a marginal occupancy rate of 2.5 and including the area presently subject of a draft local environmental plan).

#### **Population Growth: Urban Nodes of Dorrigo, Urunga and Myleston**

Excluding Bellingen the main population nodes of the Shire are Urunga, Dorrigo and, to a lesser extent, Myleston. Urunga represents the greatest concentration of population within the Shire, accommodating 23.0 per cent (in June 1981) of the total Shire population, as opposed to 18.0 per cent accommodated in the town of Bellingen.

Urunga has demonstrated a strong growth rate over the past 20 years as indicated in the following table - the corresponding growth rates for the towns of Bellingen are provided in parenthesis for comparison.

Table 5.26: Urunga Population Growth, 1961-81

Year	Population	Av. Annual Compound Growth Rate (%)	
1961	787	3.26	(-0.4)
1966	924	5.49	(-0.27)
1971	1,207	5.81	(0.39)
1976	1,601	5.02	(2.65)
1981	2,045		

The town of Dorrigo in comparison to Urunga has experienced a relatively stable population since 1961. In June 1981 the population of Dorrigo was only 165 greater than the 1961 population.

Table 5.27: Dorrigo Population Growth, 1961-81

Year	Population	Av. Annual Compound Growth Rate (%)	
1961	1,027	1.42	
1966	1,102	-0.44	
1971	1,078	1.34	
1976	1,152	0.68	
1981	1,192		

Proximity to the coastline and the range of facilities and services provided in nearby centres such as Coffs Harbour have clearly been the major factors influencing urban growth since 1976 with the respective growth rates for Urunga, Bellingen and Dorrigo being 5.02 per cent, 2.65 per cent and 0.68 per cent respectively in the period 1976 to 1981. Mylestom has also reflected this growth pattern. In 1976 Mylestom accommodated 265 persons. In 1981 the total was 388; an annual average compound growth rate of 7.92 per cent.

Whilst the growth rates of Mylestom and Urunga are high when compared with the towns of Bellingen and Dorrigo, and even the Shire as a whole, neither exceed the growth rate of the Bellingen Valley rural area which, as a result of hobby farming, rural retreats and an increased interest in multiple occupancy as an alternative lifestyle, has grown at an annual average compound rate of 8.67 per cent.

Owing to the development pressures being imposed thereon, it is considered necessary to make brief comment on the growth potential of Urunga.

#### Urunga - Growth Potential

Urunga is the most rapidly expanding urban node of the Shire of Bellingen with a 1981 Census population total of 2,045. Since 1961, Urunga has comprised an increasingly great percentage of the Shire's population.

Table 5.28: Urunga Population as Percentage of Shire Population, 1961-81

Year	Population	% of Shire Population
1961	787	11.36
1966	924	13.88
1971	1,207	18.40
1976	1,601	21.30
1981	2,045	23.0

The village zone of Urunga was extended on December 6th, 1974. The above amendment to the Shire Interim Development Order related to land located to the south-west of the main Urunga urban area and bounded by the Kalang River and the Pacific Highway. A great proportion of the rezoned land was subject to periodic inundation. Much of this land is now referred to as the Bellinger Keys Estate, a subdivision that will eventually comprise 230 lots.

Owing to increasing development pressures in Urunga, Bellingen Shire Council, in February 1981, prepared the South Urunga Local Environmental Study. The decision to prepare the study "was to provide for the future expansion of the village of Urunga in an orderly and planned fashion and to relieve the current shortage of urban land in the area". The area to which the study related comprised approximately 427 hectares (1,055 acres) of land to the south of the Urunga village zone, and to the east of the Pacific Highway. In terms of the past growth of Urunga, the study states:

"Like other small villages on the North Coast, particularly those along the coastal fringe, it owes its continued existence and growth to retirement trends and the tourist industry. These factors, coupled with its seaside location, have insulated Urunga from fluctuations in the agricultural industry, particularly dairying."

At the date of the study (February 1981) there were 35 vacant serviced residential allotments in Urunga, with a further 30 then under development.

Since that time, the Bellingen Keys residential subdivision has been developed. To be released in two stages, there are presently approximately 137 allotments on the market (Stage 1 only) ranging in price from approximately \$38,500 for a single dwelling house site to \$51,000 for residential flat building sites. The latter would accommodate 6 flats, the price being based on a cost of \$8,500 per site unit.

The plans of subdivision have only recently been registered and at this stage it is impossible to state whether there will be a rapid take up of available lots.

The South Urunga Local Environmental Study predicted that demand for serviced residential land in Urunga would be greatly influenced by the spillover effect of excessive growth taking place within the Coffs Harbour Shire. The study states as follows:

"While in the past Coffs Harbour has stolen the limelight as regards growth and development, the Shire of Bellingen has received advantages of being located in close proximity to a burgeoning commercial centre and tourist destination. It would now seem that, with the current economic climate and the continued growth of Coffs Harbour and environs, Bellingen Shire, and particularly Urunga, is poised to receive substantial direct benefits from the area's growth.

As real estate prices in Coffs Harbour escalate, as a result of people moving to the district and as a result of supply factors, it could be expected that a trend will emerge whereby people are looking for alternative areas to live within commuting distance of Coffs Harbour. As Urunga is located only 28 kilometres from Coffs Harbour, the potential exists for Urunga to develop as a dormitory area of the employment centre of Coffs Harbour."

The study does not attempt to quantify the number of lots that might be created through the release of the subject land for residential development, nor does it indicate the area of the subject land on which development might occur. In effect the study goes little way to providing for the release of residential land. It would therefore appear that in the short term, future development within Urunga will be restricted to infill (i.e. on vacant blocks within the existing village) and development of newly created residential blocks on the Bellinger Keys estate.

It would appear at the present time that the Department of Environment and Planning has requested Council to undertake additional research in respect of the south Urunga area and presently there is no certainty as to when the land may be released for residential usage. The land currently under consideration for residential development would, according to Council officers, be likely to produce between 1,000 and 1,200 residential lots. However, preliminary structure plans of the south Urunga area propose eventual residential land releases of approximately 249 hectares, and this excludes proposed rural residential land. Assuming a yield of only 7.5 residential blocks per hectare, the resultant lot production will be 1,867 lots.

Given that at the time of the 1981 Census, there was a total of 785 dwellings (occupied and unoccupied) in Urunga, it can be seen that the release of land in the south Urunga Study Area will provide significant possibilities for future growth, enabling the town to grow to a future population of approximately 7,029 (figure derived by multiplying the number of lots that could be created, i.e. 1,867, by the 1976-81 marginal occupancy rate, viz. 2.67, and adding resultant figure, i.e. 4,984, to the existing 1981 population, viz. 2,045).

Should the population of Urunga continue to increase at 5.02 per cent per annum (which is the annual average compound growth rate 1976-81), the proposed land release would be adequate to cater for 25 years of growth.

#### 5.1.4 Summary of Population Forecasts and Characteristics

As can be seen from the following table, population distribution within the Shire is becoming increasingly weighted towards the coastline. Both Bellingen and Dorrigo accommodate a smaller proportion of the Shire's population than they did in 1976. There is little reason to suspect that this trend will not continue. However, offsetting the increasing domination of the coastal urban nodes is the extremely high growth rate of the rural lands of the Bellinger Valley, which encompass that part of the Shire located to the east of the escarpment extending to a line approximately 5 kilometres west of the ocean. With an annual average compound growth rate of 8.67 per cent, the population increase of this area exceeds the rate of growth of Coffs Harbour Shire.

Table 5.29: Population as Percentage of Total Shire

	1976	1981
Urunga	22.3	23.0
Bellingen	19.4	18.0
Rural Lands of Bellinger Valley	15.2	18.7
Dorrigo	16.0	13.4
Dorrigo Plateau	14.2	12.6
Raleigh, Repton, seaboard	9.3	10.0
Mylestom	3.7	4.4

Again, there is no reason to suspect that this trend will decline. Rather, as a result of the provision of rural residential allotments and the possibility of an increased interest in multiple occupancies, rural retreats and hobby farms, the rate of growth is likely to increase. Very little growth in the Bellingen rural lands can be put down to rural residential development as lands zoned for this purpose have only recently been provided. Similarly, those multiple occupancies which exist in the Shire have had their opportunities for expansion limited by past policies and controls. A move towards legitimising multiple occupancies may well increase their popularity.

Thus, the future population growth of the Shire could be typified by an absolute increase in population levels for all areas and urban nodes, chiefly as a result of the Shire's location on the mid-North Coast. Greatest growth will be likely to occur both within the rural lands of the Bellinger Valley and in the urban settlements on the coastline, the latter being dominated by Urunga. The town of Bellingen will increase in population as a result of it being a service centre for an increasing rural population and as a result of its proximity to Urunga and Coffs Harbour.

The greatest future concentration of population will be within Urunga.

The population projections for the Shire and the town of Bellingen are given below.

Table 5.30: Shire of Bellingen Population Forecasts, 1986-2001

	1981 (Census)	1986	1991	1996	2001
High			13,670	15,731	17,763
Medium	8,873	11,378	13,396	15,147	16,879
Low			13,107	14,548	15,967

Table 5.31: Town of Bellingen Population Forecasts, 1986-2001

	1981 (Census)	1986	1991	1996	2001
High		2,010	2,350	2,747	3,212
Medium	1,593	1,946	2,259	2,641	3,087
Low		1,816	2,068	2,357	2,685

**5.2 Employment in Bellingen**

**5.2.1 Present Employment Patterns**

The table overleaf (Table 5.32) shows the employment status of the Shire's population in 1981.

Compared with NSW, the Shire has a relatively high percentage of self-employed people, many of whom would be farmers or timber workers, while the proportion of wage and salary earners is considerably lower. The workforce participation rate is lower (as shown by the proportion of people aged 15 or over not in the labour force) than the State average, a difference most pronounced in the town of Urunga. Workforce participation rates are shown in more detail in Table 5.33.

In Bellingen Shire during the five year period 1976-81, both male and female workforce participation rates decreased; from 71.9 per cent to 68 per cent for males and from 36.2 per cent to 35.5 per cent for females. Comparative figures for NSW indicate that the female workforce participation rate has increased from 37.5 per cent to 45.3 per cent, whereas the male rate has decreased from 80.4 per cent to 77.3 per cent. Lower workforce participation rates would reflect not only hidden unemployment but also the Shire's popularity as a residential area for retired people. Within the Shire, the lowest rates for both sexes were in Urunga (1981 - 53.7 per cent for males and 25.9 per cent for females).

The occupational status of the employed population is shown in Table 5.34.

Bellingen Shire differs principally from the whole of NSW in having lower proportions of professional, technical, clerical and sales workers, and higher proportions of farmers, production, and transport and communication workers. The Shire does not differ significantly, however, from the Clarence Statistical Subdivision other than Bellingen Shire's higher proportion of farmers and fishermen (15.7 per cent as compared with 12.3 per cent).

Table 5.32: Employment Status - Shire of Bellingen 1981 (proportion of population - %)

Status	Bellingen	Dorrigo	Urunga	Rest of Shire	Total Shire	Clarence Statistical Subdivision	NSW
Employer/Self-Employed	6.7	7.0	6.9	13.1	9.7	9.1	5.7
Wage/Salary Earner	26.7	32.5	20.9	20.2	23.2	25.6	37.4
Other Employed	0.4	0.7	0.7	1.8	1.2	0.7	0.4
Unemployed	4.1	2.3	3.4	5.5	4.3	4.0	2.6
Not in labour force:							
15 years and over	38.1	29.4	47.9	29.6	35.3	35.4	29.4
Under 15 years	24.0	28.1	20.1	29.7	26.3	25.1	24.5
Total Population	1,594	1,193	2,045	4,041	8,873	92,330	5,126,217

Table 5.33: Labour Force Participation Rates 1976 and 1981 - Shire of Bellingen

	Bellingen				Dorrigo				Urunga				Rest of Shire				Total Shire				Clarence SSD*		NSW	
	1976		1981		1976		1981		1976		1981		1976		1981		1976		1981		1976	1981	1976	1981
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%	%	%	%
<u>Males</u>																								
Employed	321	62.8	361	60.0	332	81.4	333	75.5	318	52.4	397	47.8	743	68.4	936	63.8	1,714	65.6	2,027	60.7	66.0	62.2	79.3	73.3
Unemployed	24	4.7	39	6.5	7	1.7	15	3.4	47	7.7	49	5.9	87	8.0	142	9.7	165	6.3	245	7.3	6.2	6.7	1.1	4.0
<u>Females</u>																								
Employed	159	31.1	178	29.2	151	36.8	147	35.3	139	23.0	188	23.4	411	40.0	487	35.4	860	33.3	1,000	31.2	31.8	32.8	36.7	42.6
Unemployed	15	2.9	26	4.3	8	2.0	12	2.9	23	3.8	20	2.5	29	2.8	79	5.7	75	2.9	137	4.3	2.8	4.1	0.8	2.9
<u>Total Persons</u>																								
<u>15 years and over:</u>																								
Males	511		602		408		441		606		830		1,086		1,466		2,611		3,339		26,546	34,264	1,656,905	1,907,363
Females	539		609		410		417		603		803		1,028		1,375		2,580		3,204		26,724	34,873	1,784,359	1,964,134

\* Statistical Subdivision

Table 5.34: Occupational Status - Shire of Bellingen 1981 (proportion of population - %)

Occupation	Bellingen	Dorrigo	Urunga	Rest of Shire	Total Shire	Clarence Statistical Subdivision	NSW
Professional/Technical/Teachers	9.3	9.3	7.0	8.9	8.6	10.1	13.5
Administrative/Executive	3.7	6.1	5.5	2.6	3.9	4.8	5.0
Clerical	10.7	9.7	11.9	6.6	8.9	12.3	18.0
Sales	7.2	6.3	10.2	5.6	6.9	9.7	8.5
Farmers/Fishermen etc.	4.1	4.9	4.6	28.3	15.7	12.3	5.3
Miners	0.0	0.0	0.3	0.1	0.1	0.1	0.7
Transport/Communications	5.7	7.4	7.8	4.1	5.6	5.4	4.9
Production/Process Workers	38.3	34.8	33.3	24.6	30.3	26.7	28.6
Service/Sport/Recreation	13.0	11.2	9.7	5.2	8.4	9.5	8.3
Armed Forces	0.0	0.4	0.0	0.2	0.2	0.1	1.0
Other	8.0	9.9	9.6	13.7	11.3	8.9	6.3

Source: Australian Bureau of Statistics

A similar difference from the NSW average is shown in Table 5.35, which shows employment classification by industry.

Bellingen Shire, compared to the whole of NSW (and, to a lesser extent, the Clarence Statistical Subdivision) had above average employment in agriculture and forestry, and below average rates in most secondary industries (except for construction), tertiary and community service industries. This may reflect the fact that many service industries and financial establishments are provided for Shire residents in centres located beyond the Shire boundaries, such as Coffs Harbour. It may also be significant to note that the proportion of persons in Bellingen Shire employed in the entertainment, hotel and restaurant industry is considerably less than that in the Clarence Statistical Subdivision (5.9 per cent compared with 7.6 per cent). Perhaps this is an indication of the relative under-exploitation of the tourist industry in the Shire.

The change in relative importance of industries in employment terms over the period 1976-81, is shown in Table 5.36.

The main change has been a significant decline in the importance of agriculture (including forestry), from 23.7 per cent in 1976 to 16.0 per cent in 1981, and lesser declines in the construction, transport, storage and communications industry. The change of proportions has been brought about by **decline** in these industries rather than **growth** in other industries, as shown by the growing unemployment levels.

However, in today's economic climate it is interesting to note the increased proportion of the manufacturing industry. With the intention of bolstering this manufacturing sector, the Council has provided land for industrial development at Raleigh. Within the Shire of Bellingen, this is the only area specifically zoned for industrial purposes. It is located to the north of the Short Cut Road, approximately midway between Raleigh and Urunga, at a distance of around 1 kilometre from the Pacific Highway. It has a total area of approximately 24 hectares.

The land was gazetted for industrial purposes on June 3rd, 1977 (Amendment No. 6 to Interim Development Order No. 1 - Shire of Bellingen) having previously been utilised as a sanctuary and garbage depot.

The area actually zoned for industrial purposes is much greater than that which has so far been developed. However, the clearing and levelling of the old tip has added an additional stock of developable land. Half of the zoned industrial land remains as natural bushland.

Two 20 metre wide roads serve the estate - Baylden Drive and Alex Pike Drive and the site benefits from all other services.

To date, about half of the available accessible lots have been occupied by such users as Raleigh Engineering and Fabrication, Donaghue Freightlines Removals and Storage, and a manufacturer of concrete pipes and tanks. Bellingen Shire Council has established an engineering workshop and depot on Lot 15 of the estate.

### 5.2.2 Prospects for Present Industries

A survey of some of the Shire's largest employers indicated that these do not offer much prospect of expansion to take up the present unemployed or future growth of the workforce. Many industries had contracted in recent times and had little or no prospect of future expansion, or were uncertain as to their future prospects, being reliant on the economy as a whole. The following list gives the names of some employers in the Shire, the present number employed, the change in situation from that of two years ago, and the likelihood of future expansion.

Table 5.35: Employment by Industry - Shire of Bellingen 1981 (% of Workforce)

Industry	Bellingen	Dorrigo	Urunga	Rest of Shire	Total Shire	Clarence Statistical Subdivision	NSW
<u>Primary Industry</u>							
Agriculture	1.7	1.5	2.7	27.0	13.7	10.0	4.7
Forestry, fishing, hunting, etc.	1.5	2.7	3.4	2.0	2.3	2.3	0.3
Mining	0.0	0.0	0.0	0.2	0.1	0.1	1.4
<u>Secondary Industry</u>							
Manufacturing (incl. sawmilling)	17.1	22.9	17.4	13.8	16.6	11.9	18.5
Electricity, gas, water	1.9	1.3	0.3	0.1	0.6	1.6	2.1
Construction	9.7	4.0	11.1	6.4	7.5	9.3	6.2
<u>Tertiary Industry</u>							
Wholesale and retail trade	16.4	17.1	18.5	11.3	14.5	17.2	17.3
Transport and storage	2.4	5.4	6.0	2.8	3.8	5.1	5.5
Communications	2.0	4.8	1.4	1.1	1.9	1.9	2.0
Finance	5.4	5.4	7.9	3.7	5.1	6.7	9.6
Public Administration and Defence	6.0	4.4	2.7	2.9	3.6	3.9	5.1
<u>Community Services</u>							
Health	9.3	5.2	3.8	3.4	4.8	4.9	5.9
Education	6.0	6.5	3.2	5.1	5.1	5.6	5.5
Other and undefined	3.0	1.7	0.9	0.9	1.4	1.8	1.8
Entertainment, hotels, restaurants	5.8	6.9	9.7	4.1	5.9	7.6	5.6
Other	11.9	10.4	10.9	15.3	13.1	10.3	7.8
Total Employed	537	480	585	1,424	3,026	32,736	2,233,096

Table 5.36: Employment by Industry (%) - Bellingen Shire 1976-81

Industry	1976	1981
<u>Primary</u>		
Agriculture etc.	23.7	16.0
Mining	0.0	0.1
<u>Secondary</u>		
Manufacturing	15.4	16.6
Electricity etc.	0.7	0.6
Construction	8.0	7.5
<u>Tertiary</u>		
Wholesale/retail	14.5	14.5
Transport, storage	4.9	3.8
Communications	2.3	1.9
Finance	5.0	5.1
Public Administration	} 3.2	3.6
Defence		
<u>Community Services</u>		
Health	4.4	4.8
Education	4.6	5.1
Other and undefined	1.0	1.4
Entertainment, hotels, restaurants	5.3	5.9
Other	7.0	13.1

**Town of Bellingen**

Planet Lamps (hardware and light fittings): Employing 40, previously 50, future uncertain.

Smithfield Pallet Repairs (timber): Employing 9 (more than previously) future uncertain.

Shire Council: Employs a total of 70-80 persons, most of whom reside in Bellingen. However, the Council employs a number of persons in other areas of the Shire.

**Dorrigo**

Dorrigo Abattoir Pty Ltd: Employs 74 (six government meat inspectors also work there), a slight decrease. Future production increases can be handled by the existing workforce.

Allen Taylor & Co. Ltd (sawmill): Employing 30 (38-40 two years ago), future uncertain.

E.D. Pike & Co. (sawmill): Employing 11, future uncertain.

#### **Thora**

Thora Sawmilling Pty Ltd: Employing 40 (previously 60). Future uncertain.

#### **Raleigh**

Raleigh Timber & Hardware: Employing an average of 28 people (with seasonal variations), previously about 40, future dependent on building trade.

Central Dairy Co-op Society Ltd.: Employs 68 (in addition to 5 each at produce stores in Bellingen and Dorrigo). Two employees added in the last two years and expansion would call for a similar increase.

In summary, the growth of jobs to off-set losses that have occurred will be dependent in most cases on the economy beyond the Shire's boundaries, while there is little or no expansion likely in cases where a definite answer was given. The uncertain future of these industries indicates an undoubted need for the growth of other forms of employment. These include:

- \* The tourist industry.
- \* Employment directly generated by the incoming population who require goods and services.
- \* New manufacturing industries - to add to the present range which is mainly timber-oriented and construction-oriented. The presence of 'new settlers' within the Shire has led to suggestions for alternative industries that are environmentally beneficial and labour intensive, for example, the manufacture of solar heating panels.
- \* Employment generated in Coffs Harbour due to the rapid growth of that regional centre.

### **5.3 Unemployment**

This has been an increasing problem in the Shire in recent years, reflecting State trends, created by increased immigration to the area as well as the contraction of some existing industries. Numbers of unemployed in the Shire have increased as follows:

1971	:	28 (Census)
1976	:	240 (Census)
1978	:	364 (DEP, 'The North Coast Region of NSW - Overview' estimate)
1981	:	382 (Census)
1982	:	467 Number receiving benefits (Department of Social Security)
	:	5-600 (Bellingen Community Youth Support Scheme - Application for Funding, estimate)

The last two estimates do not necessarily contradict each other, as there are likely to be some people registered as unemployed but not receiving benefits for various reasons.

As part of her thesis, J. Treloar conducted surveys of 124 households and 35 school pupils (Years 10-12) in the town of Bellingen. Although the samples were probably too small to allow qualitative estimates, the following conclusions were made:

- \* Some teenagers are staying at school longer than they would prefer to, as there is no work available as an alternative.
- \* A majority (73 per cent) of schoolchildren surveyed would be prepared to move elsewhere in the North Coast region if work were available, while 50 per cent said they would move anywhere in Australia.
- \* The town's poor public transport hampered many young people from taking what work is available outside the town or the Shire.
- \* There is a certain amount of hidden unemployment, with 22 per cent of respondents stating that they would like work but were not looking, or that they would like to change their job. Many women felt that they should not be competing for jobs with younger people, and that public opinion in the town was hostile towards married women working.

In respect of this hidden unemployment, the following comments on the labour force should be noted.

In 1976, out of a total population over the age of 15 of 5,191, the total labour force of Bellingen Shire was estimated at 2,814, of which 240 (8.5 per cent compared to 5.2 per cent for NSW) described themselves as unemployed. Of the remaining 2,379 persons aged 15 years or more;

- \* 856 were aged 65 years or more;
- \* 306 were full-time students;
- \* 665 were on pensions other than age pensions and unemployment benefits.

This left 552 persons who were aged between 15 and 65 who could possibly have joined the workforce.

In 1981, the total labour force of Bellingen Shire was estimated at 3,409, of which 382 (11.2 per cent compared to 5.6 per cent for NSW) described themselves as unemployed. Of the remaining 3,139 persons aged 15 years or more:

- \* 1,180 were aged 65 years or more;
- \* 246 were full-time students.
- \* Re-organisation of the 1981 Census makes it impossible to calculate the number of persons on pensions. It has therefore been assumed that 700 persons were on pensions other than age pensions and unemployment benefits.

This leaves 1,013 persons aged between 15 and 65 who could possibly join the workforce.

This figure will comprise both males and females, including children over 15 years of age, neither at school nor registered as unemployed. It can be assumed that a significant proportion of this category would be married women. It remains however, quite difficult to make any accurate statement as to the reasons for the increase in this 'latent workforce' figure. Clearly the figures do not allow for the number of persons who have retired before the age of 65 and such number would be included within the latent workforce category although not necessarily looking for or wanting work. Also the figure of 1,013 persons would include a number of persons who are relatively self-sufficient and neither looking for 'work' nor claiming unemployment benefits. Furthermore, the Census, being undertaken in June does not reflect those numbers who may not be employed at that time of year but who are active members of the workforce during the tourist and summer season.

Notwithstanding these comments, it is clear that in addition to the 467 persons who were registered as unemployed in June 1982, there is an additional significant number of people who may well choose to join the workforce, if appropriate employment was available.

In respect of the above June 1982 figure for persons receiving unemployment benefits, and assuming the workforce had not increased since June 1981, the level of unemployment in the Shire is around 13.7 per cent (6.5 per cent for NSW in August 1982).

Thus, the Shire's employment situation is causing problems for some presently employed or not in the labour force, in addition to the registered unemployed. Of the latter, some young people are being forced to move away from the area. However, it is probable that some of those registered as unemployed and receiving benefits are new settlers in the region. A survey of 36 communes throughout the North Coast region (Munro, Clark and Simmons, p.62) found that about 40 per cent of adults in these communes were supported by the dole. Those not receiving the dole are generally supported by sources of outside income (e.g. part-time work) rather than being completely self-sufficient. The survey found a mixture of commune attitudes on whether people should take the dole, with more people disapproving than supporting this practice. Some considered the dole acceptable as an interim support while they were becoming established, however, and it has been suggested that an alternative would be aid under the Agricultural Support Scheme.

New settlers are becoming involved with the local unemployed in other ways. Their encouragement of activities such as arts and crafts and agricultural self-sufficiency, which by-pass the conventional economy, is leading some local people to take these up as occupations which support their self-esteem when they are unable to find paid employment. For example, courses in arts, crafts and self-sufficiency are conducted by the Bellingen Community Youth Support Scheme and cater for both local people and new settlers. Treloar quotes one survey respondent as describing the area as a 'supportive environment' for unemployed people for these reasons. Alternatively, she suggests that activities such as art and craft work be the basis of an industry that would add to the town's tourist attractions and thus create employment.

Whilst the above measures will assist certain of those residents of the Shire in their search for employment and create activities which can be undertaken during a period of unemployment, they are not seen as a panacea for the Shire's employment problems. With a local unemployment rate estimated to be approximately double the State average, and with so many of the Shire's major employers being uncertain as to their economic future, it is considered that the immediate future, as a direct reflection of the national economy, will be relatively bleak. An active promotional campaign by the Council both of its natural assets (scenery, recreational activities, climate) and its available serviced industrial and residential land could greatly assist the local economy. Bellingen has a great many advantages over other local government areas in the State, and it will require maximum publicity of these resources to help alleviate the economic ills presently being experienced by the Shire.

## 6. COMMUNITY FACILITIES AND ORGANISATIONS

### 6.1 Introduction

This section contains information on all relevant organisations, services and facilities available to meet residents' needs within the Shire. A system of categories is used which includes, firstly, facilities and services for the community as a whole and, secondly, those relating to specific age groups. Although a wide range of organisations and services exist, the town has certain needs which are identified at the end of this paper. In the case of some facilities, provision in terms of existing facility per head of population is compared with theoretical (normative) standards which have been proposed and used in other areas such as new residential developments and previous environmental studies carried out by this firm.

In as many cases as possible, information was obtained from people in the respective organisations and facilities concerned, but the assistance of Bellingen Neighbourhood Centre in providing a list of these organisations is acknowledged.

The three principal towns of the Shire, Bellingen, Dorrigo and Urunga, form the locational focus of community activities and facilities within the Shire providing a wide range of services and functions. Increased levels of population even in rural areas of the Shire can consequently be expected to exert pressure on the existing facilities within the towns. From discussions with representatives of various organisations and groups, it would appear that at the present time, the majority of those responsible for the provision of community facilities and services see no overwhelming strain on the ability of those services to cope. However, it should be stressed that, in certain instances, there is a definite requirement to either upgrade or extend the range of services and facilities.

### 6.2 Town of Bellingen

#### 6.2.1 Information and Communication

This category includes services providing information to residents about facilities and activities within the community, and libraries which have a similar function with regard to information on a wider variety of subjects.

\* Bellingen Neighbourhood Centre: Funded by the Shire Council, this centre operates during business hours, five days a week, in a converted schoolmaster's house in front of the Council offices, Hyde Street, offering a general information service, together with other facilities such as a public address system, dark room, and duplicating equipment. Proposals at hand involve the extension and modification of these premises (see below).

\* Bellingen Library: Operates from the above building for a total of 11½ hours over four days per week, employing one librarian. According to the librarian, the main inadequacies of the present service are insufficient hours and staffing, and the small building which does not have a separate workroom. It is Council's intention to double the size of the existing library and provide adequate space for a separate workroom. The existing schoolmaster's residence will be extended in an architecturally sympathetic manner to effectively double the floor area of the present building. Half of the new building will be used by the information centre and half by the library.

- \* Bellingen Community Radio: This non-profit organisation has recently received a radio license and intends, with the assistance of a seeding grant from the Department of Communications, to build a studio and FM transmitter. It is hoped that a radio station will be operating by mid-1983 offering a mixture of music, community information, and spoken-word programmes.

### 6.2.2 Transport

Private bus services link Bellingen to Urunga and Coffs Harbour. Joyces Bus Service operates a twice-daily (Monday to Friday) service between Urunga and Bellingen. A service from Bellingen to Coffs Harbour, calling also at Urunga and Repton, departs at 7.20 am, mainly for Technical College students. There is an additional service on Tuesdays and Thursdays which departs Bellingen at 9.30 am and is used mainly by shoppers. There is no service at all to areas to the west, north or south of Bellingen or within the town.

### 6.2.3 Welfare and Security

For many welfare and social security services, Bellingen residents depend on offices outside of the town.

- \* Department of Social Security: The nearest office is at Coffs Harbour which is responsible for the payment of pensions and other benefits (including unemployment benefits).
- \* Commonwealth Employment Service: The Coffs Harbour office employs an agent in Bellingen whose function is to collect forms and register job vacancies.
- \* NSW Department of Youth and Community Services: This department is responsible for emergency cash relief, various forms of counselling, services and equipment for handicapped people, and adoptions. The nearest office is at Coffs Harbour; from there, an officer of the Department visits Bellingen once a week. (Previously visits were made once monthly; the increased frequency of service is on a trial basis until November 1982.) This service is known as the Bellingen Welfare Information Centre, and uses the CWA Rooms in Church Street.
- \* A Social Worker of the NSW Health Commission visits the town for 1½ days per week, using an office in the hospital. Although the Health Commission has not commented on the adequacy of this service, Bellingen Community Youth Support Scheme (CYSS)<sup>1</sup> considers that this time is insufficient as the social worker can see only those cases referred through doctors, and many people are discouraged from seeking help by a perceived community disapproval of anyone needing such services.
- \* Community Youth Support Scheme (CYSS): This includes characteristics of a welfare organisation, a youth organisation and an education service. The scheme assists unemployed people under 25 years of age, providing services in the areas of:

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1. Application for funding, June 1982 to June 1983.

- . Work experience: arranged with local employers.
- . Job skills: workshops are being held involving a variety of mechanical skills.
- . Community service: projects have included visits to 'Bellorama' old people's units, and involvement in the Home Help service.
- . Leisure/creative activities: workshops and courses have been arranged in a wide variety of subjects including cooking, sewing, typing, photography, spinning, yoga, dance and pottery. Crafts can provide some measure of self-employment if products are sold to the public.
- . Job exchange register: a local service listing casual or temporary jobs.

The CYSS office is located in rooms above the Memorial Hall but must also use other premises including 'The Yellow Shed', located on the corner of Hyde Street and Prince Street for craft workshops, and another shed for mechanical workshops.

Facilities which are **not** available in the town include a youth counselling service (this is available in Coffs Harbour on one day per week), emergency accommodation (such as a women's or youth refuge), or a full-time social worker.

#### 6.2.4 Health

- \* Private Medical Services include four general practitioners, a dentist (all of which are permanent practices), and an optometrist who visits the town every two weeks.
- \* Bellinger River District Hospital provides 70 beds, of which about 30 are used for extended care and the remainder for acute care. Services available include flexible use general beds, obstetric services, accident/emergency facilities, limited X-ray and surgical facilities, with some surgery being performed by specialists visiting from Coffs Harbour. Other services provided by the Health Commission using the hospital premises include:
  - . the Community Health Services in Bellingen which are an outpost of the Coffs Harbour Community Health Project; there are two community nurses attached to the Bellingen and District Hospital who provide domiciliary nursing care, school health and community health support locally; the balance of community health services, including those for the physically or intellectually handicapped, are provided on a sessional visiting or referral basis by staff at the Coffs Harbour Community Health Centre and Hospital;
  - . a Social Worker who visits Bellingen once weekly (see above under 'Security and Welfare');
  - . a Speech Therapist who visits once weekly;
  - . A Hearing Clinic, held at the hospital once monthly.

For other medical services, referrals are made to the psychologist, developmentally delayed nurse, child medical officer and other staff including the child and family support unit at Coffs Harbour Community Health Centre. Referrals are also made to the Coffs Harbour District Hospital. Aboriginal health matters are referred to the Aboriginal health worker at Macksville Hospital.

- \* A Baby Health Service is provided by a sister visiting once weekly, from a separate clinic in the CWA rooms.
- \* An Ambulance Station is located in Bellingen township.

A report produced by the Health Commission<sup>1</sup> outlines proposed changes to the function of hospitals in the North Coast Region. The report identified the major health needs in Bellingen and district as being nursing home facilities and care of the aged, child and family support, psychiatric support and family planning. It is intended that the Bellinger River hospital should generally continue to offer the present level of services, with the exception that 40 beds be redesignated long stay beds of which 15 will be for psychogeriatric care. The latter were said to be necessary because of the lack of alternative accommodation such as nursing homes.

Although the hospital's site was described as "far from ideal", it is sufficient in size for present needs, with the main need being the replacement of existing timber buildings which are said to be of poor construction.

In general terms, the Health Commission proposes to establish a community health team to service Macksville, Bellingen and Dorrigo. This team is to be staffed, as resources are made available, with a receptionist, an infant and maternal health sister, a child and family health sister, a speech therapist, a social worker and a community generalist nurse. Further specialist support is to be made available from the Community Health Centre at Coffs Harbour.

#### 6.2.5 Education

##### Schools

- . Bellingen Public School has a current enrolment of about 340 pupils, including some travelling on seven buses from a catchment area extending up to 30 kilometres away (the head of the Kalang Valley). The school bus service does not presently extend right to the head of the Darkwood/ Thora Valley, resulting in further difficulties for particular families. This school is presently operating below capacity (which is about 400) and the site includes some room for possible future expansion.
- . St. Mary's School: This is a Catholic primary school with about 120 children enrolled, some travelling from areas throughout the Bellinger and Kalang Valleys, in addition to those from the town. The enrolment is currently close to the capacity of the buildings, and the school's site is currently so restricted that there is no play area, with the children having to use the adjacent park. As there is no capacity available in the nearest Catholic High School (at Coffs Harbour), pupils must go to the State High School in Bellingen.
- . High School: There are about 450 pupils currently enrolled at Bellinger High School, whose catchment area includes the entire Bellinger and Kalang Valleys with pupils having to travel up to 70 kilometres in each direction by bus. The school is presently operating at full capacity, and resumptions

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1. Health Commission of NSW - The North Coast Region - Discussion Document: Organisation of Hospital Roles; Development Needs and Priorities for the next 5 years (May 1982).

(which the Education Department is currently investigating) would be necessary for the school to expand. As eight classrooms are provided as demountables, there is also a shortage of specialised classroom space for subjects such as home economics or science.

### **Further Education**

The only nearby tertiary institution is Coffs Harbour Technical College, which in 1981 was attended by 19 students from Bellingen town (for full or part time apprenticeship training and secretarial courses). In addition, the College conducts courses as part of its Outreach programme in Bellingen in craft-related and personal development subjects. The Department of Technical and Further Education depends on demand expressed by residents to organise courses, aided in this case by the organisation of the Bellingen Neighbourhood Centre.

- Bellingen Learning Group: This organisation, which is associated with the Neighbourhood Centre, arranges adult education courses for the town, involving the determination of what subjects people are interested in and arranging funding. Courses have been conducted in mostly practical subjects such as crafts, cooking, horticulture and bridge, using a variety of venues including the library, primary school, CYSS rooms, and Neighbourhood Centre. This variety has been partly because of the lack of any community centre which is suitable for workshops. At the present time, there are four classes being conducted, each lasting 10 weeks with an average of 10 people.

## **6.2.6 Leisure and Recreation**

### **Active Recreation**

This category comprises facilities for active sports. These are at the following locations in Bellingen:

- Bellingen Park: playing field (football, soccer, hockey, athletics), 3 tennis courts.
- Connell Park: playing field (soccer, football, archery, touch football, cricket, athletics).
- Swimming Pool: 20 metre outdoor pool and wading pool.
- Braithwaite Avenue: Tennis court.
- Bowling Club: 2 bowling greens, 2 squash courts.
- Golf Club: 18 hole golf course.

There are also playing fields in the High and Primary Schools and tennis courts at St. Mary's School.

### **Passive Recreation**

Playgrounds and other reserves are at the following locations:

- Bellingen Island Reserve.
- Bellingen Park.
- Piggott Park.
- Jarrett Park.

- . Robert Wolfe Park.
- . Jubilee Park.
- . Hewitt Park.
- . McNally Reserve.

### **Community Halls and Meeting Places**

There are a number of venues available for hire by community organisations. The organisations which own them, where relevant, are mentioned in other sections.

- . Bellinghen Memorial Hall in Hyde Street was constructed c.1930 and is held by the Shire Council in trusteeship for the people of Bellinghen. It includes an auditorium seating 400 or more people, stage, kitchen, supper room and offices which are currently used by CYSS (see below) and a Credit Union. It is mostly used for recreation purposes including arts groups (though not dramatic productions as often as in the past), jazz ballet, discos, and karate. The building is currently affected by white-ant and also needs external repairs.
- . Uniting Church Hall: This building, located in Church Street, is of timber construction and holds about 100 people and has a kitchen attached. It is used by several groups in addition to the Church (which uses it four days per week for youth and other groups) and thus is well utilised at present.
- . Country Women's Association Rooms: These are located in Church Street and accommodate a kitchen and 'rest room' which are used for functions, an outside public toilet, and a baby health centre with waiting room which is maintained by the CWA for use by the Health Commission nurse. The rooms are now 42 years old and need either repair or replacement.
- . The Yellow Shed: This is a privately owned meeting room having a floor area of approximately 200 square metres. It is mostly used for various craft and art workshops and can accommodate up to 30 people for this purpose. Some classes conducted by CYSS are held here. This room has capacity for increased use, being only open on three days per week at the present time.
- . Community Youth Support Scheme Rooms: Located above the Memorial Hall but limited in size to only small meetings. On weekdays lunches are served in these rooms. There is one small office used by the CYSS.
- . Bellinghen Showground: This area includes an oval (which is almost exclusively used for equestrian events) and about 12 buildings. Of these buildings, some are suitable for other community organisations: a kiosk which is suitable for barbecues or parties, and a luncheon booth used as a gymnasium two nights per week and by the Bellinghen Playgroup on two afternoons. The showground as a whole is used by the Pony Club, and stages regular events such as shows or clubs for cattle, horses, goats and poultry.

The organisations using these facilities are included under the headings or services and facilities for specific age groups, appearing below.

### **Services for Pre-School Children**

Generally, there are a variety of types of service available for pre-school children of which three are available in the town of Bellinghen. Possible services include long day care, family day care, work based community care, vacation care, before and after school care, pre-school kindergarten, occasional care and playgroup.

In line with State trends, the number of pre-school age children as a proportion of the total community of the Shire of Bellingen fell between 1971 and 1981. In 1971, children of less than 4 years of age constituted 9.0 per cent of the total population of the Shire. In 1981, the proportion was 8.0 per cent. In the town of Bellingen, this decrease has been proportionately greater, with respective figures of 9.5 per cent and 7.3 per cent. In absolute terms however, the numbers of pre-school age children has increased. Coupled with today's economic climate (rising house prices, increased interest rates, inflation, greater possibilities of unemployment) there is an increased need on the part of most families to gain a second income. Furthermore, there has been an increase in the number of one parent families. In 1971 the percentage of the Shire's population which was permanently separated, divorced or widowed was 6.9 per cent; the comparative figure for 1976 was 8.5 per cent, and for 1981, 10.2 per cent.

Accordingly, the number of families seeking pre-school care for their younger children is increasing and can be expected to increase further in the future.

The existing types of pre-school care available within Bellingen are as follows:

- Bellingen Pre-School: This centre provides kindergarten sessions of three full days and two mornings per week. It can accommodate 24 children at any one time, with a current enrolment of about 85 (as most children do not attend every day). The demand for services has grown this year so that the number of sessions has increased, with all vacancies filled. There is no waiting list. This centre could presumably cope with some increase in pupils by providing additional sessions. The pre-school is partially government funded through the NSW Department of Youth and Community Services.
- Bellingen Playgroup: This meets twice weekly in a Showground hall, with an attendance of between 5 and 15 mothers, plus children. The present venue is unavailable at times of Showground events and cannot be used for young children's activities such as painting, or the storage of equipment.
- Nursing Mothers' Association: This group currently meets twice monthly in members' homes, with up to 30 mothers involved, in addition to children. This suggests a need for a larger public facility, but there is none available that has an area where children can play outside with minimal supervision.

There are no other children's services available in Bellingen. Although the pre-school fulfils a child-minding function to some degree, other forms of child-care (which would be particularly needed by working mothers) including full day care, occasional/emergency care (i.e. which would not require advance booking) and family day care, are not available.

The availability of child-care may be compared to normative standards for the provision of places, but as facilities in Bellingen are undoubtedly used by some people from other towns and the rural areas, this comparison is best made at the scale of the Shire as a whole (see below).

### 6.2.7 Facilities and Services for Adolescents

In addition to the facilities and services in this section, those in the following section (Facilities and Services for Adults) would also be available for younger people with specific interests.

- \* The Youth Club has a membership of about 250, mostly from Bellingen but some from Urunga, aged between 6 and 18, although the majority are aged 10-14. Because of the range of members' ages, the Club provides a variety of activities including play centres, trips by hired bus to Coffs Harbour, and dances. The club has also been donated a pool table and table-tennis set. However, it has no premises of its own and has generally used the Memorial Hall. Activities have been restricted because of the cost of hiring a hall or bus. The Club would like its own premises in the form of a room of 50-100 square metres which can be used for various functions, with storage space for equipment.
- \* Scouts, Cubs and Venturers: These groups have a scout hall with attached kitchen and storerooms. The Cubs, Scouts and Venturers together have a total of about 35 members, in addition to eight leaders. The Scout Hall, located next to the bowling club, is in need of additions including a meeting room and an additional storeroom.
- \* Girl Guides, Brownies and Rangers: These groups have a total membership of about 67 in addition to seven leaders. They use the facilities of the Scout Hall, an arrangement that is presently satisfactory despite the growing numbers of all these organised groups. The Guides also own a block of land adjacent to the Scout Hall which could be used for a separate hall if necessary.

#### 6.2.8 Organisations and Services for Adults

These organisations exist for purposes including services, politics and recreation. However, most organisations with their own premises and facilities have been included in the sections dealing specifically with the purpose of the organisation.

- \* Service Clubs: These include Rotary Club, Lions Club, Red Cross and the Pink Ladies.
- \* Political Parties: Liberal, Country, Labour, Australian Democrats.
- \* Country Women's Association: This branch has about 50 members and meets in the CWA rooms in Church Street.
- \* Bellingen Arts Council is an autonomous group (following changes to the structure of the NSW Arts Council) responsible for arranging musical and dramatic performances with the aid of Arts Council subsidies. It is a new group with about 30 members at present but hoping for 100; it has organised three concerts so far (in co-operation with Musica Viva) and hopes to arrange a drama workshop in 1983. There are currently no known performing arts groups in Bellingen, though one has existed in recent times.
- \* Pony Club: Uses the Showground.
- \* Camera Club: Meets once monthly in the Uniting Church Hall.
- \* Bellinger Valley Rifle Club: This club has no range of its own, but uses the rifle range at Dorrigo.

**6.2.9 Facilities and Services for Elderly People**

- \* Home Help Service: This service is conducted by about 18 people including ten volunteers, and gives home help to a total of about 50 people in Bellingen and the surrounding area. It is aimed at those old people who would otherwise be unable to maintain their own residence and would have to move to a home or hospital. All those who apply can be helped. It should be noted that people are required to apply for home help and the decision to provide help is made by a volunteer committee. Home help is provided in cases of illness, incapacity, confinement or crisis.
- \* Meals on Wheels: This service visits about 10 people a day in Bellingen; it operates also in Urunga, Repton and Mylestom, using a total of about 130 volunteers. The service is able to operate satisfactorily with present resources. Doctors normally refer needy persons to the local Meals on Wheels co-ordinator or management committee.
- \* Accommodation for the Aged: Bellorama Aged Units in Watson Street provide accommodation for aged persons, with staff providing meals and assistance. These units, containing 32 beds, are currently full, with a waiting list of 8 or 9 people.

In addition, there are four one-person units in Church Street constructed by Coffs Harbour Legacy, and three Housing Commission units built specifically for aged persons.

- \* Combined Pensioners' Association meets monthly in the Uniting Church Hall, with about 20 members.

**6.3 Dorrigo****6.3.1 Information**

A branch of the Clarence Regional Library is located at Dorrigo and is open for a total of 15 hours over three days per week. The library's main need is seen as an extension of opening hours (these are now less than at the library's opening 15 years ago). At present, persons who reside in the rural areas of the Dorrigo plateau have difficulty in co-ordinating their visits to town with these opening hours.

**6.3.2 Transport**

There is no public transport service linking Dorrigo with any other point, except for school buses.

**6.3.3 Security and Welfare**

Most welfare services including pensions and benefits, Commonwealth Employment Service and Department of Youth and Community Services functions are provided from Coffs Harbour, as described for the town of Bellingen. In addition, a social worker employed by the Health Commission visits Dorrigo Hospital once weekly.

**6.3.4 Churches**

There are Anglican, Catholic, Uniting and Seventh Day Adventist churches in Dorrigo.

### 6.3.5 Health

The following health facilities are available in the town of Dorrigo.

- \* Private Practitioners: One general practitioner and one dentist are in residence. In addition, an optometrist visits regularly from Coffs Harbour.

Services provided by the NSW Health Commission include:

- \* Ambulance Station.
- \* Baby Health Clinic located in the CWA Rooms.
- \* The Dorrigo Hospital: Serves the Dorrigo Plateau and some areas outside the Shire. It has 25 beds available, comprising 17 general medical beds, 4 children's ward beds and 4 maternity ward beds. The Health Commission is considering the removal of obstetric facilities at Dorrigo and relocating them at either Bellingen or Coffs Harbour. However, the Commission recognises that this proposal may be resisted locally as it will undoubtedly cause significant inconvenience.

Out-patient services available to residents from this hospital include:

- . Community Nurse (full-time) - responsible for school health, domiciliary nursing and immunisation.
- . Physiotherapy.
- . Ante-natal clinics and preparation-for-motherhood classes.
- . Social Worker - visiting once weekly.
- . Speech Therapist - visiting once weekly.
- . Dietician - visiting once weekly.

### 6.3.6 Education

- \* Dorrigo Public School currently has about 280 pupils enrolled, and employs 12 full-time teachers in addition to various ancillary staff. About 60 per cent of pupils arrive by bus, though these are mainly from within 8 kilometres of the town (including some from the town itself). Although the school is presently operating close to capacity, the site has ample room for further expansion.
- \* Mount St. John's School: This is a Catholic primary school with about 70 children enrolled, taking also children of non-Catholic denominations who account for approximately one-third of the enrolment. Pupils travel up to 30 kilometres by bus (in addition, some have to be driven over 5 kilometres by their parents to reach the bus stop). This school is operating below the building's capacity of 100, and the site is large enough to accommodate future expansion if necessary.
- \* Dorrigo High School: Currently has 251 pupils enrolled, who travel by bus from as far as Ebor, Cascade and Billy's Creek. The site and buildings are satisfactory for present purposes and there is adequate space for future expansion.

### 6.3.7 Leisure and Recreation

#### Active Recreation

- . Dorrigo Recreation Reserve - Playing field: football/ cricket/soccer.
- . Dorrigo Golf Course
- . Hickory Street: 4 tennis courts.
- . Dorrigo Bowling Club: Bowling green; 2 squash courts being installed.

#### Passive Recreation

Playgrounds and other passive reserves are located at the following places:

- . Coronation Park.
- . Golf Course.
- . Karabin and Myrtle Streets.
- . Pioneer Park.

#### Community Halls and Meeting Places

- . Dorrigo Community Centre: A hall which is used for large functions and some dramatic presentations (the building contains a stage). The library is accommodated in this building.
- . CWA Rooms contain a function room capable of holding 100 persons, and are available for use by interested community groups.
- . Church of England Hall
- . Uniting Church Hall
- . Seventh-Day Adventist Hall
- . Gazette Theatre: A wholly new building, opened in 1978, with stage facilities and a license to seat 98 persons. It is owned by the Dramatic Club and used for their productions as well as regular film screenings (in the absence of a cinema in the town).
- . Dorrigo Public School Hall is available for use by some community groups.

### 6.3.8 Services for Pre-School Children

- \* Dorrigo Pre-School: Offers only kindergarten (i.e. part-day) sessions. This centre has 20 places, and is currently running two sessions, i.e. has 40 children enrolled. There is a waiting list of about 5 children, which is not enough for a third session to be started. The pre-school is partially funded through the Department of Youth and Community Services, but funding has not increased in the last three or four years and fees have had to rise, thus putting child-care beyond the financial means of some parents.
- \* Playgroup: A group of about 6 families is believed to meet in private homes.

### 6.3.9 Facilities and Services for Adolescents

- \* Organised Groups: Girl Guides and Brownies have a total of 50 members and their own Guide Hall. Scouts and Cubs share a separate hall. Facilities for these groups are believed to be adequate. No other youth groups are known to exist.

### 6.3.10 Services for Elderly People

- \* Meals on Wheels operates using volunteer labour and the facilities of the Dorrigo Hospital.
- \* Home Help Service is a branch of the Bellingen service, with a voluntary co-ordinator and part-time workers in Dorrigo. Currently about 15 homes are visited regularly, including some outside the town, but service has been restricted because of cutbacks in funding from the Department of Youth and Community Services.
- \* Senior Citizens Association meets regularly though it does not have its own facilities.
- \* Accommodation: The Housing Commission has constructed five units for elderly people in the town.

## 6.4 Urunga

### 6.4.1 Information

- \* Urunga Library (a branch of the Clarence Regional Library) is open for a total of 16 hours over four days per week. Both the building and the hours are apparently satisfactory for present needs.

### 6.4.2 Security and Welfare

No welfare services are known to operate in Urunga; it is necessary for residents to travel to either Bellingen or Coffs Harbour for these.

### 6.4.3 Churches

Urunga has Anglican, Catholic and Uniting Churches.

### 6.4.4 Health

Urunga has an ambulance station, a baby health service (provided by the Health Commission in a clinic provided by the CWA) and two private general practitioners.

### 6.4.5 Education

The following educational facilities exist in Urunga.

- \* Urunga Public School: This school currently has 210 pupils enrolled, from a catchment area of approximately 4 kilometres in radius. It is presently operating below the capacity of the classrooms and the site is large enough to allow for limited future expansion.

#### 6.4.6 Leisure and Recreation

##### Active Recreation

- . Urunga Recreation Reserve - playing field (football/cricket/soccer/athletics).
- . Saltwater swimming enclosure.
- . Urunga Golf Club - golf course, 4 squash courts, 4 tennis courts.
- . Urunga Bowling Club - 2 bowling greens.

##### Passive Recreation

Playgrounds or other reserves are located at:

- . Hungry Head.
- . Morgo Street.
- . Christians Park.
- . Russell Park.
- . Maramba Park.
- . South Street.
- . Stan Miles Reserve.
- . Yellow Rock Road.
- . Joy Mitchell Reserve.

#### 6.4.7 Services for Pre-School Children

Urunga Playgroup meets twice weekly with a total of 15 to 20 mothers involved in a hall of which it is the principal user. The group hopes to start a pre-school in this hall although this is dependent on raising about \$10,000 which is required for necessary alterations. There is currently no pre-school or any other child-minding service operating in Urunga.

#### 6.4.8 Facilities and Services for Adolescents

Only uniformed groups (Cubs, Scouts, Brownies, Guides) are known to exist, all using the Scout Hall.

#### 6.4.9 Facilities and Services for Elderly People

- \* Home Help.
- \* Meals on Wheels: A branch of the service operating from Bellingen.
- \* Senior Citizens' Association is believed to meet regularly.
- \* Accommodation: The Housing Commission has constructed ten units for elderly people in Urunga.

#### 6.5 Rural Areas

##### 6.5.1 Information

- \* Library Services: Fixed libraries are located only in the three principal towns, but there is also a mobile service provided by a Bookmobile from Coffs Harbour, which visits places in the Shire's coastal area each Friday

(North Beach, Repton, Raleigh, Mylston). However, visits are only for an hour or half an hour at each place. These libraries do not visit non-coastal centres of rural population, particularly Thora or Kalang. It is understood that travelling toy libraries also do not visit the rural valleys.

#### 6.5.2 Transport

Bus services link Bellingen, Urunga, Repton and Coffs Harbour (see under Bellingen). No services other than school buses serve the rural valleys.

#### 6.5.3 Security and Welfare

No services are located outside the three principal towns.

#### 6.5.4 Churches

None located outside the three principal towns.

#### 6.5.5 Health

All rural areas within the Shire are served by either Bellingen District or Dorrigo Hospitals, and technically by facilities of other sorts located in the three principal towns. However, access to these facilities from some valley areas is believed to be poor, especially in regard to visiting medical staff.

#### 6.5.6 Education

Schools are perhaps the best provided facilities for rural areas, and include both State and private primary schools.

- \* Raleigh Public School: This school has a current enrolment of 23, employing two teachers. Nearly all pupils come from the immediate area, as there is no school bus service (those living beyond walking distance go by bus to Bellingen Public School). An increase in pupils beyond 26 would require an additional classroom, but the site is adequate for further expansion.
- \* Repton Public School: Currently has 81 pupils enrolled, with 3 teachers and ancillary staff. Pupils travel from up to 5 kilometres away by bus. The buildings are presently used to capacity but the site is large enough for expansion.
- \* Upper Orama Public School: There are currently 36 pupils enrolled at this school, travelling up to 15 kilometres from homes within the Bellingen Valley. As there is only one bus which must operate in both directions from the school, some children must wait before or after school to be taken home. The school is operating below capacity (which is 47 or 55 according to different estimates) but is currently in need of a shelter shed which the Parents and Citizen's Association is helping to provide, and other basic facilities.
- \* The Chrysalis School is located near Thora, on a site with room for future expansion. It is a Rudolf Steiner school with 28 pupils and 3 teachers.
- \* Kalang Community School is currently housed in the Kalang Community Hall, with seven pupils and one permanent teacher. Other teachers visit the school for certain subjects. The school was founded by parents who wanted a local school rather than having to send their children to Bellingen, a

considerable distance away along poor roads. The number of primary school age children in the area is too low for the establishment of a State school (the Department of Education requires 20 pupils) but it is thought that the community school might be replaced by a public school if the number of children increases in the future.

### 6.5.7 Leisure and Recreation

#### Active Recreation

There are very few active recreation facilities in the rural areas of the Shire, although tennis courts do exist at Thora and Bostobrick. There would appear a distinct lack of these facilities, even in areas of reasonably high population concentration, most notably the Kalang and Darkwood/Thora Valleys. No access is available to ovals or playing fields other than in town centres.

#### Passive Recreation

Reserves are located at Bostobrick, Thora, Gleniffer, North Beach, Repton (Alma Dople Park), Raleigh, Dangar Falls, Griffiths Lookout, Megan, Dorriggo Mountain, Walmsley Lookout, Gordonville, Rotary Lookout (Marx Hill) and Fernbrook. However, a definite lack of facility appears to exist both along the Kalang and Bellinger Rivers, where residents complain of picnickers and campers in their driveways in lieu of any public reserve provision.

It is believed that approaches have been made to the Lands Department for the use and/or development of some lands held by it for such purposes. However, to the best of our knowledge, these approaches have not been successful. There is currently no provision for tourists to park by the side of either of these roads to enjoy the pleasant river environs.

### 6.5.8 Community Halls and Meeting Places

- Gleniffer Hall is capable of accommodating 120 persons and comprises a kitchen and supper room. It is used for social events including regular dances, and is kept in good repair by local volunteer labour.
- Kalang Community Hall is owned by the Department of Lands and maintained by local people. It was restored around 1973 after about 15 years of disuse, during which time the building's condition had deteriorated. It is used for social events, and some meetings and classes.
- Bostobrick has a hall which is not used at the present time.
- Darkwood/Thora Valley now has no public hall. This valley is a centre for a large and active community-spirited group, including probably the largest single clustering of multiple occupancies.

### 6.5.9 Pre-School Children's Services

- \* Kalang Playgroup meets weekly in the Kalang Community Hall with about 12 children.
- \* The Darkwood/Thora Valley which, as noted above, is the centre of an increasingly child-oriented rural community, currently has no playgroup.

### 6.5.10 Services for Schoolchildren and Youth

A vacation care centre formerly operated in the Kalang Community Hall, but has been discontinued owing to the lack of funding from the Department of Youth and Community Services. No other facilities or organisations of any type are known to exist.

## 6.6 Needs for Community Facilities

The adequacy of existing facilities and needs for additional facilities may be evaluated by two possible methods:

- \* Needs that are perceived and stated by local people both as providers and users of facilities.
- \* Normative standards (usually in terms of the number of people per facility of various types). These standards have most often been used in the development of new residential areas, however, they provide a means of comparison between existing areas. In this section, existing facilities are evaluated by both of these methods where possible.

### 6.6.1 Information

- \* Information Service: No standards exist for this facility. However, a service available for residents of the whole Shire would be desirable. The beginning of operations of Bellinger Valley Radio, with its community information function, should make this type of information available to a wider range of people than previously.
- \* Libraries: The existing libraries in the Shire comprise about 500 square metres of floor space (or 4,800 square feet). For a population the size of the Shire's, Library Association of Australia<sup>1</sup> standards require about 3,600 square feet of floor space - i.e. the required standard is exceeded in this case. However, this does not take into account the opening hours. It is the general feeling of those responsible for the operation of library facilities within the Shire that the libraries require an increase in opening hours. Reaction from various members of the community also indicates a possible lack of depth in the library resources.

### 6.6.2 Transport

The existing bus services within the Shire are relatively infrequent and do not link Dorrigo with any other part of the Shire. A service between Dorrigo and Bellingen would give Dorrigo Plateau residents without their own cars some access to shops and community facilities in Bellingen and possibly Coffs Harbour, and give job-seekers a wider range of opportunities.

It should also be noted that some discontent exists in the community in relation to the present range and extent of intra-rural bus services. No services other than school buses currently serve the rural valleys. These do not operate at all during school holidays, and even in school time are usually filled to capacity, leaving little or no space for general passengers. In this respect, the Kalang and Darkwood/Thora Valleys are most disadvantaged.

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1. Interim Minimum Standards for Public Libraries, 1972

### 6.6.3 Security and Welfare

Few quantitative standards exist for the provision of these services. However, from some comments, particularly within the CYSS Application for Funding Report, it appears that the Shire has a need for an extension of some existing welfare services. Possible improvements would be the employment by Council of a social or 'community' worker, retention of or an increase in the length of visits by the YACS officer, and the provision of a refuge or some other form of emergency accommodation. However, Mr. I. Mussett, YACS Resident District Officer at Coffs Harbour, in a letter dated September 24th, 1982, referring to the adequacy of service, states that:

"This Department services a range of clients throughout the State and all such services are available to residents of the Bellingen Shire. No specific, existing problems uncommon to other areas prevail and one would gather that future problems, if any, would be similar to those occurring elsewhere."

Whatever the nature of problems in other areas, it is likely that in the foreseeable future the group in the Bellingen Shire most in need of help will be the unemployed. In this case 'help' will be the creation of additional jobs and the establishment of programmes to enable the unemployed to adjust to long-term unemployment. For younger people, CYSS already provides some assistance in this area but a similar form of welfare help may be necessary for older unemployed persons, particularly with proposed structural changes in the logging industry.

Indeed, to some extent, it appears that the CYSS worker is currently fulfilling the role of surrogate community worker in the Shire. Should a community worker or co-ordinator be employed by Council (as recommended above) it should be ensured that this person is sympathetic toward the alternative lifestyle groups.

A further problem of community welfare which should be raised is that of RAAF planes which are believed to carry out training runs down the Bellinger Valley. This practice affects rural production and constitutes both a noise nuisance and a safety issue in the valley. It is considered that, especially with the density of multiple occupancy, this valley is now too populated an area for such activities and Council should make approaches to this effect to protect the general welfare of the rural community.

### 6.6.4 Health

\* Private Medical Services: The Shire currently has six general practitioners - four in Bellingen, one each in Dorrigo and Urunga. Thus, there is approximately one doctor to every 1,500 people. This compares favourably with ratios given in various planning studies, which range from 1:1,250 to 1:5,000 (MSJ Keys Young Planners and Blacktown City Council, Community Facilities Study, 1981) and the more general standard of 1:2-5,000 adopted by Planning Workshop Pty Ltd on an overview of all previous studies undertaken in 1982. However, the appropriateness of the spatial distribution of these doctors might be questioned as Bellingen has the greatest concentration of practises and Urunga, the largest town in the Shire, has only one doctor.

The Shire has two dentists, a ratio to population of approximately 1:4,500. This is sufficient according to the standard of one practice per 2-5,000 people (Albury-Wodonga Development Corporation, quoted in Latona Masterman and Associates, Community Facilities and Services in Land

Commission Estates, 1981). The number and location of doctors and dentists, however, depends on private initiative rather than action by any level of government.

- \* Health Commission of NSW Services: The only significant complaint to have been received about these services within the Shire concerns the community nursing service, which apparently is currently unavailable to residents of the upper Bellinger and Kalang Valleys. Some concern has also been expressed by alternate lifestyle groups at the limited hours of availability of the baby health clinic, and the attitude of some nursing staff in the community to alternative lifestyle dwellers. Apart from this, the present ambulance, hospital and associated services are apparently satisfactory. Of the changes to hospitals proposed by the Health Commission, the most controversial is likely to be the removal of obstetric functions from the Dorrigo Hospital. The availability of obstetric facilities generally in the Shire has been the subject of some discussion. Given the propensity toward home births and natural births among the alternative lifestyle dwellers, it would certainly appear that the setting up of some midwifery service to cater for these desires in the Shire should be investigated. This could either be in the form of a travelling domiciliary mid-wife, or a birth centre, preferably associated with Bellinger hospital. The need for establishment of such a facility could be even greater if the Dorrigo Hospital proposal is implemented.

The other important change, the re-classification of some beds in both Bellinger and Dorrigo hospitals to geriatric purposes, is necessary because of the lack of a nursing home anywhere in the Shire. The standard adopted by Planning Workshop Pty Ltd recommends a ratio for nursing home beds of 1 per 59 people aged 65 or over. On this basis the Shire, with an over-65 population of 1,156 in 1981, would require about 20 nursing home beds. This might represent a high enough demand, particularly with future population growth, and the Shire's popularity as a retirement area in mind, to warrant the establishment of a private nursing home, but this would depend on the commercial initiative of the operator. To further ensure its feasibility, it may be worthwhile investigating the possibility of locating the afore-suggested 'birth centre' in such a 'nursing home' or 'private hospital'. Based on the standards adopted, 1 self-care aged person's unit per 225 population would also be required (a total of 39 units compared with the 54 already provided), plus 14 hostel or frail aged beds per 100 self-care units (a total of 5.5 beds needed, none provided). The latter will be provided in conjunction with nursing home beds by the reclassification of 40 hospital beds as proposed.

#### 6.6.5 Education

The existing schools in the Shire are satisfactory with regard to capacity of buildings and expansion space. Exceptions are Bellinger High School and St. Mary's School, Bellinger. Another problem that exists with regard to schools is the isolation of many country residents from schools, with children having to travel long distances by bus or sometimes multiple mode. This isolation has, for example, led to the establishment of the Kalang Community School by parents who wished to have closer contact with the school.

Although there is no institute of further education anywhere within the Shire, there is a variety of organisations providing part-time courses in a wide range of subjects and perhaps the main need of these organisations is to have additional space in which to conduct classes (see below under 'Community Halls and Meeting Places').

### 6.6.6 Leisure and Recreation

#### Active Recreation

The following table shows the provision of various forms of active recreation in the Shire, compared to prescriptions of planning standards and the number of facilities that would be required according to these standards. All standards used are from a report prepared by Planning Workshop Pty Ltd (Narellan Elderslie Infrastructure Assessment, 1981) except where otherwise shown.

Table 6.1: Standards for the Provision of Active Recreational Facilities in Bellingen Shire

Facility	Standard for Provision	Theoretical Requirements	Actual Number
Playing fields	1/1,500*	6	7
Tennis courts	1/1,500	6	Over 13
Squash courts	1/1,500	6	4
Netball courts	1/1,500	6	-
Bowling greens	1/15-30,000	-	5
Swimming pools (25m)	1/12,000	-	2

\* A combination of standards for playing fields and football/cricket ovals)

Thus, according to these standards, the Shire is well provided with sports facilities with the exception of squash courts and netball courts. The standards should not be assumed to provide an absolute guide to requirements since they are liable to be influenced by variations in sporting habits from one area to another, and many other factors. For a detailed assessment of the Shire's active recreation needs, it would be necessary to take local preferences into account. Nevertheless it would appear that demand is building for at least one oval to be provided in the rural valleys, particularly in the Thora area. There is also likely to be a demand for a wider range of facilities than included in these standards, for example, rifle ranges, skating, tenpin bowling and a BMX or motor-bike track. However, establishment of facilities like these depend on commercial operators.

#### Passive Recreation

The most accurate estimate of passive open space provision is a standard of area per 1,000 people. However, measurements of open space areas for the Shire are not available at the present time. Measurement of this provision would also be largely irrelevant because of:

- . the need to separate facilities for residents from those for tourists; and
- . the different recreational needs of people living at different densities - children living in high or medium density housing will need public outdoor play space, whereas at the other extreme, rural residents will have plenty of land of their own for the same purposes.

Regardless of actual performance standards, it would appear that some need exists for small passive recreational reserves in the Darkwood/Thora and Kalang Valleys to cater for day trippers. No particular needs have been identified in urban centres in this regard.

#### **Community Halls and Meeting Places**

Considering halls and meeting rooms regardless of size, the Shire currently has at least 8 in Bellingen, 7 in Dorrigo, 2 in Urunga, and 2 in the rural areas (Kalang and Gleniffer). This represents a total of 17, or one per 520 people. This appears a high level of provision when compared with the most generous planning standard of one hall per 3-3,500 people (MSJ Keys Young and Blacktown City Council, op. cit.). However, comments from some organisations suggest a continuing lack of space for meetings and, particularly, for classes in various subjects which require workshop facilities. Proposed alterations and extensions to the joint neighbourhood centre and library building may provide some additional space to partly satisfy this demand. It would appear that some community space would be valuable at Thora. This may be able to be jointly provided and built by multiple occupants and Council with the use of the developer contributions proposed in the section on multiple occupancy of rural lands.

#### **6.6.7 Services for Pre-School Children**

Provision of childcare is usually measured in terms of children aged four years or less per place available in childcare centres and, where relevant, Family Day Care schemes. According to the Council for Social Service of NSW report Scarce for Kids, in 1981, the Shire had 13.5 children per pre-school place. In terms of the ratio of children to places, Bellingen ranked 79th out of 163 local government areas in NSW. Using the latest data available, that is both the 1981 Census and conversations with pre-school staff, the ratio of children to places is 16.1:1. Were the Urunga Pre-School to be established according to present plans, the number of places available would rise from 44 to 61, and the ratio of children to places would consequently fall to 11.6:1. This would be acceptable compared to the accepted planning recommendation of 11 children per place usually adopted by Planning Workshop Pty Ltd. It is possible that the level of demand would be lower in Bellingen Shire, with fewer working mothers, as female workforce participation rates are lower than for NSW as a whole.

The above paragraph refers to childcare places irrespective of the type of care which is provided. The Dorrigo and Bellingen Pre-Schools provide only one type of kindergarten session. Types which are not provided, and for which there is probably some need, include care for 0-2 year olds, occasional/emergency care, and long or full day care. These services could be provided in existing centres using increased operating hours, and possibly requiring increased funding. However this would continue to deny such services to rural areas in which there is an increasing number of children in this age group. The level of provision required (i.e. number of places available) thus needs to be determined according to local needs rather than the requirements of planning standards. A particular area of growing need would appear to be the Darkwood/Thora Valley. It should be ensured that any public hall built is sufficient to meet the requirements of YACS in relation to the licensing and funding of child-care centres.

In addition, a family day care programme, whereby children are minded by mothers in private households, would provide a means of supplementing child-care available in pre-schools or other centres, and needs to be extended to both urban and rural areas. Availability would depend on the number of people willing to act as minders but this could be encouraged by publicity given to the programme.

### **6.6.8 Facilities and Services for Adolescents**

The specific needs of this age group are mainly for various forms of recreation. Traditional active sports are well provided for, as discussed above, except in the rural valleys, where no provision exists.

Social organisations for adolescents fall into structured and unstructured activities. The former are represented by scouts, guides and associated groups present in the three principal towns; these groups are well established and have some minor needs with regard to improved facilities. Less organised groups are represented only by the Bellingen Youth Club, which needs premises of its own. Considering the difficulty of movement within the Shire, accentuated by a lack of public transport, formation of similar youth clubs in Dorrigo and Urunga would represent a considerable improvement to the present opportunities for young people in these towns.

### **6.6.9 Organisations and Services for Adults**

The variety or otherwise of these organisations will depend mainly on the initiative of interested people rather than any administrative actions. However, the size and strength of organisations may depend on the number of potential members who can find out what they may join, and thus a good community information service is an important requirement. The fact that the scope of organisations existing outside of the town of Bellingen cannot yet be determined, reflects the need for such an information service to cover the whole Shire.

In general, however, the Shire has a wide variety of organisations in view of the relatively small and dispersed population, reflecting the initiative and activity of residents. There are some gaps such as the lack of any performing arts group in Bellingen town at the present time. Apart from an information service, the most useful way in which such organisations may be encouraged by Council is the provision of suitable meeting places as outlined above.

### **6.6.10 Facilities and Services for Elderly People**

The present Meals on Wheels and Home Help services for old people appear to be operating satisfactorily and can serve all people who need help. There are also social organisations available for old people. The standard adopted in the Shellharbour Community Facilities Study undertaken in 1982 by Planning Workshop Pty Ltd for the Land Commission of NSW and other agencies, suggests a need for a permanent Senior Citizens' Club to serve a population of 8-10,000. The establishment of a club in Bellingen should consequently be considered.

7. THE ROLE OF TOURISM IN BELLINGEN SHIRE

7.1 Regional Overview - Tourism in the North Coast Region

The North Coast Region possesses the scenic and climatic attributes which make it one of the principal tourist areas in the State.

In the year 1980-1981, some three million visits were made within the North Coast Region of NSW, generating 12.12 million visitor nights at an average length of 4.06 nights per visit. Although the number of visits increased by 11.8 per cent from the 1979-1980 figure (2.7 million visits), the average length of stay decreased by about 15 per cent. This reflects the overall trend in NSW in 1980-1981, where the average length of stay decreased by 6.6 per cent. However, apart from in the Far West Region, visits to the North Coast had the longest average length of stay in NSW in 1980-1981.

The North Coast Region as a main destination for holiday trips has been increasing by about 10 per cent per annum since 1978. Figures from the Department of Leisure, Sport and Tourism, indicate that the Holiday Coast Region (which extends from Tweed Heads to Port Macquarje and west beyond Armidale) rates as the most popular holiday region after Sydney.<sup>1</sup>

The following tables present available information for the Department of Leisure, Sport and Tourism's Region 12 of the Domestic Tourism Monitor. Region 12 coincides with the Clarence Statistical Subdivision used by the Australian Bureau of Statistics.

Table 7.1: Region 12 Tourism Data - June 1980 to July 1981

	Visitor Nights %	Visits %
<u>Main Purpose of Visit</u>		
Pleasure/holiday	65.8	55.2
Visiting friends	17.2	17.7
Private reasons	3.5	4.1
Conference, seminar	1.3	2.5
Other business	9.0	16.3
Working holiday	2.2	2.1
Education/School Excursion	1.0	1.9
Other	-	-
No answer	0.2	0.2

1. M. Cleary, Minister for Leisure, Sport and Tourism, quoted in 'More Funds for Tourism', NSW North Coast 1982 Supplement to Financial Review, September 6th, 1982.

Table 7.1: Region 12 Tourism Data - June 1980 to July 1981 (cont'd)

	Visitor Nights %	Visits %
<u>Accommodation Used</u>		
Friends/Relatives	31.2	27.5
Hotel/Motel	17.9	33.8
Private Hotel/Guest House	1.8	3.0
Rented Flat or House	10.7	5.7
Own Holiday House or Flat	5.7	4.3
Cabin in Caravan Park	2.1	1.7
On-site van	3.3	4.7
Other, in Camping Ground	19.2	11.7
Other, not in Camping Ground	6.0	5.5
Farm	0.4	0.3
Other	1.5	1.4
No answer	0.1	0.2
<u>Origin of Visitors</u>		
Sydney		37.6
ACT		1.0
NSW Country		33.2
Melbourne		5.6
Victoria, country		2.4
Brisbane		12.6
Queensland Country		6.6
<u>Mode of Transport</u>		
Air		5.3
Bus/Coach		2.6
Private Vehicle		84.7
Rented Vehicle		-
Train		7.2
Sea		0.2
<u>Seasonality of Visits</u>		
January		16.3
February		7.1
March		11.1
April		7.2
May		10.8
June		5.0
July		6.0
August		6.4
September		8.7
October		6.0
November		8.5
December		7.0

From the above data, it is evident that 879,000 visits were made to the Region between June 1980 and July 1981 (an increase of 16.2 per cent from the year 1979-1980), generating 3,689,000 visitor nights requiring accommodation (a decrease of 0.5 per cent from the previous year).

The table shows that the main purpose of the visits to the region is for pleasure/holiday reasons followed by visiting friends or relatives and 'other business'. Hotels and motels and friends and relatives were the main sources of accommodation used.

The majority of visitors to the region came from Sydney or elsewhere in NSW. The only other significant area of origin was Brisbane. The vast majority of visits to the region were by private car. The table also shows the marked seasonality of visitor patterns to the region, January being the peak month, followed by March and May.

## 7.2 Tourism in Bellingen Shire

### 7.2.1 Introduction

Unfortunately the magnitude and effect of tourism is less discernible on a Shire basis than at the regional level, as most tourism data and research tends to be collected on a regional basis.

However, this section examines the role of tourism in Bellingen Shire as indicated by the following available sources:

- \* a telephone survey of tourist accommodation in Bellingen Shire;
- \* a compilation of sightseeing and recreational attractions in the Shire;
- \* Australian Bureau of Statistics, Survey of Tourist Accommodation Establishments: Hotels, Motels, Guest Houses and Caravan Parks with Facilities in Local Government Areas of NSW;
- \* NSW Department of Leisure, Sport and Tourism, Domestic Tourism Monitor.

This section also compares tourism trends in Bellingen Shire with the Mid-North Coast as a whole, as the Shire is inextricably linked with this sub-region in terms of the marketing and promotion of tourism and the destination of holiday trips.

In terms of the Mid North Coast Statistical Division (SD), Bellingen Shire's population constitutes 5.1 per cent of the SD's population and 6.1 per cent of the total area of the SD.

### 7.2.2 Tourist Facilities

#### Telephone Survey of Existing Tourist Accommodation

A telephone survey of motels, hotels, caravan parks and holiday flats was undertaken in August, 1982. The results are presented in Tables 7.2, 7.3, 7.4 and 7.5. The results of the survey are discussed in Section 7.2.3.

Table 7.2: Survey of Motel and Hotel Accommodation

Name	Location	No. Rooms	No. Bed Spaces/ Person Capacity	Permanent Residents	Occupancy Rates
Bellinger Valley Motor Inn	Bellingen	20	45 beds	0 14 Telecom staying in August	Booked out in summer holidays. Approx. 60% occ. rate out of holiday periods.
Federal Hotel	Bellingen	14	23 beds	2	Fairly low level throughout year.
Commercial Hotel and Plateau Motel	Dorrigo	Hotel - 9 Motel - 12	16 people 26 people	2 in hotel	Motel usually fully booked in summer holidays. Hotel usually has spare capacity throughout year.
Dorrigo Hotel/ Motel	Dorrigo	Hotel - 24 Motel - 6	Unavailable 13 beds		Hotel usually not fully occupied through- out year. Motel busy August to May.
Urunga Motel	Urunga	8	17 beds	0	December-January = 100% Quiet in winter.
Beautizone Motel	Urunga	8	21 beds	0	Yearly average = 50% Full in holidays. 40-50% in winter.
Westella Motel	Urunga	11	7 doubles 16 singles = 30 bed spaces	0	Unavailable
Mountain View Motel	Urunga				
Brigaloo Park	Urunga	8	26 people	0	Unavailable

Table 7.3: Caravan Park Accommodation in Bellingen

Name	Location	Powered Sites	Unpowered Sites	Overnight Vans	Permanent Residents	Occupancy Rates
Brigalow	Urunga	80	60	13	6-7 vans	Unavailable
Gundamain	Urunga	106	39	11	22 vans	Unavailable
Morgo Street	Urunga	102	45	4	31 vans	Full in summer holidays. Have noticed increase in off-season this year.
Urunga Waters	Urunga	56	60	12 (4 available for tourists in winter)	28 (20 in own vans, 8 in on-site vans)	Unavailable
North Beach	Mylestom	92	25 + 1 acre for camping	6	20 vans	30% average off-peak. Fully booked, December to January.
Vanland	Urunga	24	0	12 cabins	12 vans 4 cabins	Christmas-January = 95-100% Other holidays = 90% Off-peak = 65%
Repton Gardens	Repton	85	20	14	14 vans	Christmas & May holidays = 100% Other times to June = 35% Other = 60%
Cedars	Bellingen	30	12	5	20 vans	Christmas holidays = 100% Other holidays = 75% Other = 60%
Dorrigo	Dorrigo (Showground)	40	10	0	17 vans	Unavailable (Council has taken over park on a month's trial)

Table 7.4: Holiday Flat Accommodation in Bellingen

Name	Location	No. Units	No. Bed Spaces/ Person Capacity	Permanent Residents	Occupancy Rates
Blue Ribbon	Urunga	2	8-14		
Paringa Flats	Urunga	3	20 people	0	Christmas holidays - booked out Winter = 70-80% Late October to December is quietest period
Summa Breeze	Urunga	5	25 bed spaces	0	Always booked out in school holidays 80% occupied this winter
Twin River	Urunga	3	11 people	0	Fully booked in Christmas Holidays Other times = 80-90%
*Grevillia	Mylestom	3	12-15 people		Only available to tourists in Christmas holidays when it is usually fully booked. Not likely to be available 1982-83 holidays.
**Hungry Head Cabins	Hungry Head	4	24	0	See separate table

\* Owners are trying to wind down tourist accommodation and get permanent tenants.

\*\* Owned by Council

Table 7.5: Hungry Head Cabins Occupancy Rates 1981 and 1982

Month	1981 %	1982 %
January	94	75
February	12.5	25
March	6	69
April	19	81
May	69	81
June	29	81
July	31	100
August	31	100
September	69	100
October	25	100
November	25	50
December	44	100

1. The cabins were advertised for the first time in 1981-82 NRMA Accommodation Directory.
2. The occupancy rates are based on the number of weeks occupied out of a possible total of 16 weeks per month for all cabins.

### 7.2.3 Trends in Tourist Accommodation in Bellingen Shire

From the telephone survey of tourist accommodation, it is clear that tourism activity in Bellingen Shire is focussed on the coastal towns near the Pacific Highway and in particular, Urunga, where 56 per cent of all tourist establishments in the Shire are located. Urunga also has the greatest number of caravan parks of any town in the Shire. The town of Bellingen has only one motel, one hotel and one caravan park.

Unfortunately, Australian Bureau of Statistics data on tourist accommodation in the Shire as a whole does not reflect the spatial distribution of that accommodation and the significant differences in occupancy rates and level of use between coastal and inland towns.

Tables 7.6 and 7.7 present the data available from the Australian Bureau of Statistics Survey of Tourist Accommodation Establishments for Bellingen Shire, between the September Quarter 1979 and March Quarter 1982, in the case of motels and hotels, and between the September Quarter 1977 and March Quarter 1982 in the case of caravan parks. No such data is available for self-contained holiday flats and units.

#### Motels and Hotels

Although 10 motels and hotels were surveyed by telephone, only seven have been classified by the Australian Bureau of Statistics as operational tourism establishments with facilities.

Increases in takings from caravan parks occurred in all the above Shires between the March Quarters of 1981 and 1982. Bellingen had the biggest percentage increase in takings, after Maclean and Kempsey Shires. However, the Shire's takings from accommodation in caravan parks would represent only a very small percentage (about 1.5 per cent) of the takings from caravan parks in the region as a whole.

### **Holiday Flats and Units**

The Australian Bureau of Statistics does not undertake a survey of holiday flats and units. However, a telephone survey was undertaken for all holiday flats and units listed in the NRMA Holiday Flats and Units Directory, 1982. There are six such establishments in the Shire, all located on the coast, comprising 20 self-contained units. Of these six establishments, one is unlikely to be available to tourists in the 1982-83 holiday season. All proprietors said that they were fully booked over Christmas and January and nearly always full in other school holiday periods. The quietest period is late October to early December.

Table 7.5 shows accurate occupancy rates for the Council-owned Hungry Head Cabins and indicates that in 1982, high occupancy rates have been achieved in all months except February.

### **7.2.4 Sightseeing and Recreational Attractions in Bellingen Shire**

The following list comprises the main sightseeing and recreational attractions located in Bellingen Shire.

#### **Bellingen**

- \* Foreshore of Bellinger River and the town itself. There are various places in the town which are attractive luncheon/picnic sites, most important of which is the river foreshore.
- \* Island Reserve, North Bellingen: picnic area, adjacent to Bellinger River.
- \* Marx Hill Lookout: 3 kilometres east of Bellingen; picnic area and barbeque facilities.
- \* Bellingen Rotary Lookout: 1.6 kilometres south along Bowraville Road; picnic shelter and barbeque facilities.
- \* Rural picnic areas, for example at Darkwood and Gleniffer.

#### **Dorrigo Plateau**

- \* Griffiths and Francis Lookouts: 4 kilometres east of Dorrigo along Mountain Road and Maynards Plain Road.
- \* Dangar Falls: 2 kilometres north of Dorrigo on the Bielsdown River; picnic and barbeque facilities available.
- \* Dorrigo Park; fernery, picnic facilities, waterfall.
- \* Historical Society Museum.
- \* Lions Park: top of Dorrigo Mountain; picnic and barbeque facilities.

- \* Leo Club, Bielsdown Park; on the Bielsdown River; picnic and barbeque facilities.
- \* White water canoeing and trout fishing (seasonal).

**Urunga/Mylestom/Repton**

- \* Lions Park; Bellingen Road on river bank; picnic and barbeque facilities.
- \* Morgo Street Reserve: opposite Urunga Police Station; picnic and barbeque facilities.
- \* Hungry Head Beach: 2 kilometres south of Urunga, picnic and barbeque facilities, surfing.
- \* North Beach: Mylestom, adjacent to Bellinger River; picnic facilities, surfing.
- \* Historical Society Museum, Urunga.
- \* Sea Lido, Urunga.
- \* Bellinger Valley Sporting Centre, Mylestom Drive, Repton; grass-skiing, half court tennis, water slide.

**Arts/Crafts Shops**

- \* Dorrigo Pottery, North Dorrigo.
- \* Art Craft Copper, Raleigh.
- \* Dorrigo Gift Store, Dorrigo.
- \* The Fernbrook Centre, Dorrigo.
- \* Dorrigo Crafts and Plants.
- \* Bellingen Crafts.

**Heritage Features**

- \* Hammond and Wheatley, Bellingen.
- \* Various other buildings within the town which are to be the subject of a separate section.

**Dorrigo National Park**

The park has an area of about 3,600 hectares and is situated about 4 kilometres east of Dorrigo on the Dorrigo/Bellingen Road (TR 76). Entrance to the park can be gained by either Lyrebird Lane, which links TR 76 with Dome Road, or Dome Road itself.

The park forms a rugged amphitheatre, being the source of numerous streams in the catchment area of the Rosewood River. The combination of fertile soil, heavy rainfall and changing altitude has produced a wilderness with a rich variety of plant (mainly sub-tropical and wet sclerophyll rainforest) and animal life, particularly birds.

There is a Visitor Centre located at the main entrance to the park. There are two 'day use' areas within the park, namely The Glade and The Never Never Picnic Area, with at least one further major extension area planned.

The Glade is an open grassed area of about 0.2 hectares, situated within the sub-tropical rainforest of the basalt cap, the geological formation which has resulted in the most luxuriant and valuable vegetation. It provides the following facilities:

- \* 7 barbeques;
- \* 7 tables;
- \* amenities block containing shelter shed and toilets;
- \* a parking area for approximately 40 vehicles;
- \* the Wonga Walk - a track circuit of 5.6 kilometres to the Crystal Shower and Tristania Falls.

The Never Never Picnic Area is an open grassed area of about 0.6 hectares, surrounded by warm temperate rainforest, located in the north-eastern section of the park at the end of Dome Road. The following facilities are provided:

- \* 5 barbeques;
- \* 9 tables;
- \* a shelter shed and toilets;
- \* a parking area with a capacity for 40 cars;
- \* an extensive walking track system of about 13 kilometres in length focussed on the Picnic Area.

There is also a picnic shelter and roadside rest area at Newell falls on Dorrigo Mountain.

Recreational use of the park has escalated from 4,500 in 1966/67 to 80,000 in 1979/80. This rapid increase in usage has necessitated the closure of the Glade to camping and the relocation of parking outside the Glade itself.

Dorrigo National Park is currently administered by the Armidale District Office of the NSW National Parks and Wildlife Service. Staff at present consist of one permanent Park Ranger and two temporary park workers.

### **New England National Park**

The northern half of New England National Park is located within the south-western corner of Bellingen Shire. The Park covers an area of 22,980 hectares, and consists of an escarpment rising some 1,460 metres from the lowlands of the Bellinger River to the Plateau, over 1,600 metres above sea level. National Parks in the Bellingen Shire presently comprise 11.2 per cent of the total Shire area. The New England National Park, by reason of its relatively poor accessibility, is not as popular with tourists as the Dorrigo National Park and receives only half the number of visitors. The principal tourist attraction in the Park is Point Lookout, which provides a majestic view of the entire Bellinger Valley. There is a shelter, providing information on the Park, in the small car park associated with Point

Lookout. The Park is very popular with bushwalkers who are able to take advantage of the extensive tracts of wilderness within its boundaries. The altitudinal and climatic ranges within the New England National Park are greater than those of the Dorrigo Park.

### State Forests

A significant proportion of land use in Bellingen Shire is State Forest (35.5 per cent of land in the Shire), administered by the Forestry Commission of NSW. The following State Forests are located wholly or partly in the Shire:

- \* Wild Cattle Creek;
- \* Bielsdown;
- \* Killungoodie;
- \* Tuckers Knob;
- \* Bellinger River;
- \* Oakes;
- \* Diehappy;
- \* Roses Creek;
- \* Scotchman;
- \* Irishman;
- \* Gladstone;
- \* Newry;
- \* Pine Creek.

Much of the State Forest land is rugged terrain with limited accessibility. As a result, very few areas have been developed for tourists.

The Moonpar Forest Drive is the only tourist-oriented use of State Forests in the Shire which is promoted by the Forestry Commission. It is a 70 kilometre round trip from Dorrigo, passing through Moonpar State Forest in Nymboida Shire and Wild Cattle Creek State Forest in Bellingen Shire. The Mobong Picnic Area is located in Bellingen Shire, about 2 kilometres north-west of Cascade on Moses Rock Road and has fireplaces and a small swimming area on Mobong Creek. It is situated in a small area of rainforest, where there is an unusual occurrence of Antarctic Beech and Hoop Pine.

The historic villages of Cascade and Briggsvale are also located within Wild Cattle Creek State Forest. These villages sprang up around the sawmills which flourished around the turn of the century.

There are other scenic roads through State Forests accessible to cars, such as Horseshoe Road in the south of the Shire. However, most of the lookouts and hilltops in the State Forests are only accessible by four wheel drive.

On the coast, the drive from Repton along Bundagen Road, through Pine Creek State Forest, to Tuckers Rocks, is apparently quite popular.

### 7.2.5 Coach Tours/Bus Services

The following coach tours visit Bellingen Shire:

- \* North Coast Tours - Tour No. 6: Bellinger Valley - Dorrigo Plateau and National Park, departs Fridays 9 am.

"For those who enjoy spectacular scenery, this tour takes us through the unsurpassed beauty of the Bellinger Valley to the township of Bellingen for morning tea. After exploring this charming town with its quaint old shopfronts and tree lined streets, we travel further west and climb the Dorrigo Mountain road, stopping en route at the Newell Falls. We then top the range and visit the Dorrigo National Park and Griffiths Lookout prior to lunch at Dorrigo. After lunch, tour continues over the scenic plateau countryside visiting Dangar Falls, thence North Dorrigo village prior to a stop at Turkinje Park Sheep Stud where afternoon tea is available. From here it is a most relaxing journey back to Coffs Harbour, arriving at approx. 5.00 pm."

- \* Ansett Pioneer - Tour No. PT483: Five Day North Coast and Tablelands Tour (30th August, 1982)

Day 2: "Depart Tamworth this morning for the journey to Coffs Harbour via Armidale and Dorrigo. Leaving the New England Tablelands area some excellent scenery will be seen as the road climbs and descends through the Great Dividing Ranges, pausing at Dorrigo for a luncheon stop (own expense). After lunch the coach will descend the Dorrigo Mountains to the Bellinger River and Valley to rejoin the Pacific Highway and coastline to Coffs Harbour.

OVERNIGHT: COFFS HARBOUR"

- \* State Rail Authority of NSW: operates a 6 day combined rail and coach tour which visits Dorrigo National Park on the last day.

Local Bus Services are:

- \* Joyce's Bus Service, Urunga: Urunga to Bellingen and return - operates twice daily.
- \* Raleigh-Dorrigo Bus Service: operates twice daily and Saturday morning.

In addition, a local company known as Bushland Tours operates a one-day excursion within the Shire for the purposes of kayaking down the Bellinger River from Thora.

### 7.2.6 Tourist Visitation

There is no breakdown of tourism data available from the Domestic Tourism Monitor on a Shire basis. In order to obtain an estimate of the number of tourists or tourist visits to the Shire, 1980-1981 tourism data for Region 12 of the Domestic Tourism Monitor has been broken down, using the methodology developed by the Department of Geography, University of New England in their study of The Dorrigo Steam Railway and Museum: Tourist Potential, Marketing and Management.

Region 12 corresponds to the Clarence Statistical Subdivision used by the Australian Bureau of Statistics. In the year July 1980 to June 1981, a total of 879,000 visits and 3,689 visitor nights occurred in Region 12. This total was disaggregated by Shire (Grafton City, Ulmarra, Coffs Harbour, Bellingen, Nambucca, Maclean, Copmanhurst, Nymboida Shires) and by the type of accommodation used (camping and mobile vans, on-site vans and cabins, flats and motels, and friends and relatives).

In order to obtain the number of visits staying with friends and relatives, it was assumed that visitors would stay with friends and relatives in proportion to the population in each Shire in the Region. Accordingly, the 1981 Census results were

used to obtain the proportion of the Region's population in each constituent Shire, from which the number of tourists staying with friends and relatives could be derived. Visits staying in mobile vans or tents were distributed according to the number of camp sites available in each area, while tourists staying in on-site vans or cabins were distributed in the same proportion of on-site vans.

Accommodation data for Bellingen Shire was obtained from the telephone survey. For all other Shires, the NRMA Accommodation and Caravan/Camping Directories were used. Table 7.10 shows the estimated distribution of each type of accommodation between Shires in Region 12. Before applying these proportions to each Shire in order to estimate the number of visits, it was necessary to adjust the Domestic Tourism Monitor figures.

Those staying on farms, and those staying in their own holiday flat or house were included with the friends and relatives category, as someone at each location would be likely to feel familiar with the area. Tents not in camping grounds were combined with tents in camping grounds. Those staying in a private hotel or guest house and in a rented flat or house were combined with those staying in a hotel or motel.

This information yielded the top line of Table 7.11. The remainder of the table was calculated using the proportions given in Table 7.10.

Using this methodology outlined above, it is estimated that Bellingen Shire had about 82,000 tourist visits in the year July 1980 to June 1981, which constitutes 9.4 per cent of visits to Region 12.

Table 7.10: Available Accommodation by Area

Area	Estimated Resident Population 1981		Camp Sites		Cabins/ On-Site Vans		Hotels/ Motels	
	No.	%	No.	%	No.	%	No.	%
Grafton and								
Ulmarra	21,050	23.3	734	8.7	89	11.7	344	22.4
Coffs Harbour	34,200	37.9	4,116	48.7	326	42.7	755	49.2
Bellingen	9,050	10.0	886	10.5	77	10.1	128	8.3
Nambucca	11,400	12.6	1,532	18.1	187	24.5	205	13.4
Maclean	9,550	10.6	1,177	13.9	84	11.0	103	6.7
Copmanhurst	2,950	3.3	-	-	-	-	-	-
Nymboida	2,050	2.3	-	-	-	-	-	-
TOTAL	90,250		8,445		763		1,535	

The survey undertaken by the Department of Geography, University of New England, for the Dorrigo Steam Railway and Museum Study sought information on present holidaymaker activity in the Mid-North Coast Region, as well as attitudes to the proposed railway and museum. Some of the survey results are useful in analysing the characteristics of tourism and tourists in Bellingen Shire.

The survey was conducted in the last two weeks of January 1981 and the first two weeks of February 1981. Five hundred and ninety eight people were interviewed, with samples divided evenly between the Coffs Harbour, Bellingen and Nambucca Shires and the five accommodation types surveyed - tents, mobile vans, on-site vans, flats and motels, and relatives and friends. Within Bellingen Shire, which constitutes the Central Zone of the survey, interviews took place in Bellingen and in the coastal towns.

The survey found that respondents in the Central zone took a mean number of 1.83 day trips per visit. Day-long trips were the most popular, followed by morning, evening and afternoon trips. Of the 432 day trips about which information was provided, 47 were made to Dorrigo (10.9 per cent). Unfortunately information is not provided which permits ascertainment of the numbers of trips made to Bellingen.

The survey also enquired about the reasons for the trips being made. The most popular purposes were shopping and browsing (17.5 per cent of all trips taken), and visiting a place and exploring (15.2 per cent).

Beach activities was the next most popular response (14.9 per cent). The relative importance of shopping and browsing as a reason for making day trips is important in relation to the potential for Bellingen township to capture the tourist dollar by promoting and improving the attraction of its retail centre.

In terms of specific attractions, the survey found that Dorrigo National Park was the reason for 2.9 per cent of the trips mentioned by respondents and 2.5 per cent of the reasons. In comparison with specific attractions mentioned in the region as a whole, only the Big Banana and Aquajet at Coffs Harbour attracted more trips.

Table 7.11: Estimated Number of Tourist Visits 1980-1981 in Region 12

LGA	Friends and Relatives	Tents & Mobile Vans	On-site Vans & Cabins	Flats & Motels	Total
Region 12	286,554	155,583	59,772	377,091	879,000
Grafton and Ullmarra	63,902	13,536	6,993	84,468	168,899
Coffs Harbour	108,604	75,769	25,523	185,528	395,424
Nambucca	36,106	28,161	10,819	50,500	125,616
Maclean	30,375	21,626	8,308	25,265	85,574
<b>Bellingen</b>	<b>28,655</b>	<b>16,336</b>	<b>6,037</b>	<b>31,299</b>	<b>82,327</b>

### 7.3 The Economic Importance of Tourism to Bellingen Shire and Bellingen Township

From the analysis so far, it is clear that Bellingen Shire plays only a minor, but increasingly important role in tourism on the Mid-North Coast. The neighbouring Shire of Coffs Harbour is the focus of tourism on the Mid-North Coast, in terms of tourist accommodation, facilities, attractions and particularly, promotion. Most organised tours to the area make Coffs Harbour their accommodation base. Noticeably, none of the tours listed which visit Bellingen Shire stay overnight within the Shire.

It is worth attempting to derive some measure of the present economic contribution of tourism to the Shire. This is usually done by estimating the economic multiplier of tourism expenditure. However, this technique is inapplicable according to current research, at a smaller research scale than the region as a whole. A surrogate measure is the derivation of employment created by tourism. However, it is even difficult to determine employment directly created by tourism on this scale owing to lack of clarity and concept in the definition of tourism and in the unsympathetic classification of Census data. It is difficult to estimate employment effects on a regional basis, let alone at a Shire or town level. Other figures which could directly indicate the importance of tourism to the Shire are also not available on the scale required.

Consideration is consequently reduced to the use of indirect measures such as gross takings from accommodation establishments and employment in tourist related industries.

Gross takings from accommodation have already been examined in Section 10.2.3. The figures indicate that Bellingen Shire has only a small share of takings from accommodation in the region.

The other indirect measure of the importance of tourism to the Shire's economy is the number of people in the Shire employed in the ABS Australian Standard Industrial Classification category 'Entertainment, Recreation, Hotels, Restaurants and Clubs'. This category would include both employment directly supported by tourism and employment supported by the local resident population (as much as 50 per cent).

At the 1971 Census, employment in Bellingen Shire in this category was 115 people, constituting 4.8 per cent of the Shire's labour force. In comparison, 5.4 per cent of the NSW labour force was in this category.

At the 1976 Census, the Shire's employment in this category had increased by 21 persons to form 5.3 per cent of the Shire's labour force. In comparison, 9.9 per cent of neighbouring Coffs Harbour Shire's labour force is employed in this category, indicating a much more important role for tourism in the local economy. The relative employment in this category in NSW in 1976 was relatively constant at 5.4 per cent of the State Labour force. It is therefore evident that, in the past, tourism has only played a relatively minor role in the local economy of Bellingen Shire, although available data does not permit any more accurate an assessment of the actual monetary contribution of tourism to the Shire to be made.

If quantitative data is difficult to disaggregate on a Shire basis, it is impossible on a town scale.

The only quantifiable data which can be derived is the fact that of the 136 people employed in Entertainment, Recreation, Hotels, Restaurants and Clubs in Bellingen Shire in 1976, 19.8 per cent resided in Bellingen, 26.5 per cent in Dorrigo and

33.1 per cent in Urunga. These people represented only 5.6 per cent of the labour force in Bellingen township, 7.4 per cent of those in Dorrigo and 9.8 per cent of those in Urunga. These figures only serve to reflect the concentration of tourist accommodation and activity in the coastal section of the Shire, and the low economic contribution of tourism to the inland towns, especially Bellingen. Some understatement in these figures may occur in relation to Bellingen. It is apparent that the main role of tourism in Bellingen is a retail one. As the town has only one motel, one hotel and one caravan park, its role in tourist accommodation is limited. In any case, the demand for tourist accommodation is strongest along the Pacific Highway and along the coast.

The coastal towns of Urunga, Mylestom and Repton are undoubtedly the focus of tourist activity in the Shire. Accommodation in these towns falls into three main types:

- \* Motels which cater for mainly overnight 'stopover tourism' by travellers along the Pacific Highway.
- \* Holiday flats and units which cater mainly for 'destination tourism' comprising stays of one week and more.
- \* Caravan Parks which cater for both stopover and destination-type visits.

While there is certainly some significant component of destination tourism in these coastal areas, it would appear that the accommodation base and activity is oriented quite heavily to stopover tourism. The significance of this orientation lies in the fact that stopover tourists are likely to spend money only on their basic accommodation costs. Destination tourists are more likely to make other expenditures in the Shire as well.

The towns of Bellingen and Dorrigo play a comparatively minor role in tourism in the Shire. This was the finding of Day (1982)<sup>1</sup>, whose survey indicated at least in relation to Dorrigo, that day-tripping is and would be the main type of visit, mainly from coastal towns and resorts, with a very small component diverted from the New England Highway. At present, most holidaymaker excursions are for general sightseeing rather than to visit specific attractions. In terms of either kind of tourist activity, they are the focus of sightseeing/day trip tourism and scenic drives, mainly for tourists staying elsewhere in the Shire or the region. The fact that destination tourism is not a particularly large proportion of the coast's total tourism base indicates that a large proportion of these tourists may in fact derive from outside the Shire.

These day-tripper tourists also consequently will make little capital input to the Shire. They may stop to buy food or petrol, or to buy a souvenir, but will make no other significant expenditure. Further, Dorrigo and New England National Parks are amongst the major specific attractions of the area for which visits are made. Entry to these is free; there is no expenditure associated with them in terms of food, souvenirs etc. to feed back into the Shire; and they even provide accommodation at very minimal cost.

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1. R. Day et al., The Dorrigo Steam Railway and Museum: Tourist Potential, Marketing and Management, UNE, 1982.

The contribution of tourism to either Shire or town is consequently not great in economic terms. It could even be said that there are costs associated with tourism to some towns, (e.g. additional road maintenance costs, the costs of annoyance and inconvenience to residents) which may not always be adequately covered by the economic contribution made by these tourists.

Certainly in general terms tourism makes some monetary contribution to the economy of the Shire in coastal areas. Discussions with proprietors of tourist establishments in the Shire indicate that fuel price increases and shortages have tended to influence tourists heading for the North Coast to stop in the Shire rather than going further north. To a certain extent, Bellingen Shire also benefits from the attraction and proximity of Coffs Harbour.

However, it would appear that while the inland towns of Bellingen and Dorrigo have quite significant numbers of tourists passing through them, tourism makes little economic contribution to these towns. This is not only because major attractions are natural ones and therefore unable to be tapped economically; it is also due to a lack of development of other subsidiary attractions which could potentially attract tourist expenditure. It also appears that there may be a lack of concerted marketing or promotion of the Shire, a possibility which will be further investigated.

From the above it would appear that the future of tourism in Bellingen Shire will depend on the following factors:

- \* new or extended attractions and facilities;
- \* promotion and marketing on a town, Shire and regional level;
- \* the pattern of tourism in the region and NSW as a whole, as influenced by such factors as increased leisure time, fuel costs and shortages, aging population, etc.

### **7.3.1 Proposed Tourist Attractions and Facilities**

#### **The Dorrigo Steam Railway and Museum**

The Dorrigo-Glenreagh Branch Railway was approved in 1910 and constructed between 1914 and 1924. The route is 69 kilometres in length and was originally envisaged as part of a through link from the New England Tablelands to the North Coast. However, passenger services ceased in 1962 and in 1972 the line was closed due to severe maintenance difficulties, resulting from the sharp curves, steep gradients and frequent washouts.

The Hunter Valley Steam Railway and Museum, along with the Geography Department of the University of New England have had a long term interest in the tourist potential of the railway line. In 1980, terms of reference were agreed for a study of the tourist potential, marketing and management of the railway and museum, which was eventually published in June, 1982.

The primary aim of the proposal is to establish a substantial static display Museum for the Hunter Valley Steam Railway and Museum's collection (currently housed at Rhondda Colliery in the lower Hunter Valley), in conjunction with the running of preserved rolling stock and steam locomotives.

The railway line will be leased from the State Rail Authority for a nominal rent.

In 1979, 1.4 hectares of crown land adjacent to Dorrigo railway station was purchased for the museum by the Hunter Valley Steam Railway and Museum. A more substantial area will, however, be required to house the growing museum collection.

A holiday makers' survey was undertaken in order to obtain information on present holidaymaker activity as well as attitudes to the proposed railway and museum. The sample was selected from holidaymakers utilising a representative range of accommodation types and locations between Woolgoolga and Nambucca, in 1981. In January (peak season), and February ('shoulder' season) 598 responses were obtained.

Results were converted into absolute numbers of holidaymakers likely to visit the railway and museum, by multiplying sample percentages by the estimated total number of holidaymakers visiting the sample area.

This suggested a maximum of 316,000 visitors to the railway and museum complex annually. This is obviously an over-optimistic figure as people almost invariably anticipate that they will do much more than they actually achieve. When only people already visiting Dorrigo and stating a preference to visit the attraction were considered, the figure fell to 54,000.

The study concluded that the proposal has a potential market of about 350,000 visitors per annum and that, with modest promotion, 100,000 visitors per annum represents a conservative estimate of patronage for the first few years.

The study recommended that in the short-term, passenger trains should be introduced in the 1984-1985 summer season between Dorrigo and Megan (13.3 kilometres) as steam train rides represent the primary attraction needed to draw revenue earning visitors to the complex. Extension of services from Megan to Lowanna and beyond has low priority.

The study concluded that the proposal would have little absolute effect on regional tourism as expenditure resulting from visits to the proposal would be a diversion of existing sales rather than overall growth in the income generated by regional tourism. Tourists will tend to favour existing patterns of accommodation, with the possibility of the potential for some slight increased tourist accommodation being provided in Dorrigo.

### 7.3.2 Extensions to National Parks

Various extensions to National Parkland have been mooted over time by a varying range of individuals and organisations. These proposals are discussed further in Section 4.9, National Parks, State Forests, etc.

However, it is appropriate to note at the present time that, most significantly, a State Government policy decision has recently been pronounced to extend both National Parks in a north-easterly direction. The result of this will be to almost link the two parks whilst also shifting the Dorrigo Park boundary considerably closer to the Coffs Harbour area. The extension will undoubtedly add substantially to the value and popularity of National Parks in this region as a tourist attraction and cause some flow-on to accommodation sources. The consideration should be noted however, as earlier discussed, that natural attractions do not capture the same level of expenditure by their very nature, as it possible with other kinds of attractions.

In view of the significance of the 'Black Scrub' among environmentalists, it is likely that, once proclaimed, an influx of additional tourists may visit the new Park areas. However, in respect of the above types of proposals, it is unlikely that any

major additional drawing of tourists to the area will occur in the long run - the attraction available to tourists visiting the area will simply be substantially increased.

The extensions to the National Parks and, in particular, the New England National Park incorporates a State Forest that would otherwise be suitable for logging. This results in a loss to the local economy. Whilst this may be compensated by additional growth in tourism, there is a need for additional infrastructural investment to ensure that additional tourists are brought into the region. There is a need particularly for improved road access to the National Parks and Council should make application to the relevant authorities for additional funds to develop tourist roads into the National Parks, particularly the Black Scrub.

### **Bellingen Historical Town Walk**

We believe that a brochure is in the final stages of publication outlining a 'Town Walk' between items of historical interest in Bellingen. This document has been prepared by the local historical society.

Again, while such a document may assist in the promotion of the town in some spheres (e.g. historical societies etc.), its main effect will be the improvement of existing facilities, attractions etc. for intending tourists, rather than the attraction of additional tourists. It is important to stress that the retention of the town's historic features, and the production of a document that highlights such features, serves to promote growth within the town, rather than restrict it. Retention of the historic features of the town of Bellingen is an important aspect of tourism promotion within the Shire.

### **7.3.3 Tourism, Marketing and Promotion**

The economic significance of tourism to the Shire and its long term level is highly dependent on the marketing techniques and levels of promotion afforded tourism on both a regional and local level.

Tourism in NSW is organised under the State auspices of the Department of Sport, Recreation and Tourism. This department funds the promotion and marketing of tourism on a regional basis within NSW. To achieve eligibility for a 'regional' subsidy, two or more local government areas must combine together, unless special circumstances prevail which make an area of 'regional' significance.

Bellingen Shire formerly belonged to a Regional Association consisting of Coffs Harbour Shire and Bellingen Shire. Bellingen Shire, however, broke from it in 1978 due to dissatisfaction with the association. Bellingen Shire consequently holds no regional association at the present time and is 'going it alone', so to speak, in relation to the carrying out and funding of promotion of tourism in the Shire. In this regard, Council has fully funded the marketing operations which have taken place for the last 2 years.

It would appear that this arrangement is not totally satisfactory to either Bellingen, or to Coffs Harbour. The level of promotion which has been able to take place within the former has not been significant. A tourism newspaper has been published and distributed free as a supplement to the local paper and also to tourist outlets and conferences. This has only been produced twice, however, on an annual basis. Council has also distributed other literature to motels and tourist operators. A part-time tourist officer has been employed to man the tourist information office, 8 hours per week on a Monday and Tuesday.

Coffs Harbour, on the other hand, has managed, to date, to retain a regional subsidy in the form of a special grant applying to the 'Banana Republic'. We believe however, that its continued funding status on this basis is in doubt for the coming financial year. It should also be noted that Nambucca Shire, to the south of Bellingen Shire, has formed its own tourist association on a regional basis, known as the Nambucca Valley Tourism and Development Authority.

Despite instances such as these, it is doubtful that Bellingen would be able to put forward an adequate case to attain regional funding or status. The Shire is clearly not reaching its full promotional potential by involving local funding alone. It is this situation, together with the uncertainty of Coffs Harbour's position, which has led to recent discussions being initiated in relation to the possibility and advantages of formation of a new regional association consisting of Coffs Harbour, Bellingen and Nambucca Shires.

The advantages of such a formation would be several as far as Bellingen is concerned. Bellingen Shire lies between the two Shires, with the major tourist access route passing through the three, along a north/south axis. Promotion of Bellingen in both Nambucca and Coffs Harbour consequently accesses the majority of tourists likely to pass into the Shire, at least by road. Further, the surrounding coastal Shires are a major source of day-trippers for Bellingen, especially when the weather is poor on the coast.

While Bellingen has little in common with these major seaside resorts, then, it is considered that it can actually benefit in association from being different - as well as benefitting from the regional subsidy which will be incurred and available for promotion. Certainly, within this Association, however, Bellingen will need to stress its differences, and promotional material will need to point this out to tourists rather than allow the image of the Shire to become subsumed in either beach or banana coast oriented publicity. It is only in this way that the Regional Association will also be strengthened by the inclusion of Bellingen.

#### 7.4 Conclusions

In summary, while tourism as yet plays a minor economic role, there appears to be significant potential for increasing the importance of tourism to the Shire's economy and particularly to the economy of Bellingen township.

Increasing the level of tourism should not, however, necessarily be looked on as a panacea to the Shire's unemployment problems, as noted by the Department of Decentralisation and Development.<sup>1</sup> Firstly, it should be noted that structural changes in service industries, such as that of providing accommodation, have limited potential for employment growth in tourism. These changes are in response to increases in basic and penalty award rates and pay equalisation for women.

Therefore, in the light of current trends in the accommodation industry it is clear that very little additional employment will be created in the short term unless increase in demand is very large. Growth in visitation will not necessarily lead to

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1. Department of Decentralisation and Development NSW North Coast Region: Regional Development and Employment Prospects. Part One. September, 1978.

parallel growth in employment opportunities in the tourist industry. Employment growth will depend on the extent to which existing infrastructure capacity is utilised and also on the extent of employment of labour saving techniques in the industry.

In addition, research by Murray (1979)<sup>1</sup> and other studies have found that the greatest economic benefit (i.e. income multiplier effect) is from motel users, followed by Hotel/Guest House users, camping visitors and lastly, stationary caravan and holiday cabin users. While it may be prudent for Council to encourage motels, rather than other forms of accommodation to locate in the Shire, changing trends in tourism in NSW indicate the increasing popularity of lower cost accommodation such as caravan parks, and on-site vans etc.

Tourism is important not only as a direct provider of employment. The attributes of an area which attract holidaymakers can also attract permanent residents and prospective employers. Apart from travel and accommodation requirements, tourists patronise the Shire's retail sector. However, the effects on the retail sector are distinctly seasonal and therefore any increase in employment to cater for augmented demand is likely to be of a temporary nature.

Nevertheless, direct tourist expenditure can be pumped into the Shire economy by tourism. **This is especially important to Bellingen** for three reasons:

1. Bellingen's Town Centre is its main tourist attraction. Centred on the historically well-known Hammond and Wheatley Store, the retail centre has in the past been the subject of a Conservation Order. It is described and visited by tour companies as a "charming" town with "quaint old shopfronts and tree-lined streets".
2. There are few, if any, other ways in which the tourist dollar can be captured in Bellingen by existing or proposed facilities or attractions. The same situation exists to some extent in Dorrigo, although this will be partially altered by the introduction of the steam railway proposal. However, Bellingen captures very little tourist expenditure in either **accommodation** or **attractions**. Its main source of tourist funds is through its retail centre.
3. Bellingen's retail centre appears to be in a state of slow decline (this will be discussed further in a section on retail/commercial land use). It is well known by both shoppers and shopkeepers that the Bellingen retail centre cannot compete with prices in Coffs Harbour, nor with the range of goods offered in Coffs Harbour. It is a common (and natural) occurrence for local residents to by-pass Bellingen and shop in Coffs Harbour, thus continuing the downward spiral and inability to compete in Bellingen. This is not a unique problem - retail centres in small rural centres proximate to larger centres have suffered similar problems across Australia, with increased personal mobility and accessibility.

Bellingen is consequently in a more fortunate position than many rural service centres. Given the above three factors, there would appear substantial scope to build on the existing positive attractions of the township in a concerted manner to

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1. Christopher Murray (1979) 'The Evaluation of Planning for Tourism', Bachelor of Town Planning Thesis, UNSW.

further develop the potential of the existing town centre as a tourist attraction. The provision of further interesting shops, especially selling local arts, crafts, souvenirs, antiques food (e.g. an outdoor cafe), as well as the retention of all 'quaint' or historical features of the existing shops and possibly further beautification and landscaping of the town centre, could substantially increase:

- \* the number of tourists visiting and passing through Bellingen;
- \* the number who will stop in Bellingen; and
- \* the amount of money they will be tempted to spend.

At the moment there is very little in Bellingen on which tourists can spend their holiday money. Generally, tourists are **looking** for something to spend money on, and something to occupy their time. A browse through an interesting town centre can fulfil both objectives, and substantially bolster the local economy.

Particular attention needs to be given to not only retaining, but **re-creating**, the interesting features of the town to stimulate this tourist interest. There are very few towns remaining with as many shopfront verandah posts as Bellingen. It should be ensured that no further posts are removed, and it may be necessary to install bollards or stoppers on the roadway to protect both vehicles and posts. Consideration could be given to duplicating and even **replacing** verandah posts, even on buildings where they are now missing.

There are other 'quaint' features of the town centre. Many exist in the form of signs, shopwindows, and the buildings themselves. Much of this 'nostalgia' material is protected or can be protected by conservation instruments. However, it is also important that the townspeople themselves recognise the value of such 'nostalgia' especially the value in terms of tourist dollars. It consequently goes without saying that all existing buildings of any historic or nostalgic value within the town centre should be preserved **if at all possible**, and all new development should be attempted to be designed to harmonise with the architecture of the period of much of the rest of the town. To ensure such harmony, consideration and encouragement might be given to the relocation of suitable buildings of historic or nostalgic interest from elsewhere in the region to infill existing development. Also in this vein, Council might eventually give consideration, when funds are available, to the possibility of adopting some of the types of architectural features which it is believed were at first proposed in the design of its Council Chambers. These could include the addition of an overhanging, even bull-nosed verandah, which would allow the building to adopt the 'settler' type character and become a feature of the town centre. It is recognised that Council has attempted to ensure that the extensions currently underway to the 'Neighbourhood Centre', in front of the Council Chambers, are in this type of character, in line with the charming original nature of the building. In particular, the house next to St. Andrews Church in Hyde Street would appear to hold particular historical/tourist merit and potential. It holds a central location in the community-oriented end of the town centre, is the only remaining residential property in the block, and is located directly opposite the present tourist information centre/library. Use of this building for either a public purpose or as an indoor/outdoor restaurant/gallery/ craftshop or the like, would be ideal, ensuring its retention and adding to the tourist charm of the main street. These kinds of actions may promote similar kinds of actions by other townspeople.

In the latter regard, a major consideration should be changes which are made to the facade of the town centre. The importance of the character of the facade should be made clear to the townspeople - and the importance of the smallest pieces of 'nostalgia' recognised. A recommendation that was made by Planning Workshop Pty

Ltd in a similar situation in the historic town of Central Tilba included the listing of 'historic' colours for the painting of the Town Centre facade. Such colours were selected thematically from the colours popular at the turn of the century, although not necessarily correct. Such a range can provide architectural and historic coherence and highlighting, while still accommodating individual preference. It is considered that a great deal of merit consequently exists in this action, and should be seriously considered.

Consideration can also be given to the standardisation of street furniture and signposts in the town. A theme can be established for town centre furniture using painted timber/wrought iron materials in traditional designs. This can include phone booths, lighting standards, seats, garbage bins and so forth.

Public and private signposting in the town can also be standardised, and the design adopted can assume an old-fashioned air. These could be hand painted for example, with serif lettering (eg. Baskerville typeface) on traditional timber posts and blades. Modern metal and plastic signs should be banned from use, and large painted wall signs and roof signs encouraged in appropriate locations in the colouring and typefaces typically used on traditional timber commercial buildings of the time.

Further consideration needs to be given to the direct provision for tourists once they have arrived in the town. In this regard it is noted that Council has approved of extensions to the existing neighbourhood centre/library which will provide additional space to accommodate a museum, a static display, public conveniences, a large library and a large information centre. It is seen as desirable that this centre is closely linked with the provision of adequate car parking, to encourage tourists to stay and visit it. This may not be easily achieved on this site, with the present Council car parking being moved to the side of the Council Chambers and the area in front of the Chambers becoming parkland. While the latter will undoubtedly enhance the appearance of the main street, signposting of the newly proposed public car park at the rear of the shops opposite and links through to the main street and to the tourist information office, will need to be clearly developed and signposted. The expansion of the tourist office and its combination with an historical museum would appear a very positive step, however, and Council may be able to secure the interest and assistance of the local historical society in setting up and even partly running a joint museum/tourist centre which could well incorporate a graphic display of the historical features and history of the town. Such a joint action could result in the overcoming of a serious existing problem with the tourist information office - namely that it is open only in limited office hours and not on weekends, when tourist visitation is high. A tourist officer is actually only employed for 8 hours per week - the office is presently open at other times by virtue of other neighbourhood staff working there.

Further improvement might also be made to the provision of accommodation for tourists, again especially in Bellingen, but also in Dorrigo. Council has recently taken over the running of the Caravan Park in Dorrigo and some improvement of the level of facility available to tourists could, consequently, be expected there. The existing location of this park, in conjunction with the Showground, is not an attractive one for tourists, however, and it also contains a high proportion of permanent residents. Consideration might be given to the establishment of a new park in Dorrigo exclusively for tourists, or in its environs, particularly close to the Dorrigo National Park in, for instance, a location near the escarpment.

The same situation exists in Bellingen. The existing park requires relocation if it is to be attractive to tourists and also siting on the major tourist route through the

area, rather than in North Dorrigo. If this park is to accommodate its present number of permanent residents, it will need to be larger, with areas overlooking the river or with other views, retained for genuine tourists. In the location of this site, an attractive location such as this is considered more important.

A general recommendation can in fact be made in this regard - that in whatever way possible the town needs to be better linked with the river, an attractive asset but one which, to date, the town has literally turned its back to. This again, can be initiated by Council, by giving consideration to extending terraces or gardens to the rear of the Council Chambers for staff or public use, and linking the proposed park in front of the Chambers, to the river by walkways and landscape design. Consideration should further be given to a system of walkways and even bikeways linking the town and river front.

All of the above actions will increase the tourist appeal and historical integrity of the town. However, a vital part of the achieving of this integrity will be the recognition of its importance by the townspeople.

The only proviso in such suggestions is that the township's facilities must be able to cater for the number of tourists it attracts. It must contain sufficient parking in the town centre to ensure people will not drive out of it in frustration; it must contain sufficient public conveniences; desirably, areas to picnic or relax; and an adequate tourist information office.

## 7.5 Recommendations

At the present stage of this enquiry, the following recommendations are advanced:

1. Council should mount a promotional campaign publicising the following improvements outlined for the town centre. These improvements could be aggregated to form an improvement programme which could be included as part of the exhibition material.
2. Council should encourage the establishment in or relocation to Bellingen, of a range of appropriate art/craft or tourist oriented activities, in accordance with this plan. Such activities could include:
  - \* an indoor/outdoor cafe or tea room;
  - \* art gallery;
  - \* craft shops;
  - \* cottage 'kitchen' type shop;
  - \* small historical museum/antiquities;
  - \* further restaurant/eatery;
  - \* health food shop/herbalist;
  - \* gift/souvenir shops.
3. Council should encourage an appropriate form of infill development, with new buildings in keeping with existing structures and sited to reinforce the town centre form. Consideration could be given to the relocation of suitable timber buildings of sympathetic and interesting building form from elsewhere in the local region.
4. Council should establish a consistent theme for town centre street furniture preferably using painted timber materials (for seats, steps etc) and traditional designs for such as phone booths, lighting standards etc.

5. Council should prepare design guidelines for public and private signs in keeping with the historic character of the town. All existing public signs should be gradually changed to this new design form, and new signs made to these specifications.
6. Public information signs advertising the tourist facilities and attractions available in the town, (eg. "Bellingen, a town of the 1870's") should be erected on both approaches to the town.
7. It is recommended that Council should not give approval to any modern metal and plastic signs for external use either attached to buildings or free standing. Instead signs should reflect traditional or nostalgic means of advertising. Councils should encourage the replacement over time of unsympathetic or modern signs. Large painted wall signs and roof signs should be encouraged in appropriate locations. These should be carried out in the colouring and typefaces typically used on traditional timber commercial buildings of the time.
8. Council should encourage and assist in any way possible the choice of colours for the painting of the town centre buildings which reflect the historic nature of the buildings, reinforce the physical cohesion of the township, yet are able to be selected from a reasonably wide enough range to encourage individual expression. Where painting of roofs is necessary or desired the traditional colours, particularly dark green and maroon but also charcoal or dark brown, should be used with the addition of cream for striped verandah awnings. Traditionally the underside of awnings is painted Eau-de-Nil.  
  
A range of light to mid-tone warm colours (cream, soft peachy colours, muted pinks) is suggested for the treatment of wall surfaces. By employing colours within this range it is envisaged that the townscape overall will present a cohesive whole whilst retaining the variation of individual choice which adds interest to any town environment. Stronger colours can be applied to smaller surfaces (doors, window-frames, eaves etc) without detracting from the soft quality of the general townscape. A chart illustrating some possible colour combinations can be developed and displayed at the Council Chambers.
9. Council should adopt and establish a strong and unique landscape theme for the main street and public areas to contrast with the surrounding native trees and open landscape. This theme should consolidate existing main street remnants of Camphor Laurel trees and various exotics.
10. Council should give increased attention to the development of gardens along the road verge and on median strips so that the changing flowering display might develop into an attraction in its own right. Flowering creepers (eg. wistaria) could also be planted by Council to climb verandah posts within the town.
11. Council should seek the retention of all remaining verandah posts in the town centre and protect them from damage or from damaging vehicles by the installation of the necessary bollards or concrete stoppers, the intervening vehicle 'overhang' area can be used for planting the above creepers, etc.
12. Council should design and construct landscaped parking bays along the main street to increase the floristic and 'green' appeal of the street while demarcating parking from no-parking areas. Such designs can also be used to protect and highlight pedestrian crossings.

13. Council should give consideration when funds are available, to the possibility of adding an overhanging even bull-nosed verandah to the Council chambers, and any other appropriate colonial type features. The landscaping of the Council grounds in line with the theme of flower gardens, creepers etc. as outlined above would also assist the integration of this building.
14. Such additions should not be limited to the Hyde Street frontage of the Council Chambers, but should extend to the rear also where the image of the building could be improved both to and from the river. This could include terraces or gardens overlooking the river, and the landscaping of the park surrounding the Chambers to include walkways from the main street to the riverfront.
15. Further consideration could be given to constructing a bikeway/walkway (not subject to damage by flood) from the main street to the river and along the foreshore.
16. Council should approach various tour company operators with a view to discussing the possibility of encouraging more coach tours to visit the Shire, especially at off-season times, and encouraging overnight stays of such tours within the Shire.
17. Council should discuss with the Forestry Commission the possibility of developing and promoting more scenic drives and picnic areas etc. in State Forests such as at Campion Mountain.
18. Council should give further consideration to the relocation of the Bellingen Caravan Park to a location more suitable for tourists, and also give consideration to the establishment of a second park at Dorrigo to tap National Park users.
19. As a result of the extensions to the Dorrigo and New England National Parks, there will be an additional need for improved access to the Parks, particularly to areas such as the Black Scrub. Council should make application for funds to improve such access, particularly in the light of the loss to the local economy from logging potential foregone as a result of the extensions.
20. Consideration should be given to improving the road between Dorrigo and Coffs Harbour as an important section of a tourist ring road from Coffs Harbour through Bellingen Shire.

## 8. TRANSPORTATION

### 8.1 Rural Road Network

#### 8.1.1 The Existing Situation

The major roads in the Shire are as follows:

- \* The Pacific Highway (SH 10), which runs parallel to the coast and passes through Urunga. The Pacific Highway is the major route from Sydney to Brisbane, and as such connects the Shire to major areas to the north and south.
- \* Raleigh Road/Bellingen Road/Armidale Road (TR 76), which runs east-west through the Shire, starting at the Pacific Highway north of Urunga and passing through Bellingen and Dorrigo before leaving the Shire at Meldrum Downs. Extensions of this route to the west of the Shire provide access to Armidale and Guyra.
- \* Bowraville Road (MR 118), which connects Bellingen South to Bowraville and Macksville.
- \* Tyringham Road (MR 119), which connects Dorrigo, via Tyringham, to Grafton.
- \* Coffs Harbour Road (MR 120), which connects Dorrigo, via Ulong and Coramba, to Coffs Harbour.
- \* Orama Road (DR 134), running along the Bellinger River Valley west from Thora.
- \* Kalang Road (DR 1136), running along the Kalang River Valley south-west of Bellingen.

#### 8.1.2 Daily Traffic Flows

Annual average daily traffic flows (AADT) for the above roads are set out in Table 8.1. It can be seen from Table 8.1 that the Pacific Highway carries the heaviest flows with 1982 AADT's in the Shire ranging from 5,540 vehicles per day at the boundary with Nambucca Shire, to 8,530 vehicles per day at the boundary with Raleigh. Traffic flows on the highway have been increasing, on average, about 7 to 8 per cent per annum since 1967, with slightly faster growth between 1974 and 1978 although this rate appears to have dropped off between 1978 and 1982. More recent counts on the Pacific Highway in the vicinity of the boundary with Nambucca Shire have shown an increase in traffic of 6 per cent per annum over the past 4 years.

The road between Raleigh and Dorrigo via Bellingen (TR 76) is the next busiest road in the Shire, carrying flows of between 1,340 vehicles per day at Thora and 2,400 vehicles per day in the centre of Dorrigo. Traffic flows on this road have increased, on average, at about 4 to 6 per cent per annum: once again, growth has accelerated between 1974 and 1978 but has since decelerated. All other roads in the Shire have flows of less than 1,000 vehicles per day.

Table 8.1: AADT Flows on Major Rural Roads

Location	Year				
	1967	1970	1974	1978	1982
<b>SH 10:</b>					
Nambucca Shire Boundary	1,850	2,540	2,980	4,340	5,540
Urunga, S of Kalang River	2,390	3,490	3,950	6,990	N/A
Raleigh, N of Bellingen Road	2,780	4,570	4,910	7,570	8,530
Coffs Harbour Shire Boundary	2,610	3,740	4,940	7,430	N/A
<b>TR 76 (W of SH 10):</b>					
1.5 km E of Church Street, Bellingen	1,200	1,820	1,840	2,890	3,160
Bellingen, 0.5 km West of MR 118	780	1,030	700	1,070	1,700
Thora, at Bellingen River Bridge	650	790	840	1,120	1,340
Dorrigo, W of MR 120	1,690	2,460	1,880	2,500	2,420
16 km W of Torrigo	330	380	440	540	620
<b>MR 118:</b>					
Bellingen, 0.8 km S of Hyde Street	520	760	830	810	880
<b>MR 119:</b>					
North Torrigo S of Paddys Plains Road	260	270	290	320	370
<b>MR 120:</b>					
Brooklana, E of Upper Bo Bo Road*	40	30	60	60	240
<b>DR 1134:</b>					
Orama, 1 km W of Post Office	120	60	40	480	210
<b>DR 1136:</b>					
Kalang, 0.5 km W of Post Office	50	30	80	110	160

\* This count was located in Coffs Harbour Shire.

Virtually all roads in the Shire are two lane roads, with the exception of short sections in Bellingen and Torrigo townships. The Pacific Highway and the Raleigh/Bellingen/Dorrigo Roads are sealed over their whole length within the Shire. The other major roads have sections of unsealed road. The Coffs Harbour Road from Torrigo has some steep twisting sections, with poor quality pavement and a number of single lane bridges.

Two lane rural roads have ample capacity to carry the average daily flows set out in Table 8.1. It is, however, worth noting the seasonal variation in flows on major roads in the Shire. On the Pacific Highway at Raleigh, the average weekly flow on the bridge across the Bellinger River was about 42,400 vehicles per week in 1978. However, the weekly flow varied from a minimum of 31,000 vehicles per week in November up to a maximum of 66,600 in early January. Thus it would appear that peak flows on the Pacific Highway can be 50 per cent higher than average flows.

Allowing for natural growth since 1978 and adjusting for peak flows, it seems likely that there would be some congestion in peak periods at constricted points on the highway, such as the Bellinger River Bridge at Raleigh. However, the peak flows only occur a few weeks of the year.

Traffic flows on Bellingen Road at Fernmount show relatively little variation over the year. The average weekly flow in 1982 was about 20,700 vehicles per week, with a minimum of 17,000 vehicles per week and a maximum of 27,500 vehicles per week. Even allowing for natural growth and adjusting for the peak, the Bellingen Road has ample capacity for existing flows.

The Bellingen Road between Raleigh and Bellingen is affected by flooding, which closes the road for short periods at times of high rainfall. The road climbs up to the Dorrigo Plateau west of Bellingen, resulting in a steep, twisty alignment. However, this section of road has been upgraded in recent years and now provides a reasonable level of service for vehicles travelling between Bellingen and Dorrigo. This road also provides access to Dorrigo National Park, a popular tourist attraction, which currently attracts 80-90,000 visitors per year.

The Pacific Highway is generally to an adequate standard within the Shire, the major deficiency being the unsatisfactory approaches to the Bellinger River Bridge at Raleigh. There is a significant amount of development along the highway, including a substantial number of tourist oriented developments at Urunga and Raleigh.

Recent daily traffic flows on rural roads are shown in Table 8.2.

Table 8.2: Traffic Flows - Rural Roads

Road	Daily Flows
<b>1983</b>	
Summervilles Road: Gleniffer Road end	46
Trunk Road 76 end	89
Valery/Bonville: Doug Emerton's House	96
Gleniffer/Valery Eric Wheater's House	55
Yellow Rock Road Jimmy Morris's House	131
<b>1982</b>	
Martells Road: State Highway 10 end	52
Bellingen end	62
Boggy Creek Road: Before the mill	89
Beyond the mill	53
Thora/Darkwood Road: Before the mill	252
South Arm Road: 2 kilometres from Main Road 118	37
Promised Land Road: at Keogh's gate	193
Roses Road	74
Bellingen/Gleniffer Road	340
Bellingen/Hydes Creek Road	124
North Bank Road	252
Kalang Road	235

Source: Bellingen Shire Council Engineering Department (Date of Counts - 1983)

As can be seen, the traffic flows on rural roads are much lower than the major north/south or east/west arterials indicating a sharp division within the road hierarchy between the arterial roads and local road network.

A brief analysis of the adequacy of the local road network can be seen by comparing traffic flow figures in Table 8.2 with standards relating to widths of sealed roads. These standards are shown in Table 8.3 below.

Table 8.3: Standards for Sealed Traffic Lanes for Undivided Roads

Design Traffic Volumes (AADT) Vehicles/Day	1-150	150-500	500-1000	Over 1000
Minimum Lane Width m	1 Lane 3.5	2 Lanes 3.0	2 Lanes 3.0-3.5	2 Lanes 3.5

Source: NAASRA (DMR June 1982)

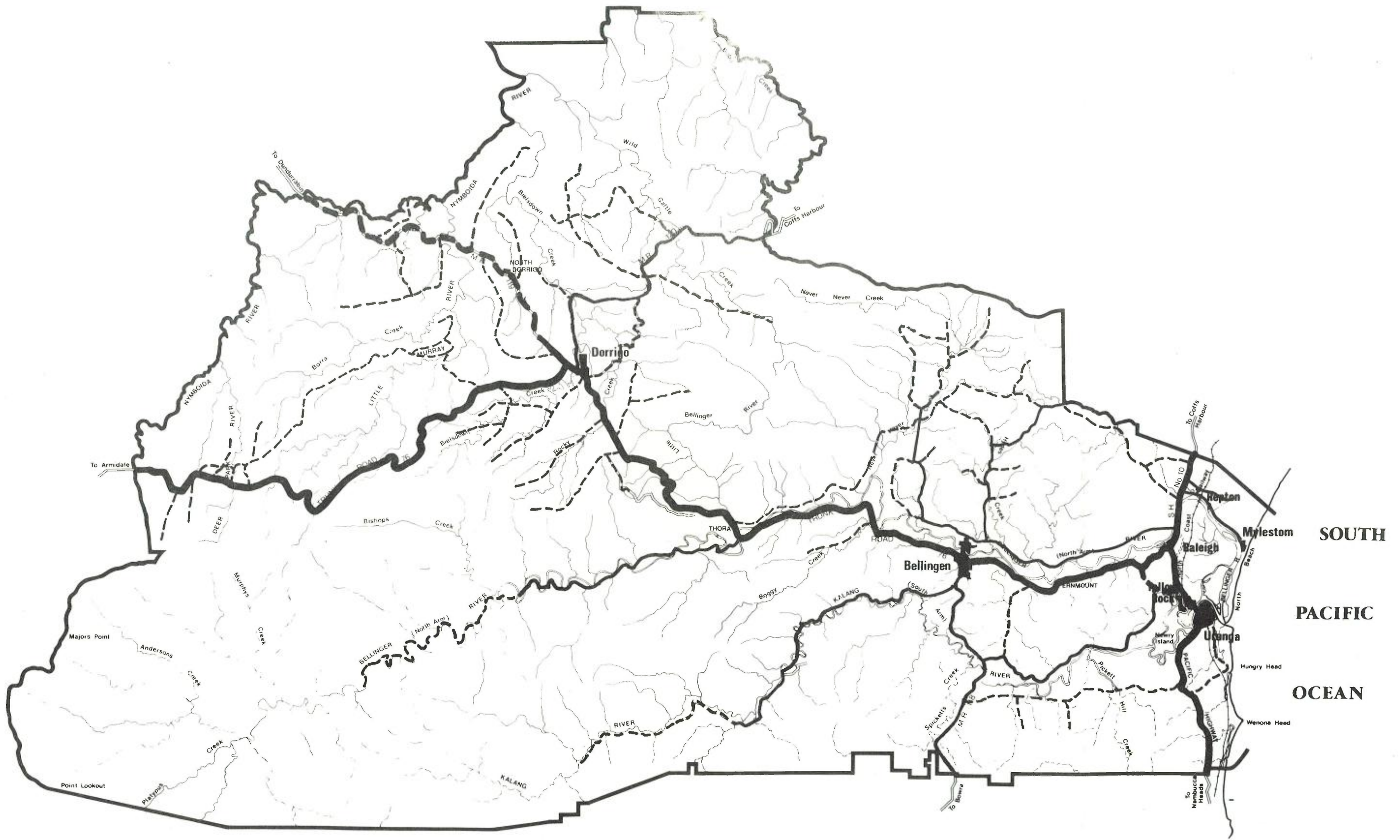
The roads indicated in Table 8.2 are sealed to a one lane width. (In some cases the roads are only partially sealed.) Traffic flows are such that in some cases roads are approaching or are at capacity. This is particularly so for the Bellingen Gleniffer Road, Thora/Darkwood Road, Kalang Road and North Arm Road. With most of these roads, the intensity of traffic flows decreases sometimes dramatically with distance from Bellingen as can be seen by comparing the counts on the Hydes Creek Road and the Valery Bonville Road or counts on the Gleniffer Road and Promised Land Road. This suggests a strategy of gradual upgrading of these roads outwards.

The Shire's rural road hierarchy is shown on Figure 11. Roads are generally broken down into four classes as follows:

- \* Arterial Roads: Predominantly carry through-traffic from one region to another forming principal avenues of communication. They are usually part of the proclaimed Main Road system, including highways and freeways.
- \* Sub-arterial Roads: Connect the arterial roads to areas of development or carry traffic directly from one part of a region to another. They may also relieve traffic on arterial roads in exceptional circumstances.
- \* Collector Roads: Connect the sub-arterial roads to the local road system.
- \* Local Roads: Are the sub-divisional roads within a particular area. These are used solely as local access roads, but traffic volumes and types of vehicles will depend on the intensity and nature of the development.

The quality of Bellingen Shire's linkages with surrounding Shires is limited by constraining terrain. The major linkage to the north and south is the Pacific Highway. Secondary sub-arterial linkages functioning at present more as rural collector roads but with potential for expansion are the Bellingen-Bonville Road via Hydes Creek and Valery, the Dorrigo-Coffs Harbour Road and to the south, the Bellingen to Bowraville Road. Access to the west from the Dorrigo Plateau is via Trunk Road 76 to Armidale and Main Road 119 linking up with the Armidale-Grafton Road.

A combination of difficult terrain and forest and park land have resulted in a narrowly defined road hierarchy dominated by arterial roads running north/south and east/west with rural collector and local roads feeding into them.



ARTERIAL	
SUB-ARTERIAL	
COLLECTOR	
LOCAL	

**SHIRE OF BELLINGHEN ENVIRONMENTAL STUDY  
EXISTING ROAD HIERARCHY**

0 5km 10km

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For BELLINGHEN SHIRE COUNCIL

### 8.1.3 Rural Roads other than Pacific Highway

The major problem with rural roads will therefore remain the fact that they suffer from intermittent flooding. The resolution of this problem is beyond the scope of this report, however, it has been dealt with in a report on the Bellinger Valley prepared by Soros-Longworth and McKenzie in 1980. That report made the following comments on roads in the Shire:

"1. Trunk Road 76, Bellingen to Pacific Highway

Access via this road is lost by flooding once in two years, on average. At such times the road along the South Arm and the North Bellingen Bridge are also flooded and the only access to and from Bellingen is thus through Dorrigo - a journey to the Pacific Highway via Dorrigo involves about 100 kilometres and takes up to two hours. From the intersection with the Trunk Road the Pacific Highway is cut once in five to ten years to the north and about once in twenty years to the south.

A preliminary analysis of the merits of raising the Pacific Highway suggests this could not be economically justified in terms of local benefits. The highway may eventually be raised to once in fifty year level in the course of normal rebuilding works, as part of the National Highway Policy, but this is unlikely to occur in the near future. There is thus no justification, at present, for raising the Trunk Road above ten or twenty year level.

Information supplied by the Bellingen Shire Council suggests that raising of the low sections of the Trunk Road - at Marx Hill Creek, Burdett Park Creek, Connells Creek and Cameron's Corner - to once in ten year flood level could cost up to \$200,000. A preliminary analysis conducted by the consultants suggests that the present value of disruptions to traffic during the next fifty years will be in excess of \$600,000. Raising of this road from once in two year to once in ten year standard is thus obviously worthwhile.

Detailed investigations to define the extent of work and to confirm the economic feasibility are thus firmly recommended and should be given priority."

"3. Hydes Creek Road and North Bank Road

It has been noted that the Shire Council has already spent \$24,000 on raising the two low sections of the Hydes Creek Road as part of a \$300,000 (1980 prices) program to raise this road out of flood reach.

Traffic volumes have not been measured on this road but a preliminary analysis suggests that raising the remaining sections of this road would avoid disruptions having a present value of less than half the construction cost of \$270,000. On that analysis, alone, further raising of the Hydes Creek Road appears to be not worthwhile.

Raising of the North Bank Road has been estimated by the Shire Council to cost about \$0.75 million. Access is available from several points on this road to the Hydes Creek Road. Raising of the North Bank Road is thus seen as having even less merit than raising of the Hydes Creek Road.

Detailed consideration of both these access roads should, however, be reviewed after detailed investigation of improved access from North Bellingen across the North Bellingen Bridge. Accordingly, detailed investigation of these roads is given lower priority.

4. South Arm Road, Brierfield to Pacific Highway

Field inspections suggest that access along this road is cut in many places, particularly at bridges, and on the low sections of roadway along the banks, at frequent intervals. Alternative access is available via four-wheel-drive tracks to Bellingen, Marx Hill and Fernmount from various points along the South Arm Road.

In view of the considerable expense that would be involved in raising the bridges and carriageway along this road, the small volume of traffic affected and the availability of alternative access, the consultants consider that raising of this road, now, as a flood mitigation project can not be justified.

In the future, as existing bridges become due for replacement, consideration should be given to higher level replacements of the bridges and adjoining flood-prone sections of roadway. This recommendation is given low priority."

"6. Repton to Mylestom Road

Access along this road is flooded about once in five years. The volume of traffic along this road at present is about 500 vehicles per day but this will increase as further development occurs at Mylestom.

Preliminary analysis suggests that raising to ten to twenty year level would cost about \$60,000, for which the benefit-cost ratio would be less than 0.5. Detailed investigation of this proposal is therefore given low priority.

7. Other Roads

Other significant routes along which access is lost during flooding are the Kalang Road (above Brierfield), Main Road 118 (between Bellingen and Bowraville), the Thora-Darkwood Road and the Gordonville Road.

Approximately one hundred residents are affected by closure of the Kalang Road. Alternative access via four-wheel-drive tracks is available from two points along the road, to Missabotti and to Horseshoe Road. Flood-proofing of the Kalang Road would cost at least \$600,000 in bridge replacements alone.

Approximately fifty residents live along Main Road 118, as far as Bowraville. Access is lost at two bridges, replacement of which would cost in excess of \$200,000. Alternative access is available via Martells Road and Range Road, to the Pacific Highway.

There are almost a dozen low-level timber bridges on the Thora-Darkwood Road, creating access problems for about one hundred residents. Most of these bridges cross the main channel of the Bellinger River itself, and their replacement with high-level structures would therefore be a costly exercise.

Alternative, though difficult, access is available via forestry roads leading to Horseshoe Road and thence to Trunk Road 76.

The Gordonville Road, between Gleniffer and Gordonville, is cut off at McFayden's Bridge in medium floods. The river crossing here is of a small tributary stream and delays are thus fairly short; in addition, there are only a few residents in the area.

In view of the considerable expense that would be involved in raising the bridges and carriageways along these roads, the small volumes of traffic affected and the general availability of alternative (though, at times, difficult) access, the consultants consider that flood-proofing of these roads, now, as a flood mitigation project can not be justified. In the future, however, as the existing bridges become due for replacement because of their structural condition, consideration should be given to raising of the bridges and adjoining flood-prone sections of roadway."

It is clear from the above that other than Trunk Road 76 between Bellingen and the Pacific Highway, raising roads and replacing bridges cannot be justified, at least until they reach the end of their economic life.

#### **8.1.4 Pacific Highway**

Daily traffic flows have been steadily increasing at 8 to 10 per cent for the last 15 years. On the assumption that this trend will continue, daily flows could double in less than 10 years. These are very large growth rates and would lead to flows that would exceed the practical capacity of the two lane highway within 10 years or so. However, this growth will probably not be realised in practice.

The growth in traffic on the highway should be carefully monitored, as substantial works would be required to provide extra capacity if historical growth rates are maintained.

The major capacity constraint and safety problem on the highway at present is the Bellinger River Bridge and its approaches at Raleigh. It is understood that the Department of Main Roads is considering various options to overcome this problem but that no final proposal has been adopted. Given likely increases in traffic flows, this should be seen as a priority project.

The Pacific Highway is flood-affected at two places, in the Bellinger Valley at Raleigh (every 5 to 10 years) and near Newry Island (about every 20 years). The studies undertaken by Soros-Longworth and McKenzie referred above indicated that

raising these sections could not be economically justified, particularly as the highway is cut in many other places outside the valley. However, if works are to be undertaken at Raleigh to remove the existing capacity and safety problem, they would be able to eliminate the flooding problem at the same time.

### 8.1.5 The Future Situation

The future population of Bellingen Shire has been forecast by Planning Workshop Pty Ltd. These forecasts are set out in Table 8.4.

Table 8.4: Population Forecasts - Bellingen Shire

Year	Population Forecasts		
	Low	Medium	High
1981	N/A	8,870	N/A
1986	N/A	11,380	N/A
1991	13,110	13,400	13,670
1996	14,550	15,150	15,730
2001	15,970	16,880	17,760

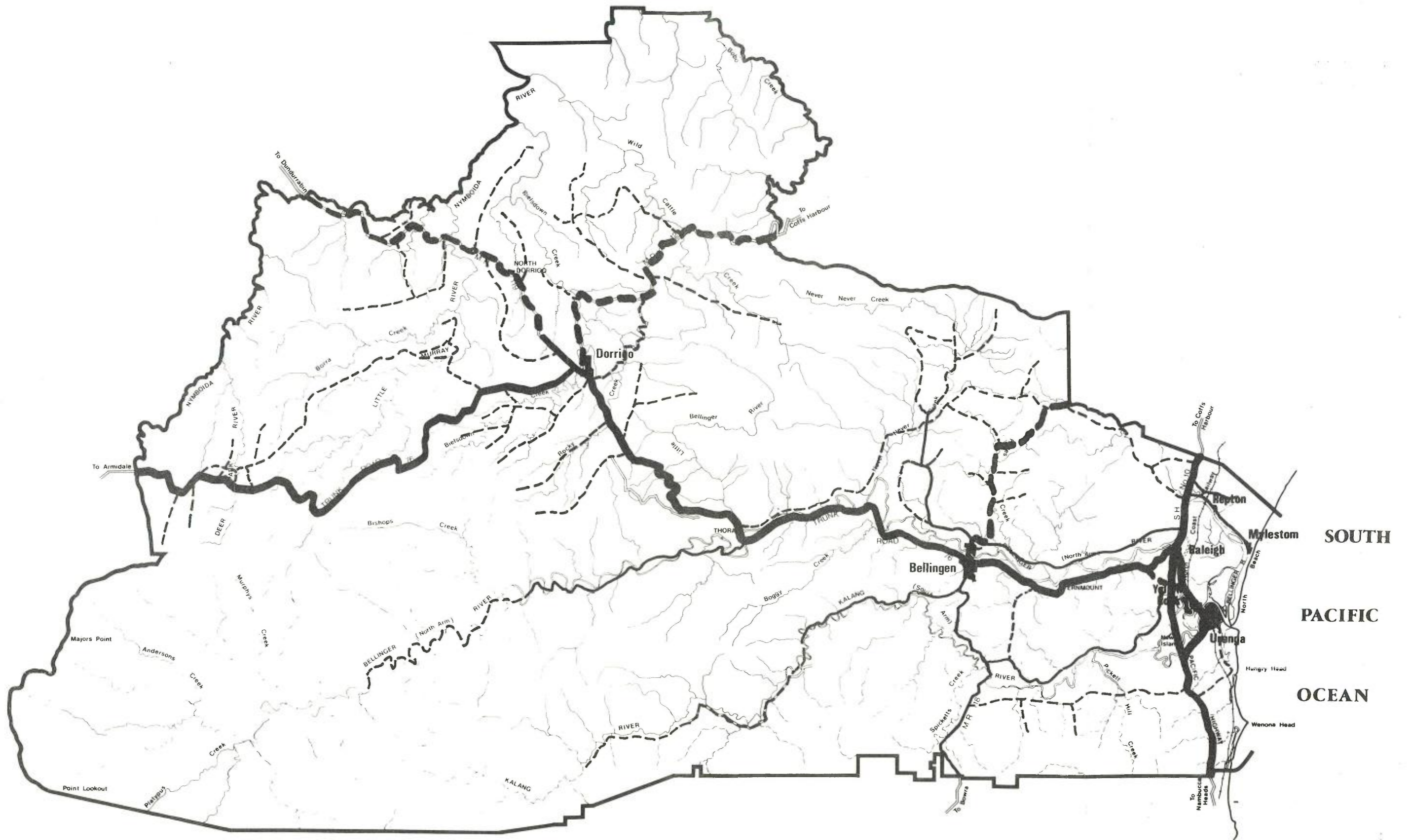
It can be seen from Table 8.4 that, based on the medium population forecasts, the population is expected to nearly double over the next 20 years. Greatest growth is expected within the rural areas of the Bellinger Valley and along the coastline, particularly at Urunga.

Traffic flows on the Shire's roads will increase as the population increases. Over the last 10 years, daily traffic flows on the Pacific Highway have been increasing by about 8 per cent per annum, or 2 to 3 times the rate of increase in the Shire's population, although traffic growth on the highway would be dominated by regional rather than Shire growth. Elsewhere in the Shire, daily traffic flows have been increasing at about 2 to 4 per cent per annum, about the same rate as the Shire's population growth.

#### Future Road Hierarchy

The recommended future road hierarchy for the Shire in accordance with the overall rural land strategy is shown on Figure 12. Important aspects of this hierarchy include:

- \* The recommended gradual upgrading of the Bellingen/Bonville Road. This will serve three purposes. Firstly it will improve access to Bellingen from the planned rural residential growth areas within Hydes Creek Valley. Secondly, with the eventual improvement in the river crossing, it will provide alternative flood-free access into Coffs Harbour. Thirdly, it will be able to function as an important tourist road between Coffs Harbour and Bellingen. Application should be made for funds to upgrade the road for tourist purposes and negotiations should be undertaken with Coffs Harbour Shire to improve the road as it passes through that Shire.



ARTERIAL	
SUB-ARTERIAL	
COLLECTOR	
LOCAL	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**FUTURE ROAD HIERARCHY 12**

0                      5km                      10 km

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 For BELLINGEN SHIRE COUNCIL

- \* The corresponding improvement in the Dorrigo-Coffs Harbour Road to function primarily as a tourist road but also to provide a link between Dorrigo and the rapidly expanding regional centre at Coffs Harbour. This would form part of a ring road from Coffs Harbour through Urunga, Bellingen, Dorrigo and then back to Coffs Harbour.
- \* The realignment of the Pacific Highway. Whilst to our knowledge, no decision has yet been made on the location or timing of the highway deviation around Urunga and Raleigh, a possible future by-pass has been identified. This is shown on Figure 12. The future development of land likely to be affected by this highway deviation should be dependent upon the resolution of the highway route.
- \* The concentration of future rural residential development will provide the opportunity of maximising access and for gradual upgrading of the road network.

#### 8.1.6 Planning Implications

The condition of the local road network is an important factor to be taken into consideration when determining future growth areas - particularly rural residential development. As a general principle, development should be encouraged in areas with good accessibility to urban areas or where it is efficient and feasible to upgrade roads. This is particularly so in the case of Bellingen Shire where the rural road system, particularly the collector and sub-arterial roads serve large sparsely settled areas.

Access into and through Bellingen will be discussed in greater detail in Section 11. With respect to access to the proposed rural residential and small holding zones (see Section 10) the following comments are made.

- \* Proposed rural residential zones in the coastal belt are located in relatively close proximity to roads of a high standard.
- \* Proposed areas in the Marx Hill/Fernmount area connect with Trunk Road 76. At the same time, provision should be made to provide flood-free access from the Marx Hill area into Bellingen through the proposed east Bellingen residential expansion area. This would also act to provide a connector to Bellingen for local traffic.
- \* Proposed rural residential and small holding areas in the Hydes Creek Valley are located as close as possible to Bellingen. Some improvement in access into Bellingen by upgrading the Hydes Creek Road may be necessary. Because of the concentration of development initially in this area, and provided development is staged outwards, road improvements can be progressively implemented both with a view to providing access into Bellingen and to improving the Bellingen/Coffs Harbour inland link.
- \* Likewise, areas that Council has identified for rural residential development at Dorrigo are located in close proximity to the township.

The requirements for road improvements to service these areas should be investigated so that an appropriate level of developer contribution can be determined to significantly assist in the provision of such improvements.

## 8.2 Bellingen Town Area

### 8.2.1 The Existing Situation

The town of Bellingen is located on the Bellinger River about 13 kilometres west of the Pacific Highway. The road from Raleigh to Dorrigo and onto Armidale (TR 76) passes through Bellingen and forms the main street of the town. The town has developed on both sides of the Bellinger River. The largest settlement is on the southern side of the river, with North Bellingen being connected to the southern part of the town by a single low level bridge.

The current population of the town is about 1,600 persons, of whom over 60 per cent live south of the river. The commercial centre of the town is located along Hyde Street (TR 76), along with the Shire headquarters and other administrative buildings such as the police station and courthouse.

Generally, the town operates well in a traffic sense, however, a number of issues require consideration as part of this study. These include:

- \* the impact of through traffic, i.e. traffic which does not wish to stop in the town, on the main street and the possible need for a town centre by-pass;
- \* the problems created when the low level bridge connecting north and south Bellingen is flooded, and the possible need for a high level bridge;
- \* increasing peak period congestion at the intersection of Wharf Street (the approach road to the Bellinger River Bridge) and Hyde Street; and
- \* increasing shortage of parking in the town centre at busy times.

#### Traffic Flows

Data on traffic flows in the Bellingen Town Area are limited. However, data on daily flows are available on Hyde Street (TR 76) and Church Street (MR 118), which run south out of the town towards Bowraville. Daily flows are summarised in Table 8.5.

Table 8.5: AADT's in Bellingen Town Area

Location	AADT's				
	1967	1970	1974	1978	1982
<u>Hyde Street</u>					
0.5 km W of Church Street	780	1,030	700	1,070	1,700
Immediately W of Church St.	2,240	3,020	3,000	3,430	4,200
Immediately E of Church St.	2,640	2,890	3,660	4,080	4,440
1.5 km E of Church Street	1,200	1,820	1,840	2,890	3,160
<u>Church Street</u>					
Immediately S of Hyde Street	1,000	1,640	1,100	1,200	1,880
0.8 km S of Hyde Street	520	760	830	810	880

It can be seen from Table 8.5 that daily flows in the town have increased significantly in recent years. In fact, flows in the town centre have increased at about 4 per cent per annum between 1967 and 1982. This is a considerably higher growth rate than that of the town population, which only increased at about 1 per cent per annum over the same period. The increased traffic is probably a result of rapidly increasing population in the Bellinger River Valley west of the town, which increased by about 10 per cent per annum between 1976 and 1981.

There is ample physical capacity to carry the traffic flows currently using the town's streets. There are, however, a number of problems developing in Hyde Street, the main commercial street in the town, as well as the main route through the town. These are:

- \* vehicles passing through the town comprise a significant proportion of heavy vehicles, which create dust and noise problems;
- \* there is increasing conflict between vehicles parking and unparking in Hyde Street and through-traffic;
- \* the previously mentioned problem at the intersection of Hyde and Wharf Streets; and
- \* conflicts between pedestrians and vehicles on Hyde Street.

None of these problems has reached major proportions at this stage and no immediate ameliorative actions are required. However, in planning the town area these issues should be borne in mind and long term solutions should be sought, as will be discussed later in this chapter.

### **Parking**

The majority of parking in Bellingen Town Centre is currently at the kerb in Hyde and Church Streets. Parking in Hyde Street is restricted to one hour parking during business hours. The kerbside parking is heavily utilised at peak times and it is understood that Council is proposing to provide a car park for 100 to 120 cars at the rear of properties fronting Hyde Street, between Ford and Church Streets.

Council does not currently have a detailed parking code but has a general requirement of 1 space per 37 square metres for all development. Council does accept contributions, at the rate of \$2,000 per space, where parking cannot be provided on-site.

It would be desirable for Council to prepare and adopt a detailed parking code, specifying parking requirements for different uses, in order to allow better control of parking provision in the future. Council should also regularly review the size of the contribution in lieu of on-site parking to ensure it meets the real cost of Council purchasing property and developing parking elsewhere.

### **8.2.2 The Future Situation**

The future population of Bellingen Shire and Bellingen Town has been forecast by Planning Workshop Pty Ltd. The forecasts for Bellingen Town are set out in Table 8.6.

Table 8.6: Population Forecasts - Bellingen Town

Year	Population Forecast		
	Low	Medium	High
1981	N/A	1,590	N/A
1986	1,820	1,950	2,010
1991	2,070	2,260	2,350
1996	2,360	2,640	2,750
2001	2,690	3,090	3,210

Traffic flows on the town's road network will increase as the population increases. However, they will also increase as the Shire's population increases, and as the number of vehicles passing through the town increases. Examining the medium forecasts, the town's population is expected to grow at about 4 per cent per annum up to 1986 and then at about 3 per cent until 2001. The Shire's population is expected to grow at a faster rate, nearly 6 per cent per annum up to 1986 and about 3.5 per cent thereafter. Particularly rapid growth is expected in the Bellinger River Valley, much of which is served by Bellingen Town. No information is available on the number of vehicles passing through Bellingen without stopping. Examination of daily flows in Table 8.5 suggests that through-traffic is probably less than 500 vehicles per day.

It is interesting to note that whilst the population of the town only increased at about 1 per cent per annum and the Shire as a whole at about 2 per cent per annum between 1976 and 1981, daily traffic flows in the town grew at about 4 per cent per annum over a comparable period. It thus seems likely that increased traffic through the town is largely influenced by the growth in through-traffic and a general trend to increasing car usage.

Increases in through-traffic are likely to continue in the future, particularly with further expansion in the use of Dorrigo National Park, the development of the Steam Rail Museum, and increasing population in the Bellinger River Valley. If the historical relationships between the population growth rates and traffic flow growth rates continues, flows through the town would be expected to grow by 7 to 8 per cent per annum up to 1986 and 4 to 5 per cent after that date.

These growth rates would infer daily flows on Hyde Street in the town centre of about 6,000 vehicles per day in 1986, 8,000 to 8,500 vehicles per day in 1991, and 10,500 to 12,000 vehicles per day in 1996.

This level of flows can be handled by existing roads in the town centre, in purely capacity terms, but the environmental effects of noise, dust, and difficulty in crossing the street are likely to be an increasing problem. This would be made even worse if a significant proportion of the flow was heavy vehicles.

Thus, whilst there is no immediate need to seek to reduce traffic flows in Hyde Street, it would be to the advantage of the town to retain the option to do so in the future. The most obvious method by which such a reduction could be achieved is through the provision of a town centre by-pass, which would remove through-traffic from the busiest area of the town.

The route for such a bypass would have to be investigated in greater detail than is possible in this study, however, the most likely route appears to be between the town centre and the river on the flood plain. Such a route would be flood-labile but during times of flood all vehicles could be routed via Hyde Street. Such a by-pass could leave Hyde Street west of Coronation Street, pass between the town and the river and rejoin Hyde Street east of Prince Street.

The other developing traffic problems were identified in the town, these being the low level bridge connecting north and south Bellingham and the intersection of Wharf and Hyde Streets. It seems unlikely that the substantial cost of constructing a high level bridge between north and south Bellingham can be justified whilst the existing low level structure is still sound, particularly given that floods generally only close the bridge for relatively short periods.

However, when the low level bridge reaches the end of its economic life, consideration should be given to provision of a high level bridge. Such a bridge could also carry Wharf Street across the future by-pass, thus avoiding the creation of a busy cross intersection at the southern end of the bridge.

The problem of the intersection of Wharf Street and Hyde Street has not yet reached proportions where immediate actions are required. If a by-pass is ultimately developed this would remove much of the pressure on this intersection. However, one of the main areas of expected population growth is north Bellingham, where there is already a substantial number of housing blocks available for development. This could result in a relatively rapid increase in traffic on Wharf Street.

It is therefore recommended that Council monitors the operations of the intersection of Wharf and Hyde Streets and if substantial congestion develops, then consideration should be given to the introduction of some form of traffic control device to avoid long delays to vehicles on Wharf Street. The most appropriate form of control would probably be a small roundabout, as they are cheap to install and maintain and are effective in reducing delays. It would, however, be necessary to undertake detailed design studies to ensure a suitable roundabout could be provided in the available space. Particular care would be required to ensure that the roundabout could be safely negotiated by heavy trucks.

The other major area of development in the town is a large proposed subdivision to the south-east of the town, which would provide about 300 additional residential blocks. It is understood that further development beyond this area is unlikely to be required in the foreseeable future. The subdivision has been planned by Council and considerable thought has been given to the provision of suitable access. No problems are expected with providing adequate access, although traffic flows on some existing residential streets, such as Ford and Crown Streets, will increase as a result.

The final issue raised in relation to the town was parking in the town centre. Council's proposal to develop an off-street car park is supported and its use by people staying for relatively long periods should be encouraged. This will increase the availability of convenient on-street parking to shoppers and others only wishing to park for a short time.

Proposals regarding the major road network of Bellingham are included in the Structure Plan.

### 8.2.3 Conclusions and Recommendations

In relation to Bellingen Town Area it is concluded that there are no major traffic problems at present. However, a number of issues do exist and these are likely to become more important as the population of the town and Shire increases, along with traffic flows through the town. The identified issues are:

- \* The impact of through traffic, i.e. traffic which does not wish to stop in the town, on the main street and the possible need for a town centre by-pass.
- \* The problems created when the low level bridge connecting north and south Bellingen is flooded, and the possible need for a high level bridge.
- \* Increasing peak period congestion at the intersection of Wharf Street (the approach road to the Bellinger River Bridge) and Hyde Street.
- \* Increasing shortage of parking in the town centre at busy times.

Traffic flows through the town centre are expected to double over the next ten to fifteen years. Whilst immediate solutions are not required to the above problems, actions should be taken to maintain the options for dealing with these issues before they become major problems. It is therefore recommended that the following actions be undertaken in relation to traffic in Bellingen Town Area:

- \* Define the location of a future town centre by-pass, probably between the town centre and the Bellinger River.
- \* Reserve the land necessary to construct the by-pass at some future date.
- \* Consider construction of a high level bridge across the Bellinger River when the present low level structure reaches the end of its economic life. Such a bridge would not necessarily be located on Wharf Street and consideration should be given to the best location.
- \* Consider extending this high level bridge across the proposed by-pass to avoid a busy four-way intersection between the by-pass and bridge approaches.
- \* Monitor the operations of the intersection of Wharf and Hyde Streets. If unacceptable congestion develops before construction of the by-pass is warranted, consider the provision of a traffic control device, probably a roundabout, to overcome the problem.
- \* Proceed with the proposed development of an off-street car park to serve the town centre.
- \* Develop a parking code relating required parking provision to proposed land use and review, at regular intervals, Council's parking contribution to ensure that it meets the cost of Council providing off-street parking.

## 9. MULTIPLE OCCUPANCY OF RURAL LANDS

### 9.1 The Background Context

During the decade of the nineteen-seventies, an increasing trend to move 'back to the land' has occurred both in Australia and other western industrialised countries. According to researchers such as Munro-Clark and Simmons (1981, p.56) this has commonly involved a rejection of urban/suburban social order, institutions, constraints and values in favour of a "materially simple co-operative lifestyle in small rural communities holding land in common".

This search for a fulfilling alternative lifestyle has apparently manifested itself most clearly in the development of large numbers of rural 'communes'. It is difficult to estimate the numbers of people living in such groups. Rigby (quoted Taylor 1981, p.14) estimated that there were over 2,000 rural communes in the USA by 1970. By 1974, Japan was thought to boast some 50 communes and another 300 co-operative villages. Israel had 4 per cent of its total population (90,000 people) living on over 235 kibbutzim. Britain was estimated to have about 100 communes.

In Australia, the movement came a little later. It appears to have taken off around the time that the Vietnam war came to a head with the mass 'moratorium marches' in the capital cities around Australia (Munro-Clark and Simmons, 1981, p.58). The first 'new settlers' appeared to have stayed in the Nimbin region following the 'Aquarius Festival' in 1973. Estimates of the numbers of people now living in such groups in NSW range ". . . upwards of 7,000" (ibid.). Most of them have settled on the far north coast of NSW, largely in response to the favourable physical conditions of a year-round warm climate, high rainfall and well watered, fertile land. The availability of relatively small farms, often no longer commercially viable and consequently relatively cheap has also been a contributing factor in their proliferation.

The same factors have also led to the proliferation of other types of rural re-settlement. Generally the distinction can be made between the above 'new settlers', 'rural retreaters' and 'hobby farmers'. Taylor has defined hobby farmers as those who purchase a small acreage of land, usually a subdivision, in a rural area for the purposes of fulfilling recreational, spiritual or aesthetic needs, while relying on outside income for support. Housing is usually conventional and substantial; and the property as a whole may be purchased for retirement, tax avoidance or speculation. Rural retreaters appear to have similar aims but often adopt a simpler standard of living and may correspond more closely (in terms of spiritual aims etc.) with the 'new settlers' than the 'hobby farmers'. Like 'hobby farmers', however, they may depend on outside sources of finance.

It would appear that the 'new settlers' are the major group involved in the multiple occupancy of rural land. The issues of multiple occupancy are also probably more apparent in relation to the new settlers, who appear as a more 'visible' group in society, differing from other rural dwellers in terms of clothing and dress, standards of habitation, crafts and hobbies, food tastes etc. These differences have sometimes resulted in conflict with outside forces, both with the rest of the local community and local and State Governmental authorities. The major areas of conflict according to Taylor (1981, p.17) are related to the use of drugs and the enforcement or non-enforcement of various standards and rules, especially relating to building and health, originating in the general community.

Such problems appear to be common to most communal ventures. There are also problems which occur internally within the group, which can cause its demise. Such conflicts range from difficulties in everyday decision-making to the overall

intention and purpose of the group. They appear to most commonly involve such matters as vegetarianism, the receiving of social security and welfare benefits, and the permitting of drugs (ibid.). Generally it appears that communes united by some communal aim or spiritual belief may be more successful in staying together.

Rigby (cited Taylor, 1981, p.16) identifies a sixfold typography of communes which can occur: self-actualising communes, communes for mutual support, activist communes, practical communes, therapeutic communes, and religious communes. Taylor also identifies a slight variant of the commune idea which she classifies as a co-operative community. This type of settlement may be a larger version of a commune, and is thought to be similar in many ways to a village although intentional in nature, ". . . based on co-operation, not competition, on self-unfoldment rather than on self-aggrandizement at the expense of one's fellows" (Kriyananda, 1968, cited Taylor, 1981, p.20). It would appear that communes representing most if not all of these types, have established in recent years in the Bellingden district.

## 9.2 The Bellingden Experience

Bellingden represented an ideal location for the extension of communal proliferation from the point of view of those new settlers involved. Its climate was typical of the coastal areas of initial establishment further to the north; subdivisions were relatively small and relatively cheap; and the valleys were tranquil, fertile and well watered. In Bellingden a timely decline of the mainstay rural industry led to the availability of substantial parcels of rural land at the same time as inflationary pressures were reducing the popularity and availability of coastal and northern areas. Around 1970 the dairy industry fell into decline with reduced overseas markets and changed national policies on milk production and marketing. Many farmers in the Shire gave up dairy farming - some to turn to beef, others to sell their farms to newcomers. As Powys et al. note, ". . . these newcomers, city dwellers, were the 'alternates' - people who desired an alternate way of living to the current mainstream life style" (1981, p.2). They were able to enter the Shire at a time when the economic reservoir of the local community was at a low ebb.

It is uncertain how many new settlers now reside in the valleys of the Shire. Three main areas of new settlement appear to exist - the Kalang Valley, the Darkwood/Thora Valley, and an area near Dorrigo on the escarpment. Estimates of the populations of such communes are even more difficult, especially as by the very nature of communalism, membership may be transient and total numbers vary. It is difficult to make exact approximations of these numbers from Census materials due to the break-up of areas on a Census Collector's District (CD) basis (typically along rivers or roads which tend to be the central foci for such communities). However, reference to the section on Population Characteristics and Growth indicates that both the Darkwood/Thora Valley and the northern side of the Kalang Valley are contained within one exceptionally large Collector's District. This CD includes the Boggy Creek Valley which also has at least one large communal settlement. The CD in total contains a population of 648 persons which of course includes other rural settlers as well. However, it is significant that in 1976 this CD only contained 410 persons, this area consequently exhibiting one of the highest rates of rural population increase (58 per cent) and a high 63.5 per cent change in total dwellings. The effect of the new settlers in swelling rural populations can thus be seen, although exact enumeration cannot be established.

The integration of these groups with the local community has not been smooth. Various overt conflict has arisen on several occasions over matters on which the two groups philosophically seem to disagree. The acceptance of the alternative

lifestyle disciples, has, in the words of Short (1981, p.49) been "much more traumatic" than the increase in the general population, the growth of tourism or the spread of industry in the area. The community's adaptability to change has been sorely tested, and it has been admitted that in some cases, the situation appears to have been "handled quite badly" (ibid.). Again in the words of Short:

"During the latter part of the 1970's conflict between new settlers . . . and established rural communities and the local authorities was commonplace. . . . the unauthorised multiple occupancy of rural lands, the construction of buildings used for residential purposes without local authority consent and the general anti-bureaucratic approach taken by new settlers did little to endear them to the local community." (1981, p.49)

The culmination of a long period of simmering conflict appeared to be the demolition of the Community Centre in Bellingden, which became almost a symbol of the new lifestyle. Equally, in ridding themselves of this building, and the activities which occurred therein, the local community appeared to virtually score a symbolic victory over the new settlers.

The new settlers, however, have held the upper hand in terms of retaining the freedom to practice their alternative lifestyle. As Short notes:

"Local councils who reacted by proceeding at law against the invasion found the going tough and to a large degree unproductive. . . . not only were the (settler's) structures erected without consent, but councils did not have the authority to approve them anyway. At the other end of the scale, the new settlers had hang-ups about dealing with authorities." (1981, p.48)

The problem of integration of these groups, then, has occurred both in a social sense and in a planning or statutory sense.

The environmental study can only attempt to aid the assimilation of the new settlers in the latter areas. However it is considered that alleviation of at least one of the bases of objection of the old community to the new (i.e. that they don't have to abide by the same, or indeed perhaps any rules, if they don't wish ) by planning means, can only aid the social assimilation of the two groups.

### 9.3 The Impacts of the New Settlers

Evaluation of the potential for physical assimilation of rural communes into the land use patterns of the Shire must give some consideration to the impacts of these settlements on the environment in which they are located. Are some types of localities better suited to the establishment of multiple occupancies than others? Are the effects of multiple occupancies likely to be less in some areas than others? Do some areas have the facilities and characteristics which can support multiple occupancies, and not others?

An initial concern is the relationship of rural communes to commercial agricultural land. According to Powys et al. (1981, p.20), the new settlers have generally moved into areas "traditionally regarded as having little or no usefulness agriculturally" other than forested areas which do have economic importance. This has tended to be the case in Bellingden where it would appear in many circumstances that the agricultural productivity of the land has actually been increased by the new settlers over its former state. This has frequently been related to the loss of viability of

the dairy industry and consequent disuse of some agricultural land. However, it should be realised that due to the type of farming practices of the new settlers, an increase in agricultural productivity in this manner rarely results in an increase in commercial viability. It is consequently seen as desirable that rural communes do not establish on existing agricultural land of high viability, a possibility which to some extent is safeguarded by the relatively higher land costs attributed to such properties and the availability of cheaper land of adequate agricultural capability.

Following from this, a point of some concern has been the effect which such groups may exert on the environment in which they are located. As Taylor notes (1981, p.58):

"Environmentally, an influx of people like this is potentially disastrous. Degradation and negative effects on the environment can occur in a number of ways, but mainly through pollution of water, air and land through unwise land uses, high densities and the use of accumulating poisons and chemicals."

Gradual road deterioration is an added effect of increased use, although naturally the cars of multiple occupants represent only a proportion of road use. Where roads are unsealed heightened environmental degradation from dust will undoubtedly be a result of increased usage.

These types of degradation would almost certainly occur with any normal influx of the numbers of people involved and, in some cases, establishment of residential land use to the types of densities being promulgated. Some multiple occupancy proposals which have been made to Council, for instance, involve the addition of up to 30 or 35 people on properties in the Darkwood/Thora Valley. One in the Kalang Valley aims eventually for 120 people. The latter could represent an increase of up to 20 per cent of the total CD population in one development alone, at peak capacity.

The likelihood of environmental degradation in the face of such a population influx seems to be lessened, however, by the environmental consciousness which appears to characterise most of the new settler groups. The type of alternative lifestyle being practised is, in fact, one which is by definition very much in harmony with the environment, as Taylor terms it ". . . a simple productive symbiotic relationship with the environment" (1981, p.57). To some extent this relationship is also self-regulating. The numbers of people on any particular commune generally appear to limit themselves to a workable sized community, reasonably able to be supported by the agricultural capabilities of the land parcel. Undue pressure does not appear to be placed on the land in this regard, and a good deal of each commune (Munro-Clark suggests, in the majority of cases "the larger part", 1981, p.64) is usually left uncleared for such purposes as regeneration, natural beauty, wilderness, declared or undeclared wildlife sanctuaries, carefully monitored timber getting etc. From our observations, it would appear that those parts of the land which are designated for production are usually the subject of careful long term planning to ensure continued agricultural usefulness.

The avenue where adverse environmental effect is more likely to occur is in the disposal of waste products. The majority of communes locate themselves on or adjacent to a river, often with tributaries running across the property. In general, the new settlers appear very conscious of the need to maintain the quality of water in the rivers, especially as many communes draw water for residential use directly from them. It appears a commonly adopted principle that no soaps or detergents are used in the river, and it is the intention of the various groups that no wastes are discharged into it.

In 1977 and 1982, students of Sydney University Department of Geography, under the direction of Dr. R. Warner, undertook water quality tests at various locations on the Bellinger River between Woods Creek and the town of Bellingen. Tests were made to determine the levels of dissolved oxygen, nitrate, iron, phosphates, copper, turbidity and suspended solids. The tests are designed to familiarise the students with the processes, techniques and equipment involved in water quality testing. They are only an indication of the existing situation, and in order to fully determine the water quality of the Bellinger River, a systematic programme would be necessary.

However, the isolated testing which has been done indicates broadly that there has been no discernible decline in the water quality of the Bellinger River down as far as Orama, or a little to the east of Orama. However, below this point there has been a marked increase in the level of nutrients in the river.

The main source of such nutrients is effluent, including human wastes, fertilisers and detergents. The addition of nutrients to the water results in an increase in nitrogen, phosphate and trace elements within the river system, subsequently resulting in algal blooms and macrophytic plant growth both in the river and along the channel. High levels of certain trace elements can also render water non-potable. While accurate test results are not available it is not believed that the situation is anywhere near this serious. Overall, the River in its upper reaches remains very clear, but there are high turbidity levels around the Town of Bellingen and in those areas where gravel has been extracted. There is also a significant increase in water temperature in the vicinity of the town.

On the basis of the tests, some decrease in river quality downstream of the known locations of some communes has apparently occurred. Whether or not the communes are causing this deterioration, contributing to a deterioration which is resultant from other causes, or having no effect on river quality, cannot be determined. It is the opinion of the individuals involved in analysing the Bellinger River water quality that the general deterioration of the river, its siltation and turbidity, stems mainly from the clear felling and logging of the catchment area over the last 30 to 40 years. In short, the tests can only be taken as a very broad scale indication of the existing situation. Isolated tests, such as those undertaken in 1977 and 1982, cannot be accepted as a reliable source of water quality information, as they may clearly have been influenced by unrepresentative factors.

It is also believed that the water level in both the Bellinger and Kalang Rivers has decreased substantially in recent years, despite an increase in rainfall over the last 35 to 40 years. While this does not appear to be related to the amounts of water which are drawn from the respective rivers by communes, a continually decreasing water level may nevertheless affect such communities in the future if they depend on the river for domestic and agricultural purposes. It has, in fact, come to our notice that in various places groups obtain all water needs by pumping from the river. This is permitted without licensing in certain circumstances. According to the Water Resources Commission, generally speaking:

"... 'riparian occupiers' (occupiers with frontage to a river) may take water without the need to obtain a license for stock watering and domestic purposes, provided the capacity of the diversion works does not exceed 50 litres per second and, if a dam or excavation is constructed the capacity may not exceed 7 megalitres and it must not be detrimental to the interests of other water users, or to the

environment. 'Domestic purposes' includes the irrigation of up to 2 hectares of fodder crops for animals kept solely in connection with the use of a dwelling house and up to 2 hectares of domestic garden, the produce of which is not for sale."

These exemptions are contained under Section 7 of the Water Act of 1912. The Water Resources Commission has not determined, to date, whether the provisions of Section 7 'riparian rights' are being observed or not. It also does not appear likely that this will be determined in any methodical form in the near future, both because of manpower shortages and because of the relatively lesser significance of the amounts of water drawn by multiple occupancies in comparison with large agricultural uses. In practice, then, water supply from at least the Bellinger and Kalang Rivers therefore does not act as a planning constraint to the proliferation of multiple occupancies in their respective valleys. Less well-fed rivers could conceivably act as such a constraint - however, even on these, unless fed by dams of known capacities, no estimate of the actual critical constraining point has been made by the Water Resources Commission which could be used as a planning guideline.

Theoretically, as many multiple occupancies as wish to establish or can establish in either the Darkwood/Thora or Kalang Valleys could expect to gain riparian rights. However, the Water Resources Commission points out that these rights refer only to a share of the water available at any time. Hence, if a particularly dry period should occur, the Water Resources Commission has the authority to restrict each user's share as it sees fit. Generally, these restrictions are imposed in the order of industrial use, commercial irrigation, stock water usage and finally, domestic usage. Thus, the water supplies of multiple occupancies are likely to be reasonably well protected, especially in the above-mentioned valleys, even in the driest periods. Nevertheless, the effect which the proliferation of these domestic users then has on limiting water supplies available to industrial or, in particular, agricultural users in the same valley, must be given planning consideration. Some broader scale planning implications do therefore exist in relation to the use of river water as well as micro-level restrictions to each property. In the light of this it appears surprising that little use of rainwater is attempted to be made although some algal problems due to the intermittent frequency of annual rainfall are believed to occur.

Certainly, a matter of some environmental concern has been the methods of disposal of sanitary wastes employed. The usual means of disposal are either septic systems, earth toilets or methane digestors. Our observations have indicated that, generally, considerable forethought is given to the method of disposal selected, and regulation of the system chosen appears to be usually quite strictly adhered to within the commune. Nevertheless, health authorities' concern over the methods of disposal employed other than septic systems, are understandable, especially as it appears that organically composting toilets are a commonly adopted method and have not yet been approved for use. Some consideration is given to this problem in the draft document, 'Low Cost Country Home Building' published by the Department of Environment and Planning in May 1981, which suggests that home builders wishing to construct a composting toilet should consequently choose a well-documented design and consult the Council health surveyor to arrange for the toilet to be tested in use over a specified period by the Health Commission. It also suggests that home builders should discuss the most suitable locations for cesspits with their Health Surveyor, to avoid contamination of water supplies.

It is not known whether such steps have been followed by communal groups. However the setting up of many systems would have predated the publication of this document, and combined with the fear of an unsympathetic attitude from Council or reprisal against illegal buildings, it is doubted whether such advice would have been sought in most cases. Nevertheless it should be recognised that considerable expertise and experience is passed on between the communes, and that there is usually an underlying concern to avoid illness and spoiling of their environment.

The disposal of household garbage does not appear a significant problem in the majority of cases. A specific aim of most groups is "to waste nothing". Most 'wastes' are consequently recycled for some useful purpose; what can't be used is either burnt or buried on the property or transported to the Shire tip. The latter would seem fairly infrequent and not all groups use this Council service, as generally the opinion seems to exist that most properties are large enough and non-disposable wastes small enough to successfully dispose of these products.

Generally then, it can be concluded that the intention of the majority of the alternative lifestyle dwellers is to live in harmony with the environment, rather than to degrade it. Certainly the new settlers have become known for their attitudes toward environmental and conservation issues. As Atkinson noted at the 1981 Valla Conference (1981, p.43):

"Some of them, as you well know, by demonstrating against rain-forest logging and beach mining have been prepared to confront some of the most powerful and ruthless vested interests that a modern society can produce."

In the majority of cases it would appear that "this same passion" has been directed to the home environment. Most new settlers would consequently maintain that their occupation has served to **improve the local environment**, and, further, to **raise the environmental consciousness of the local community**. As Taylor notes, for instance (1981, p.52):

". . . the new settlers are generally more environmentally aware and therefore restrained in abusing the environment. Few, if any, would use chemical sprays of any sort and recently outbursts and protests were made at alleged spraying of 2,4,5-T over areas adjacent to water supplies."

Atkinson notes other environmental measures which are adopted by new settlers. Control of erosion is occurring, for instance, most particularly in the vicinity of house and hamlet areas, by terracing, soil improvement, garden cultivation, and the planting of fruit trees etc. The close clustering of dwellings eliminates the needs for extensive road and track systems, thereby further reducing erosion problems. It is claimed that where previously monocultural methods discouraged diversity in animal life, there is now a wide variety of different plantings being made. The keeping of pet cats and dogs is also generally discouraged, resulting in the return of a large number of native birds and animals.

A further area where environmental protection is considered to be exerted is in the provision of fire control. Although not a general rule, it appears that most groups are fire conscious, especially as properties often adjoin State or private forests; and breaks are usually consequently maintained around central buildings. It is expected that most rural dwellers would take such precautions, given the very limited availability and capacity of fire fighting equipment. However the residential quarters of new settlers are usually located more amidst the bushland and the same

precautions may not occur here. The point to be made in this regard, however, is that the location of residential quarters in these locations would not significantly exacerbate any bushfires in such areas. The risk is rather to the dwellers and dwellings themselves, and given the general low priority which is attached to material possessions, it is believed that the settlers would sacrifice such dwellings in order to ensure safety of lives. Nevertheless, from a planning point of view, it would appear desirable to ensure this protection as far as possible given the inclination to build within bushland, by selecting locations within the Shire for occupancy of this kind which are less subject to high fire risk.

#### 9.4 The Planning Response

The above section has given some idea of the environmental criteria and safeguards which it is considered should apply to the location of communally occupied rural settlements. These can be summarised as:

##### Essential Criteria

- \* Located on land parcels within which some degree of privacy from public roads or places is afforded to proposed dwelling sites and, in turn, within which the erection of dwellings or other buildings can occur without the creation of an adverse visual environment from public roads or places or adjoining land parcels.
- \* Not located on prime agricultural land, at most utilising Class 2 land as classified by the NSW Department of Agriculture, but only where that land can be shown to have factors limiting its suitability for agricultural use (e.g. proximity to urban areas, size of parcels etc.).
- \* Located on public access roads preferably sealed, but whether sealed or unsealed, capable of supporting the projected increase in vehicular traffic and if unsealed, subject to specific development contributions to be set aside for the purpose of sealing that road.
- \* Located on soils of moderate to high absorption properties, preferably avoiding heavy-clay areas which may not permit adequate disposal of sanitary wastes.
- \* Located in areas where development will not create undue surface run-off or lead to problems of soil erosion in the subject or surrounding lands.
- \* Located on land at least part of which is topographically suitable for the construction of dwellings (i.e. without such constraints as excessive slope or proneness to slip).
- \* Located in areas where the adequate drainage of domestic wastes is possible without adverse affectation of the subject or surrounding land or waterways.
- \* Located within reasonable proximity to service towns and community facilities.
- \* Located in areas of low to moderate fire risk.
- \* Located on land parcels of sufficient size, given the agricultural capability of the land, to potentially sustain the proposed number of inhabitants and to prevent degradation of the subject or surrounding environment by population pressure.

- \* Not located in areas of high environmental, scenic, archaeological or heritage significance.
- \* Located in areas where the nature of adjoining land uses is such that they will not be adversely affected by, or adversely effect, the carrying on of an alternative lifestyle.
- \* Not located in existing or proposed proclaimed public water supply catchment areas.

#### Desirable Criteria

- \* Preferably located adjoining a major river of potable quality with riparian rights available. Alternatively, adequate availability and provision to be shown for tank water collection.
- \* Preferably a perennial stream or streams crossing or abutting the property.
- \* Preferably located on land able to be shown to be of diminishing or low agricultural viability, desirably due to long term changes in agricultural marketing, technology or the like, rather than short-term cyclical fluctuations.
- \* Preferably part cleared/part forested land, to enable subsistence or small agricultural cropping, areas for main buildings in less fire-prone areas etc., while retaining areas of natural resources (e.g. firewood, building materials, native flora and fauna), beauty and privacy.
- \* Preferably located in areas to which flood-free access to community facilities such as doctors, shops, schools, hospitals etc. is available, and if liable to be flood-bound by the inadequacy of existing bridges, subject to a specific development contribution toward the upgrading of that bridge or bridges.
- \* Preferably located in areas from which **alternate** access is available, for instance at times when roads may be cut by fire.
- \* Preferably located on existing school bus routes.

#### 9.4.1 The Existing Response in Bellingen Shire

To date, the location of these settlements has been haphazard and regulated only infrequently and negatively by planning controls. Bellingen Shire Council has not yet adopted the multiple occupancy provisions recommended by the Department of Planning and Environment. It is known that at least one application for approval to establish a multiple occupancy has been with Council for "some years" and the appropriate application fee paid. These owners are anxious to legally occupy their lands. However the lack of provision in the planning instruments for such types of uses in the **majority** of cases has **not** meant their non-establishment. Other new settlers have made application simply with the desire to 'legitimise' their existence. In the absence of approval they have illegally occupied land acting on the belief that Council will not forcefully remove them.

This does indeed appear to be the stance which has been adopted by the authorities in Bellingen. In the absence of any legalised policy to enforce, Council has not issued demolition orders 'en masse' to existing buildings illegally constructed by new settlers; no premises have been bulldozed; and despite some new settlers' beliefs,

Council has not participated in any aerial reconnaissance to 'spot' illegal occupancies. It has, however, attempted more **positive** measures to control the proliferation of illegal dwellings. It has tried to encourage the lodging of formal building applications by the declaration of a 12 month 'amnesty' on illegal dwellings; it has lodged public newspaper advertisements encouraging consultation with Council and notified the public of their legal obligations in respect to building and development; and only as a last resort, it has issued stop work notices on illegal buildings under construction.

While some success has been achieved this way in bringing dwelling standards up to building regulations, the problem of a lack of planning regulations has meant that the stance adopted to date has been unsuccessful in regulating the proliferation, or more importantly, the location of these types of settlements. Multiple occupancies are consequently not always located in the most desirable location from the point of view of Council, and in the absence of knowledge on such issues as areas of high fire risk, probably not always in the most desirable location from the point of view of the settlers.

There appears a common belief that adoption of multiple occupancy provisions may result in a proliferation of communes in the area, because of their 'legalisation'. In the light of the above, we do not believe that this would be the case. Rather, by somewhat restricting the areas into which communes can go (by synthesising the above types of factors of location) and providing a legal system within which they can establish, we believe that Council may be better able to regulate their proliferation. Undoubtedly some communes will still establish 'ultra vires'. However, Council will be in a much better position to enforce compliance with its controls if it provides a legally accepted alternative method of provision for this type of lifestyle.

It is our consideration that Council must provide in its Local Environmental Plan for this type of lifestyle, given the above need to establish a rational basis for regulation and enforcement, but also given the numbers of people actually wishing to participate in this type of lifestyle in the Shire.

What type of planning response is required? Are the multiple occupancy provisions adequate to regulate development **and building** in a manner acceptable to both authorities and new settlers?

#### 9.4.2 The Development of a State-Level Planning Response

It is briefly worth considering the evolution of the multiple occupancy provisions. Hume outlined this history in his paper at the 1981 Valla Conference. The first major pronouncement on Non-Urban policy was made via a State Planning Authority Circular (no. 67) on April 19th, 1973. The main purpose of this policy was stated as:

"To ensure that adequate planning controls exist to prevent the small residential type subdivision in the non-urban zones, without at the same time restricting subdivision for genuine rural activities and a modest provision for the genuine rural dwelling. There are four basic reasons for these controls:

- (i) to protect the rural potential of non-urban lands and prevent the fragmentation of viable rural holdings;
- (ii) to prevent premature and sporadic subdivisions and to ensure consolidation of urban areas, thus enhancing the prospect . . . (of providing physical and community services in the urban areas).

(iii) to prevent, on the fringe of urban areas, the subdivision of lands into small lots which would prejudice the proper layout of additional urban areas . . .

(iv) to avoid ribbon development along main traffic arterics . . ."

The measures to achieve these aims were incorporated into the Interim Development Orders of rural Councils. The most important and probably the most widely known provision was the 40 hectare minimum subdivision size."

As Hume states:

"As far as I can ascertain the figure of 40 hectares was somewhat arbitrary and bore no relation to the likely size of a viable farm unit over much of the State. The 40 hectare policy should probably be interpreted therefore as an attempt to limit the proliferation of subdivided lots in rural areas by imposing a minimum size that clearly required more than casual or part-time management. Forty hectares clearly represented a 'farm' rather than a 'hobby farm' or a 'rural retreaters block.'" (1981, p.28-29)

Provision did, however, exist for higher or lower minima to be created if the circumstances warranted. As Hume notes, in summary, these exceptional provisions covered:

- "(i) The creation of appropriate blocks to serve land uses permissible with Council's consent in rural zones (in addition to agriculture and forestry which usually don't require consent).
- (ii) Special zoning for 'low density residential uses' or 'smaller lots for economically viable agriculture' where a 'need' could be demonstrated.
- (iii) Dwellings could be erected on the basis of one 40 hectare lot.

and the greatest concession of all:

- (iv) A maximum of 3 lots could be created from an 'existing parcel' of at least 40 hectares at Council's discretion for the following reasons:
  - (a) for agricultural purposes;
  - (b) to enable the construction of a dwelling house for the owner, for a relative or for an employee.

In this case an 'existing parcel meant the total area of land in the ownership at the day the provisions came into effect.'" (1981, p.29)

A further circular (No. 74, November 2nd, 1973) specified some of the criteria by which additional areas for small area subdivision might be identified.

On February 10th, 1977 the new Planning and Environment Commission issued a circular (no. 13) revamping the rather negative 'Non-Urban' lands policies with new 'Rural' lands policies. This policy widened the variety of standard rural zones for use in planning instruments, the basic distinction being between those zones which

are designed for environmental protection and those designated for some kind of exploitation. In particular, a Rural 1(c) or 'small-holdings' zone was created to enable lots less than 40 hectares to be created to satisfy genuine demand for rural living or hobby farming. This policy still only provided for single occupancy on farms, however - or single occupancy plus a dwelling for a relative or an employee.

A policy to provide for multiple occupancy of rural properties was consequently developed in Circular 35 (November 7th, 1979) and refined in Circular 44 (July 3rd, 1980), which is included as an Appendix. The policy contains some 14 policy statements which are again summarised by Hume (1981, p.33.).

- "1. Multiple occupancy communities are an appropriate rural land use providing environmental and locational guidelines are met.
2. The policy may be implemented in all or part of a Rural 1(a) Zone or a Rural 1(c) Smallholding Zone.
3. Holdings should be 40 hectares minimum but may be as small as 20 hectares where this is the prevailing lot size in the locality.
4. No future subdivision is permitted.
5. Holdings in several parcels shall be consolidated.
6. Two thirds of adult residents must be part of an ownership in common.
7. The density of occupation shall not exceed one person per hectare.
8. Environmental and locational aspects to be considered are:
  - . access;
  - . water supply and drainage;
  - . waste disposal;
  - . relationship to neighbouring land uses;
  - . relationship to existing facilities and services;
  - . bush fire risk;
  - . vegetation;
  - . agricultural suitability;
  - . siting of buildings.
9. No commercial accommodation shall be allowed.
10. Existing multiple occupancy holdings should be & legalised if they meet the requirements but a building
11. application must be submitted.
12. All buildings must be subject to the building regulations.
13. A site and development plan showing proposed and future conditions must be submitted with the development application.
14. Rating is to be dealt with by local government."

### 9.4.3 The Development of a Local-Level Response

How adequate is this policy?

Some observers would claim that there is basically nothing wrong with the provisions of the policy - but that the basic flaw is in its method of, or rather lack of, implementation. As Atkinson (1981, p.45) notes:

"It is quite possible for a Council to find in the legislation ways and means of actively supporting and encouraging multiple occupancy . . . . But it is equally possible for a nit-picking council to attack the same legislation with a fine-tooth comb and find legal means to do the opposite and block such development. This multiple occupancy legislation was obviously framed to **enable** it to happen as an acceptable form of development. But its wording can be misinterpreted, its intention can be over-ridden and it can even, if you try hard enough, be twisted right back on itself and used to **prevent** the very development it was intended to facilitate."

Further, as Hume observes (1981, p.30):

"Unlike the 40 hectare policy it was left up to individual Councils to implement (the multiple occupancy provisions) and the author knows of only two which are doing this plus one more that intends to. The only Council which has the enabling provisions actually in its planning controls is Lismore. The provision was inserted by the Minister for Planning and Environment in February 1980 and Council gave the impression it was not pleased with this. To date I believe no applications have been approved under the provisions!"

While in fact, two new applications and five to expand existing legalised multiple occupancies have now been made in Lismore, Hume is still not averse to suggesting that it may be appropriate that the multiple occupancy provisions are implemented as a State or Regional Environmental Planning Policy, as is provided for by the new Environmental Planning and Assessment Act. To the best of our knowledge, Tweed Shire is the only other Shire to have implemented the provisions (on September 25th, 1981). It has approved only one application under the provisions and none retrospectively, unlike Lismore. Even so, State or regional interception does not appear to have been seriously considered as an option, up to the present time, although there are certainly advantages in this occurring.

Either a State or Regional application of the policy would ensure that in all areas considered suitable by the Department, multiple occupancy provisions would operate. It would almost surely ensure that in all those areas where 'suitability' has been indicated by the illegal establishment of large numbers of new settlers, a framework would be provided within which new and existing settlers could live and establish legally. Imposition of controls at this level is free of the possibility of any biases and attitudes being held by individual members of local governments. It can ensure that controls apply equitably and universally across whole regions or the whole State.

On the other hand, a policy implemented at such a level cannot take account of variation at the local level, which may justify slight alteration in the way in which the policy is applied. Some local level variations to the State-recommended policy would indeed appear appropriate in the case of Bellingen. The following areas of discussion arise in this respect.

### Minimum Lot Size

It would appear that a case may exist in the Bellingen Shire in relation to the minimum size of land parcels suitable for multiple occupancy. While the State-recommended minimum is 20 hectares, it would appear that in Bellingen Shire, the existence of a large number of already subdivided land parcels, some multiple occupied, between 15-20 hectares and even lower, may justify the adoption of a different limit. The rationale and logic of such a standard must also be considered within the context of the whole rural subdivision pattern and policy, and is consequently further addressed in that section.

### Area of Application

A further very localised problem is the areal extent of multiple occupancy. Simply by virtue of the combined consideration of the above-listed essential criteria of location, it may be possible to identify areas which are, and are definitely not, suitable by their very nature, for multiple occupancies. The suitability of particular land parcels and proposed developments on them, on a more detailed scale of consideration, will also need to be subject to closer scrutiny at the development application stage. It is 'desirable' criteria of location such as those listed above, which should be considered at this time. Finer level considerations can also be contained in a Multiple Occupancy Development Code.

However, there would appear strong rationale for identifying broad areas within which multiple occupancy development applications will be accepted, by the use of **planning** techniques, whether attributing them separate zonings, or attaching clauses relating to them within the Local Environmental Plan. By limiting the areas initially under consideration, Council is guiding potential occupants to search for suitable properties in safer areas; areas which are environmentally strong enough to cope with the demands placed on them; and areas which will not be also being sought after for agricultural purposes. The net result to both potential occupiers and Council should be able to be viewed in terms of time and cost savings rather than a restriction of choice.

Certainly the planning workshop of the Lismore seminar on hamlet development recommended that specific zones, if rather large, be refined from the general 1(a) zones recommended to be adopted as interim multiple occupancy areas, as soon as practicable. In the words of the summation of this report, ". . . it is thought to be unacceptable by a number of people to have a Shire-wide application operating in the long term" (1980, p.67). When implemented in Lismore, then, the provisions were confined to seven Parishes. Tweed Shire did not initially limit the areal application other than to all 1(a) and 1(b) zones. However, it is now in the process of redefining the areas of application to areas outside dam catchments.

This approach will also, of course, spatially limit the application of multiple occupancy provisions to 'genuine' agricultural situations where an extended farming family wishes to establish a multiple number of dwellings. However, it should be recognised that some system of 'concessional' provisions will be applied in the Local Environmental Plan to all rural lands in the Shire, and should cover the needs of the majority of 'genuine' agricultural land users. The multiple occupancy provisions are intended rather as a method of catering for the needs of a different group and therefore undue concern should not be exhibited at this seeming inequity.

### Density

The density of proposed occupation is a further policy provision which, it can be argued, could be more aptly determined on a local level. The State-recommended maximum density is one person per hectare. While this may appear a relatively reasonable figure (and no field evidence appears to have been offered to support or oppose this figure, probably because most developments have not yet neared the permitted maxima) the measurement of density simply in terms of numbers of persons appears to leave something to be desired. Council officers have no means of controlling the numbers of births which take place on multiple occupancies; an additional child born to a woman on such a development can hardly be ordered away.

In an attempt to overcome this problem, the City of Lismore Council adopted the only apparent method of control open to them - control over the number of buildings erected - and related this to the State-recommended density provision. The result was a policy which set a maximum permitted density of one 'living unit' per each two hectares of the total parcel. This in effect assumed that each living unit would contain an average of 2 persons. A living unit was defined as "the area of a building occupied by a single family usually consisting of parents and their children who live and act in accordance with the conditions maintained by the accepted head of the family". Tweed Shire has set a figure of one 'dwelling house' per 5 hectares, seemingly assuming an occupancy of 5 persons per dwelling, or 1 person per hectare, whichever is the lesser.

Such figures would appear difficult to set, and easily exceeded. In the light of at least one recent multiple occupancy approved in principle, it would appear that such a control may be too open. Indeed, the particular development, in the Terania region, has caused fears that the policy as a whole, and in particular the looseness of the permitted co-operative structure "or the like", may be too open and consequently subject to commercial abuse. Certainly it would seem that part of this 'looseness' may be able to be overcome by the tying of density to the number of habitable rooms per hectare, rather than the number of dwellings per hectare; and we would propose that the maximum permitted density adopted within the Local Environmental Plan might better be tied to this yardstick, with a determination of the occupancies per habitable room being made prior to formulation of the Local Environmental Plan.

In this event, the definition of 'habitable rooms' will be critical, and it is suggested that this term is better defined negatively, i.e. as any room excluding a kitchen, bathroom, laundry, toilet or living room. Given that living rooms are often provided communally, the density per 'bedroom' as such, will need to be slightly lower than might otherwise be the case to take into account the possible use of a 'living' room for sleeping. Additionally, given the propensity toward the use of 'lofts' for sleeping, a loft even if within another habitable room, should be defined as a habitable room.

To further control the spatial arrangement of living units, a second density control was incorporated in Lismore's code. This was that the density of living units within a circle of radius 55 metres (an area of approximately 1 hectare) centred on the proposal should not exceed 4 existing units. This kind of control would also seem necessary to ensure that all dwellings on a very large parcel are not grouped together village-like with the remainder of the land untouched. The environmental consequences in such an event would be much greater. This kind of control is equally easily translated to habitable rooms per 55 metre radius. This aspect also controls the absolute number of people which can be established on a property which may have a total area of say 100 hectares but only comprises 5 habitable

hectares, due to excesses of slope or other factors. It is an easier control to implement than a net density or a limit to the amount of any property which can contain slopes over thirty-three and one third per cent, or similar standards in relation to other constraints.

### **Tenure**

Tenure or ownership could also be considered a matter for local decision-making. While it is not considered appropriate to consider this issue further here, it is worth noting that Lismore Council requires a caveat to be placed in the name of Council on all land in a proposed multiple occupancy parcel, preventing the disposal of any part of the parcel by direct sale or subdivision without the written consent of Council. This safeguard, above and beyond the sighting and approval of the articles of association, deed of agreement or trust document binding any ownership group two-thirds of whom must reside on the land, is designed to ensure the retention of the parcel in the 'spirit' of multiple occupancy. While it is our consideration that some safeguards such as these must apply for the concept to be successful, the precise form in which they will be required will be determined at the appropriate stage of wording of the Local Environmental Plan or for adoption as a policy matter. Multiple occupancy provisions generally contain a clause which prohibits development for residential flat, motel, hotel, caravan park or any other type of holiday, tourist or weekend accommodation. However, we believe consideration should also be given to the desirability of not permitting strata titling or company titling (the latter now being under consideration in Lismore).

## **9.5 Remaining Problems with the Policy**

Considerations such as the above are obviously better made and able to be incorporated at the local level; and consequently the reasons are apparent for the government favouring the implementation of the policy at a local level.

Regardless of this, it is clear that there are basic problems which are difficult to overcome at any level, and may still **not** be overcome by adopting the currently proposed multiple occupancy provisions. This may in fact be partly responsible for Council's hesitancy in adopting these provisions.

The first problem is that even while the adoption of the multiple occupancy provisions places an effective control on development of multiple occupancies, it has no answer for the question of **building** control. The second is the question of **rating** which is left wide open to Council by the policy circular. The resolution of this issue opens the question of the impact of multiple occupancies on services, and the desirability or otherwise of developer contributions. These questions are of such significance that they should be examined separately.

### **9.5.1 Building Approvals and Compliance to Ordinance 70**

All buildings constructed on a property which has gained development approval for multiple occupancy must also be subject to building approval. A basic conflict appears to exist here between the desire to construct basic, low cost housing, and the requirement to conform with the provisions of the regulations relating to the standard of construction of dwellings, in particular, Ordinance 70, made in 1972 under the Local Government Act of 1919.

Section 311 of the Local Government Act provides that a building shall not be erected or altered unless the approval of the local Council is obtained **beforehand**. The Local Government Act also then places upon Councils the responsibility of **ensuring** that buildings erected within their areas are erected in accordance with ordinance requirements. As noted by Wilcox (Q.C.) (in Department of Environment and Planning, 1981, p.12):

"... under some circumstances, Councils (and their officers) may be held liable to pay damages to persons who suffer loss or damage as a result of a neglect of that duty. The responsibility is not an absolute one; the Council must be shown to have failed to take reasonable care in some material respect, e.g. consideration of the building plans, inspection of the site or of foundations."

Further, as Wilcox adds (ibid.):

"... in principle there is no reason why new or additional problems should arise out of the increasing popularity of low cost country home building."

However, the fact that problems have been experienced can probably be attributed to two factors - firstly, that building inspectors have been uncertain as to appropriately acceptable standards; and secondly, because of this, that many new settlers have avoided the legal approval system because they feel they will not be given approval in any case. The first point is not necessarily related to a lack of expertise on the part of Council Officers, for as the Minister, Paul Landa, indicated at the Lismore Seminar, a high level of local expertise exists. This reluctance would in fact seem more likely to be related to the lack of definition of acceptable standards, principles or policies adopted by Council in any form in relation to these matters.

It also seems possible that some element of anti-bureaucratic feeling is working in some such cases. As Taylor notes (1981, p.38):

"To the new settlers (of the Rainbow region) . . . there seemed little need to go through such formalities. The general consensus of opinion appeared to be that there was little the Council would do for you anyway and there would always be some modifications requiring more money before approval would be granted. It was seen as just a bureaucratic regulation, best to be avoided if possible."

There is also possibly a philosophical issue at stake. Part of the seeking of an alternative lifestyle involves simplicity and a turning away from the perceived regulated monotony of normal life. Consequently settlers expressed the opinion that as long as they weren't hurting anybody else, they should be free to live in as simple a dwelling as they desired or as innovative a dwelling as they desired. There appears little room in the regulations to accommodate either of these desires.

The fact of the matter is simply that there cannot be different sets of rules or laws applying to different sets of people. No matter how isolated such groups may consider themselves to be, they are still living within an area over which some authority must exercise its responsibility to carry out a set of laws which are stipulated at a higher level than that over which it has control. The power to lift the application of Ordinance 70 to particular areas lies with the State Government, for instance, not Local Government. There must also be moral questions involved

relating to the inequitable application or enforcement of standards on different members of the community. Why should the rules not apply to the new settler, but apply to the farmer next door? If they don't apply to the farmer, why should they apply to the person living in the town?

Reasons given for the exemption of rural communes from the application of such regulations include the necessity of being able to establish low cost housing and also the desire to fulfil only basic material shelter needs. In the first case, as Taylor found (1981, p.37):

"... much of the new settler's financial assets had, in most cases, been spent on the purchase of land, leaving little money to erect a dwelling. Materials were often scavenged from the forest or rubbish dumps and temporary dwellings built. In some cases they were improved upon later when more money was available, but frequently there was never enough money for improvements."

We would suggest that in many cases neither is there any desire for improvement - people considering that they are happier than when in the city, despite the lack of many material comforts (Munro-Clark et al., 1981, p.67), and material comforts and luxuries not being in tune with spiritual aims and aspirations.

According to Wilcox (op. cit.), the fulfilment of aims and aspirations in this regard by the carrying out of low cost building and the use of second-hand materials should not be precluded by the existing laws, as long as care is taken to ensure that appropriate sound materials are chosen and proper building techniques are used. At the seminar on Hamlet Development in NSW held by the NSW Planning and Environment Commission in Lismore, February 1980, it was generally agreed by speakers that Ordinance 70, unlike its predecessor, Ordinance 71, provides considerable flexibility, and but for specific control in respect to room sizes and ceiling heights, permits a wide scope for design. Oakham noted in his paper, for instance that under Clause 10(3) any Council has wide discretionary powers to assess the suitability of a particular material or form of construction (PEC, 1980 p22-23). The then Minister for Planning and Environment and the Minister for Local Government, Paul Landa, ratified this role further, at the same seminar, stating that:

"We're looking to, as a State Government, the local councils to exercise that discretion in a flexible and humane and considerate way, and if that's not forthcoming then there may have to be changes to those ordinances to guarantee some greater flexibility". (op. cit., p46).

Writers such as Atkinson would claim, however, that while regulations such as Ordinance 70 **afford flexibility**,

"unfortunately they can equally well be used to restrict the freedom of the public when the authorities discriminate unfairly and judge unwisely." (1981,p.45)

Local Government Officers would also agree that Ordinance 70 has its difficulties:

"In June 1973, Ordinance 70 was granted assent and became the Building Ordinance for NSW. Unfortunately it did very little to improve understanding of conventional building techniques... It was a document difficult enough to comprehend by a professional working with it on a daily basis. From an owner-builder's point of view it was an impossible task." (Short, Bellingen Shire Council, op. cit)

It also appears problematic to many would-be new settlers, that the owner is afforded the onus, sometimes with very limited financial resources, for proving compliance with Ordinance 70, or soundness of materials or structure.

It has been problems such as these which provoked the formation of an Experimental Building Area Liaison Committee by the former Minister for Environment and Planning, Paul Landa. This Committee, supported by a Technical Assistance Grant, has produced the Document 'Low Cost Country Home Building' referred to earlier.

Unfortunately the document is still in a Draft Stage of formulation. It has been published for public discussion, and comments relating to it will be received up until December 31st, 1982. The aim of the document is to provide information to those with limited expertise in home building, on low cost materials and forms of construction **which are** within the framework of the State's building regulations. We believe that there has been significant comment made by various authorities which will need to be given consideration; and it would appear to us that the precise minimum standards required in various areas to satisfy the Ordinances need to be made clearer. However, the document is an undoubted major advance in showing that low cost dwelling construction can be **safe and lawful**. The publication of a final document, if accepted by all authorities involved, would certainly relieve many of the difficulties which have hitherto made Local Councils hesitant to adopt multiple occupancy provisions. However, in the event that the Committee is unable to produce a final document to the satisfaction of all authorities involved, there would seem no reason why Local Councils cannot formulate and adopt a code or set of policies which to their satisfaction would constitute an interpretation of Ordinance 70 standards relating to local conditions and materials.

We are not aware whether any Local Government groups have actually experimented with the production of one or several prototype low cost dwellings. Certainly various academically or scientifically based bodies such as the School of the Built Environment at the University of NSW, the Earth Construction Research Unit, the Experimental Building Station, are involved in this kind of research. However, it would seem to also be a solution to the problem of non-conforming dwellings for local, state or private bodies to mass-produce a pre-fabricated dwelling, either in self-assembled or assembled form for sale to such groups. This may or may not be acceptable given the ideologies of the new settlers in regard to individuality and the use of the natural materials of the surrounding environment. However, such dwellings could be made of local materials, and could be designed to allow personal flexibility. Given that an important finding of Munro-Clark's (1981, p.64) was that one of the factors which works against self-sufficiency is "the need to give priority to other work such as home-building", and that a number of communities spoke of the **slowing down** of their goal achievement programmes because "a handbuilt house takes a long time to build", it is not considered that the attitude toward the availability of pre-fabricated structures would not be entirely negative. Further, because:

"... the irony is that for many communities, in these early days, the only way to secure a sufficient pool of time and energy to put into the struggle to build housing and to establish a sound basis for food production appears to be for them to have at least some of their members on the dole."

This is not always an acceptable action, amongst the new settlers, according to Munro-Clark, who found in her survey that 15 of 36 respondent communities expressed negative attitudes toward permanent reliance on the dole, and only 40 per cent of the adult population of the respondent communities were actually

supported by the dole. Relief from reliance on the dole could then possibly occur if more labour could be released from house building to be given over to production; or possibly if a co-operative building group of new settlers could be established to carry out the pre-fabrication of these buildings for the Council, which could then sell them at cost. This may also improve the new settler's image with the local community.

Such possibilities also present a method of including a low developer contribution type charge on groups when another dwelling is added to a multiple occupancy type property.

### 9.5.2 Rating and Developer Contributions

This type of option opens the issue of the type of rating and/or development charges which should be applied to multiple occupancies.

Opinion appears divided to us on this issue among the new settlers. There appears to be that body of thought which maintains that because they use no or few community facilities or services, they should have to pay less rates than others who do. This attitude appears related to groups who find it very difficult to raise the rate money, especially as rates have increased in recent years along with property values.

A couple of arguments can be advanced against such an opinion:

- \* No community is totally isolated from the Shire in which he/she lives. Even if services are used infrequently, some are used by all new settlers.
- \* There are more people per property using services etc. The farmer next door pays exactly the same rates for only one person's use of the roads, library, tip, etc.
- \* The increase in property values has occurred largely because of the influx of such groups into the area.

On the other hand there are many groups who recognise and accept that they must "pay their share" of the Shire running costs and must contribute something back to the community in which they live. These groups seem to accept that some sort of additional cost or levy should be attached, should a significant number of dwellings be erected on one property rather than one or two.

Another group again has taken it upon itself to provide these facilities. However, the problem with this latter type of approach is that it is open only to very large and organised multiple occupancies and only after they have been established quite some time. Lismore Council, which admittedly has more such groups in its area, has decided on the approach of this group, and has inserted a disclaimer in its code toward any obligation to Council to provide community facilities such as improvements to the public road network, water or sewerage, electricity, telephones, mail services, halls, sporting or recreational facilities, shops, bus services, schools, baby health or medical clinics or libraries. While this approach could be adopted in Bellingen, the fact is that the majority of groups in Bellingen Shire are not able to provide these facilities themselves and consequently, as is evidenced by the existing situation, they are without even elementary community facilities which are demanded elsewhere as a matter of course. To adopt this approach in Bellingen would consequently be to deny these groups these services and, we feel, to shirk Council's duties as a community provider.

Further, even Lismore does not totally deny the need for Council involvement in the provision of communal facilities. It levies a charge of \$200 per head of permitted population on all multiple occupancy developments approved, for the purpose of rural road improvements (compared to an equivalent \$400 per head in other rural areas). Tweed Shire likewise makes a levy of \$2,500 per dwelling constructed, across all rural areas, for the same purpose. Notably, however, these are the only development contributions required of multiple occupants by either Council.

The major areas in which multiple occupancies appear to have a need in relation to community services and facilities are indeed in the provision of adequate roads. Many multiple occupancies appear to have a quite high ratio of vehicles per property. These are frequently older vehicles, the condition of which is not improved by travel over the unsealed roads such as those in the middle to higher reaches of the Kalang and Darkwood/Thora Valleys which lead to a high proportion of the multiple occupied properties. Residents point to danger on these roads as well as other considerations, particularly as they are narrow with some sharp curves, and must be negotiated by the school buses. Even if at minimum, only once a month or so, most new settlers would use the major access roads leading to their local service town, and consequently the standard of such roads is an issue amongst many new settlers.

These settlers, through revived local progress associations or other means, have subsequently exerted pressure on Council to upgrade and/or increase maintenance on their access routes. This has occurred despite the fact that these settlers moved to the area **given** in most cases the pre-existing condition of such roads. It would be fair to say that at the present time both the Kalang and Darkwood/Thora Roads are certainly no worse than say 5 or 10 years ago, and certainly the sealing of these roads extends further up the valleys than it did at those times.

The same situation exists with several of the many bridges which are located on these roads. All settlers located upstream of these bridges located knowing, or with fair chance of ascertaining, that they were locating in areas which could be flood-bound, in some areas for quite extended periods of time. Council has entered into a programme of progressive renewal of many of these bridges. However, key bridges on both the Kalang and Darkwood/Thora Valleys are still subject to flooding and higher residents can be cut off for some time during periods of flood. The question must be asked of the legitimacy of pressure exerted by groups to remove the problem, who established despite the existence of the problem.

In effect, the same argument could be used in relation to the provision of other types of community facilities, in particular schools. This problem has been overcome to some extent, at least in the Darkwood/Thora Valley by the establishment of a Steiner School as well as the existence of a growing public school. However, the principle remains. The proliferation of multiple occupancies has undoubtedly created additional pressures (these are discussed further in the community facilities section), exacerbated existing pressures and resulted in new pressures for the expenditure of public monies to satisfy these perceived needs.

It would only seem reasonable that some application of the user-pays principle should apply both to pre-existing cases and to newly establishing groups as well.

The attachment of a "contribution" per additional dwelling for community facilities deemed to be needed in an area could be determined at the development approval stage and levied at the time of erection of each additional dwelling. The magnitude of the contribution would therefore be known in advance by each proposed new settler. The amount could be determined by Council in much the same way that it

determines developer contributions, after due consideration of the adequacy of facilities and services in the particular location in which the development is to take place, e.g. whether an improvement to the access road is needed or whether some community service or facility is needed in that area. This would need to be determined as a policy matter for **each** particular area identified for multiple occupancy use, rather than adopting a blanket amount. If such a fee should be levied however, Council would need to ensure:

- \* That the money collected is spent in the area collected. This is a normal provision, upheld by the Land and Environment Court, in the determination of developer contributions.
- \* The facilities or services for which the contribution is required, is provided "within a reasonable time" as required by the Environmental Planning and Assessment Act under Section 94. If Council should fail to do this, the applicant is entitled to seek the return of his monies from Council.

The difficulties which may occur in Council imposing this type of contribution are likely to be that:

- \* It will be difficult to determine the amount of contribution likely to be required in real terms at the date of erection of each additional dwelling. Development plans are often extremely long term. To avoid this problem, the solution should be the staging of development proposals.
- \* The definition of a 'reasonable time' may have to be somewhat longer than would ordinarily be the case, given the span of time which it may take to complete developments. The current definition by the Court of 'reasonable' years may consequently need to be determined specifically in relation to this type of development or even particular applications.
- \* This kind of charge pays only for the establishment and not the ongoing maintenance and operating costs of facilities. If normal rating charges are retained as they are, urban dwellers will be subsidising the continued upkeep of these facilities.

The latter fact would seem to indicate that some provision in the annual **rates** charged for multiple occupancies would also seem appropriate. The Department of Local Government has studied this issue and disagrees, commenting that the reasoning behind these proposals makes certain assumptions which are at least arguable. These are that:

"Firstly, it appears to assume a direct connection between rates and demand on local government services. This connection, in a direct sense, does not exist and has never existed, except perhaps in the case of local rates. It also seems to infer some sort of concept of head tax, which has never existed in local government.

Local government rating is primarily a tax, based on the value of land, to provide support for local government. Although this concept is modified both in relation to local rates, and more recently by the introduction of differential rating, there has never been any suggestion, in practice, that an individual ratepayer should receive, or indeed should be able to demand, local government services in proportion to his rates.

Secondly, it is open to doubt that the additional demands placed on local government services would be as high as envisaged by the proponents of the proposals. It is suggested that the very nature of hamlet developments indicates that they will look inwards rather than to the community at large for many of their services.

It appears that in the context of rating, the difference between hamlet development and other development is one of degree only. The Department of Local Government can see no reason why people living in a hamlet development should be treated differently from people living in a block of flats or units, people living in a granny flat, even perhaps a substantial number of people, whether related or not, living in a single dwelling. The judgement in the Dempsey family case (South Sydney Municipal Council vs. Jones and Anor 35 LGRA 342), although given in another context would seem to have some relevance here."

(Annexure 'A' to Report No. 11/81 to Local Government Liaison Committees, 1981, p.1-2.)

Regardless of these comments, the Department concludes that the rating of multiple occupancy holdings will not necessarily be the same as the rating of other comparable land where multiple occupancy is not permitted. As it states, any change in the zoning of the land will be reflected in its valuation and should subsequently be reflected in the rates levied. This could occur by means of imposition of differing rural rates, although "each rural rate is required to be less than the general rate" (ibid.).

If communal facilities are shared on a property, the land would be valued only as one single parcel, unless individual components are capable of separate occupation. The Department therefore makes the statement that:

"As a very general statement, it is probable that in most cases each parcel of land will be valued in accordance with each separate occupation and that either because of size or because of the use or the land, will not meet the definition of rural land. **In these circumstances each valuation will attract the general rate and, because of the level of valuation, is likely to be rated to the minimum rate where one has been determined by the council.**" (op. cit., p.3)

In the light of such statements, it would appear valid that some higher level of rating than is currently attached to the multiple occupancies could be warranted. The ability to fix this rate is within Council's power and within the provisions of the valuation laws.

Lismore Council adopted a rating policy in 1982 which did in fact adopt a differential rural rate in the belief that most multiple occupancies would be able to establish cause for application of a rural rather than a general rate to them. While this rate was 25 percent higher than the rural rate in 1982, in 1983 it is proposed to be as high a differential rural rate as is possible, without incurring a general rate, i.e. the rate is 0.01 cents below the general rate.

A substantially higher rate may, however, not be philosophically acceptable to new settlers. Rates, for example, cannot be tied to the area where they are collected, unlike developer contributions, which is the main reason for favouring this method of contribution. Rural communes already claim they see no return for their rates. It may also prove unsatisfactory to Council. If charges levied in any manner are unacceptable to the new settlers, many will simply seek to remain outside the law

and not make development or building applications. This benefits neither settlers or Council. Settlers will still pay relatively high rates and see no return for them as Council will not be able to determine what level of facilities or services are needed for this unknown body of settlers. This is precisely the situation as it currently stands.

There may be justification in adopting a compromise. It would appear that some sort of **reasonable** developer contribution is needed to establish facilities and services which are sorely needed in some rural areas of the Shire. One is hesitant to propose that some slight level of increase in rates is required to ensure the maintenance, administration and servicing of those existing facilities which new settlers **do use**, or those which they **do need**. It is known that rates are a major expense for communes now. However, it should be realised that they are for **all** Shire residents. We consider this to be a common complaint and not limited to rural areas. Perhaps some justification for a review of urban/rural rate distribution by Council is justified. However this is beyond the scope of this study. We can only suggest that some **small** differential should exist between normal rural properties and multiply occupied rural properties. However, we must stress that the types of differentials and development charges we are talking about are very **minimal** charges. If they are not, (and this may be the case in Tweed and Lismore), these developments will stay outside the system and outside the law. It is not expected that any community facilities would be expensive and grandiose. It may be possible for materials for any structures to be provided by Council and the labour by local co-operative groups. Many facilities may be able to be provided in the form of visiting or travelling services. Above all, it is hoped that Council will be able to set such charges **reasonably**, and in such a form that settlers will be able to see that they will **benefit** for their contributions and therefore be willing to contribute to the system proposed.

It has come to our attention that a very successful community participation technique was used in Bellingen in the form of a committee which resolved the Community Centre issue. We consider that it would be most appropriate if a Community Planning Committee similar to this, be re-formed consisting of representatives from urban, rural and multiple occupied parts of the community as well as appropriate Council Officers and representatives. This Committee could then be vested with the responsibility for determining and distributing equitable and desirable contributions in a manner satisfactory to all concerned.

## 9.6 Conclusions and Recommendations

The solutions to the quasi-planning problems presented by multiple occupancy are consequently not simple.

In strict planning terms the immediate solution is to:

- (1) Adopt a locally-modified set of State Government Circular 44 provisions throughout a sub-set of areas in the 1(a) zone within which compliance with the specified essential criteria of location identified earlier can be met.

These areas will be identified in a following stage of this Study.

However, obviously Local Governments are reluctant to bring these provisions into force until satisfactory solutions are found to the problems with which it does not deal. In this regard we would recommend that Council also:

- (2) Critically review the draft provisions of the 'Low Cost Country Home Building' document with the objective of preparation of a Multiple Occupancy Building Code which Council should adopt as a policy document, particularly for the determination of building applications for the alternative dwelling-types of new settlers (but in fact pertaining to all building in the Shire). Council should be satisfied that the modified standards adopted are such that applications approved in line with it will comply in all respects with Ordinance 70.
- (3) Use this Code until such time as the State Government issues and recommends for general adoption a revised final version of the 'Low Cost Country Home Building' document.
- (4) Prepare a Multiple Occupancy Development Code which will incorporate the desirable planning criteria listed earlier, and also those management or administrative criteria deemed by Council to be desirable in relation to multiple occupancies.
- (5) On the completion of the Code in (2), adopt a transition period during which existing buildings could be inspected and brought up to standard if they presently do not comply with the adopted Code.
- (6) In order to protect itself from possible legal repercussions, issue demolition notices to buildings which do not comply with the provisions in (2).
- (7) On the completion of the Code in (4), request development applications to be lodged by the owners of existing developments and buildings which do comply with Council's requirements, for approval under the new legislation.
- (8) Determine appropriate development contributions based on the community needs identified in the Environmental Study and in liaison with community groups.
- (9) Set up a Community Planning Committee to assist in the process of (8), and in the on-going application of community funds.
- (10) Review rural/urban rate distribution.
- (11) Determine and apply a suitable rate differential for multiple occupancy properties.

Many of the above are not strictly planning issues and further determination of levels of actual contributions, rates etc. will need to be made by Council prior to implementation. However we do feel that by adopting these guidelines as a framework within which to work, Council will be able to develop a working multiple occupancy policy satisfactory both to the authority and new settler.

## 10. RURAL LANDS STUDY

### 10.1 Current Government Policy on Rural Land Use and Legislative Controls

#### 10.1.1 Introduction - Historical Perspective

Urban and rural planning in NSW was introduced in 1945 as an amendment to the Local Government Act of 1919. The provisions of this amendment guided the preparation of planning schemes and interim development orders for local government areas until the planning provisions of the Act were replaced in 1979 with the Environmental Planning and Assessment Act.

State and Local Government involvement in land use planning in non-urban areas was slow to develop, not because of lack of foresight, but because of a lack of identifiable land use conflicts of the nature found in urban areas. With higher densities of development in urban areas, the effect of one development on a neighbour and the community at large can be significant. Such neighbourhood external effects are not generally present in rural areas simply because of distance. This point is important for the development of non-urban land use planning controls in NSW. Whereas urban land use planning as reflected in planning schemes has concentrated on interaction between activities and the impact of, say, industry on residential areas, non-urban planning has concentrated primarily on protecting and maintaining the inherent qualities of the land, and not on resolving these land use conflicts.

Early involvement in non-urban planning in NSW focused on the rural/urban fringe as there was little development taking place in the remaining rural areas of the State. The first controls implemented were in the 1951 County of Cumberland Planning Scheme for the Sydney region which introduced controls over non-urban land at the fringe in the form of controls over subdivision and land use.

There appeared little need for control over development in rural areas away from the rural/urban fringes until the late sixties and, particularly, the early seventies when speculative subdivision gained rapid momentum. The main reasons for these controls were:

- \* the need to control rural land use close to the urban fringe;
- \* the need to protect natural resources (including agricultural land);
- \* the need to protect or conserve the environment.

Control focused on the areas of subdivision control as this was seen to be the major problem. Farmers have traditionally engaged in subdivision to dispose of and acquire parcels of land as an element of efficient farm management practices. However the rise of speculative subdivision which was seen to be detrimental to the long term use and productivity of rural land led the State Planning Authority to evolve a policy response that could be implemented by Local Government.

#### 10.1.2 Department of Environment and Planning Policies and Objectives

State Government land use planning policy is administered through the Department of Environment and Planning. However, its responsibilities cover only a small part of the overall public administration of non-urban areas. There are many other departments with statutory responsibilities over the use and development of non-urban land. Thus it is difficult to develop policy objectives for rural lands that can

be directly achieved through statutory land use planning. There is a need for overall policy co-ordination at the State level to ensure the implementation of a wide range of policy measures to satisfy non-urban objectives.

The role of the Department of Environment and Planning and its predecessors, the Planning and Environment Commission and the State Planning Authority, has always been to supervise local planning initiatives and to undertake regional planning. The evolution of Department of Environment and Planning non-urban policy can be traced through a series of circulars distributed to Local Government from time to time. Broadly, the major policy objectives of these circulars have been:

- \* to protect commercial farming land from subdivision into units too small for viable farming;
- \* to protect areas of natural, visual, scientific or cultural value;
- \* to protect other natural resources such as mineral deposits, forests;
- \* to control scattered ribbon development along major roads;
- \* to control development in hazardous areas such as subsidence areas, flood-prone lands, high bushfire risk areas; and
- \* to manage land on the urban fringe to facilitate further urban expansion.

Plans reflecting some or all of these objectives have been prepared for most rural Local Government areas in NSW. However, the major strategy for achieving these objectives, particularly the first, was control over subdivision.

The major policy instruments for non-urban areas were control of subdivision and the creation of specific land use zones. Planning Schemes and Interim Development Orders contained a range of minimum subdivision sizes from 2.5 hectares up to 40 hectares. By the end of the 1960's a 40 hectare minimum subdivision size in rural areas had been generally adopted by the State Planning Authority, and provision for this in planning schemes became commonplace.

#### **Circular 67 - Policy Regarding Subdivision and Residential Development in Non-Urban Zones**

The first formalised response from the State Planning Authority on non-urban policy was released in April 1973 as Circular No. 67. The policy aimed at ensuring that:

"Adequate planning controls exist to prevent the small residential type subdivision in the non-urban zones without restricting subdivision for genuine rural activities and a modest provision for the general rural dwelling."

The four objectives of the policy were:

- \* To protect the rural potential of non-urban lands and to prevent the fragmentation of viable rural holdings.
- \* To prevent premature and sporadic subdivision to ensure the consolidation of urban areas so as to lead to efficient use of urban facilities.

- \* To control subdivision on the urban fringe that would prejudice the proper layout of future urban development.
- \* To protect rural roads from ribbon development.

The following policy measures to achieve these objectives were recommended for adoption in local planning schemes:

- \* Non-urban zoned land shall provide for a minimum lot size of 40 hectares.
- \* Smaller lots may be created in non-urban zones for approved permissible uses in accordance with Columns III and IV of the land use table.
- \* Smaller lots may be created for economically viable agricultural or low density residential uses in special zonings.
- \* "Dwelling-house" was to replace the term country dwelling.
- \* Workers cottages could be erected on rural holdings to the extent of 1 per 40 hectares.
- \* Provision can be made for concessional lots to be excised from an existing rural holding.

#### **Circular 74 - Policy Regarding Subdivisions and Residential Development in Non-Urban Zones Outside the Sydney Region**

The above measures were clarified in a follow-up circular (Circular 74) issued in November 1973. It emphasised that the aim of town planning legislation is to maintain a proper balance between urban and non-urban land use, and that this aim is usually achieved by subdivision and land use control. This circular elucidated on the 40 hectare policy stating that the State Planning Authority is concerned to ensure that the State is not divided into agriculturally useless parcels of land, and that while more detailed studies are being undertaken to determine the 'technical' capability of the land in order to determine a general minimum rural holding size, the 40 hectare policy should be adopted as a holding measure. Circular 74 also emphasised the need to cater for demand for small acre rural subdivisions and rural residential living, and that this should be located in specific areas or zones.

By the end of the real estate boom of the early seventies and the ensuing 1974 credit squeeze, a number of Shires had adopted the 40 hectare minimum. The credit squeeze and subsequent downturn in the property market slowed down the pressure of subdivision and enabled Councils and the State Planning Authority to reassess the situation.

#### **Circular 13 - New Zoning Policy for Land Outside Urban Areas**

Local Government response to Circulars 67 and 74 and further policy analysis led the Planning and Environment Commission to restate its non-urban policy in 1979 (Circular 13). This circular refined and elaborated on the earlier policy initiatives and provided more specific planning guidelines for the countryside by outlining specific rural land use zones. This circular therefore attempted to standardise planning instruments prepared by individual Councils in response to the earlier circulars.

In order to depart from a simplistic urban/non-urban breakdown, the Commission emphasised a more positive 'rural' planning framework consisting of a number of rural land use zones. This zoning policy recognised a number of different land uses in rural areas and focused strongly on preservation of the natural features of the countryside as opposed to resolving land use conflicts.

### **Recent Policies**

Circular 13 has been refined and elaborated upon by the Planning and Environment Commission, and more recently by the Department of Environment and Planning, as part of the continuing process of rural policy formulation.

The Department's Draft Local Planning Manual (1981) includes an appendix entitled "Guide to Rural Zoning" which essentially elaborates on Circular 13. More recently, the "Rural Land Evaluation Manual" has been released indicating the types of investigations that should be undertaken in planning for rural areas.

### **Non-Urban Policy Review**

The Department is currently undertaking a review of non-urban policies. This review included the preparation of the Rural Lands Evaluation Manual and the Guide to Rural Zoning attached to the draft Local Environmental Plan Manual. As yet however, the review has not been completed and is being discussed by interdepartmental working parties.

### **Current Status of Policies - Factors to be Considered in the Preparation of a Local Environmental Plan**

Circulars 67 and 74 of the State Planning Authority and Circular 13 of the Planning and Environment Commission remain policies that must be taken into consideration in the preparation of Local Environmental Plans under Section 117(2) of the Environmental Planning and Assessment Act. While these circulars deal with the most important aspects of rural policy planning, viz. the control of subdivision and the control of land use, there are other policies and tools contributing to the overall management of the rural lands. These refer to issues such as conservation and development of natural, cultural and aesthetic resources, development in flood-prone land, and tourism. Thus, there are a number of issues involved in non-urban planning which are the responsibility of a number of agencies. As mentioned in the introduction, this paper is concerned only with issues directly related to the above policies and to land use control as implemented through a planning scheme. Thus it is basically concerned with the control of subdivision and land use in rural areas.

#### **10.1.3 Control of Rural Land Use and Subdivision in the Shire of Bellingen**

##### **Interim Development Order (1969) Provisions**

Interim Development Order (IDO) No. 1 gazetted in September 1969 included controls over land use, subdivision and dwelling construction in rural lands of Bellingen Shire. Land use control is exercised primarily through clause 3 of the IDO. This clause and the accompanying table indicates the uses to which the land could be put without Council consent, only with Council consent and also the uses that were prohibited. Such uses extracted from IDO No. 1 are shown below. Map 13 shows current rural land use zoning in the Shire.

Column I	Column II	Column III	Column IV	Column V
Zone and colour or indication on I.D.C. Map	Purposes for which development may be carried out <i>without</i> the consent of the Council	Purposes for which development may be carried out <i>only with</i> the consent of the Council	Purposes for which development may be carried out <i>only with</i> the consent of the Council and the concurrence of the Commission	Purposes for which development is prohibited
I. NON-URBAN: (a) Non-urban "A". Light brown.	Agriculture (other than piggeries or feed lots); dwelling-houses referred to in clause 12 (3) (a).	Purposes other than those referred to in Column II or V.	Industries (other than extractive industries, home industries, offensive or hazardous industries or rural industries).	Motor showrooms; residential buildings; shops (other than general stores)
(b) Non-urban "B". Light brown with dark scarlet edging and lettered 1 (b).	Agriculture (other than piggeries or feed lots); forestry.	Purposes other than those referred to in Column II, IV or V.	Caravan parks; hotels; industries (other than extractive industries, home industries, offensive or hazardous industries or rural industries); mines; refreshment rooms; service stations; transport terminals.	Bulk stores; car repair stations; commercial premises; junk yards; liquid fuel depots; motor showrooms; offensive or hazardous industries; residential buildings; roadside stalls; shops; timber yards; warehouses.
(c) Non-urban "C". Light brown with dark scarlet edging and lettered 1 (c).	Agriculture (other than pig keeping or poultry farming establishments or feed lots); forestry.	Dwelling-houses; utility installations (other than gas holders or generating works).		Purposes other than those referred to in Column II or III.

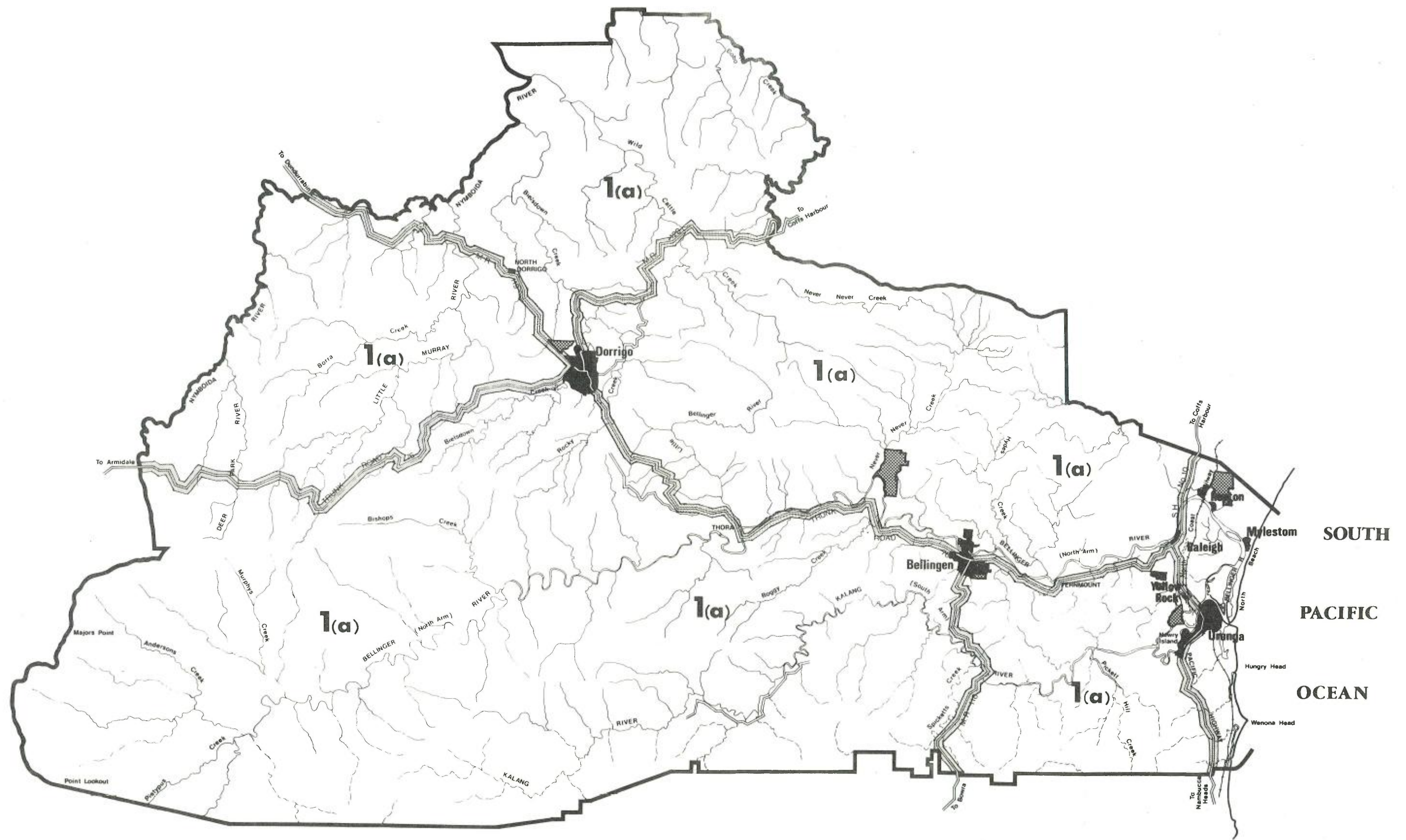
The IDO as gazetted in 1969 created two non-urban zones - the non-urban 'A' zone covering most of the non-urban land and the non-urban 'B' zone covering land adjacent to main roads. The number of land use zones has increased since then. In 1974 an open space zone to accommodate some forms of tourist development was introduced. In 1977 a non-urban 'C' zone was introduced into the IDO. Within this zone, land could be subdivided to create lots with a minimum area of 6,000 square metres. This was the first attempt by Council to provide a rural residential zone for small acre subdivisions. In 1979, the IDO was further amended to create a Rural Environmental Protection Zone in accordance with State Government policy on coastal protection.





Control over subdivision has been the major aim of the State Government's policy on rural lands. The basic principle of subdivision control is to enforce minimum subdivision sizes which restrict fragmentation of land to an area too small to provide the opportunity for the operation of an agricultural enterprise.

Subdivision controls introduced in the IDO in 1969 were included in clause 12. This clause refers to land within non-urban 1(a) and 1(b) zones.

The general subdivision rule is that land within a 1(a) and 1(b) zone shall not be subdivided unless:

- \* each separate allotment to be created thereby has an area of not less than 40 hectares;
- \* the ratio of depth to frontage of each allotment is satisfactory having regard to the purpose to which the land is to be put; and



VILLAGE	
RURAL RESIDENTIAL	
NON URBAN 1(a)	
NON URBAN 1(b)	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**CURRENT RURAL ZONING 13**

0      5km      10 km



Prepared by PLANNING WORKSHOP PTY. LTD. 346 KENT ST. SYDNEY 2000  
 For BELLINGEN SHIRE COUNCIL

- \* the frontage of any such allotment to a main road is not less than 200 metres.

However, under certain circumstances, Council can approve subdivisions into allotments less than 40 hectares. Provision for this is given in clauses 12(2), 12(3) and 12(4).

Clause 12(2) makes provision for the subdivision of land in 1(a) and 1(b) zones into lots smaller than 40 hectares but not smaller than 2 hectares if the land is to be used for agriculture. The need to prove economic viability of the resulting lots was not required. The above conditions on ratio of depth to frontage and the length of the frontage apply. It was difficult to prove whether or not land was to be used for agriculture and, in the absence of evidence to the contrary, this vague provision was usually interpreted in favour of the applicant irrespective of the eventual use of the land. In fact, all of the concessional lot exemption clauses have tended to be interpreted extremely generously by most Councils in NSW and on the North Coast in particular. Adopted minima have been interpreted as 'normal' rather than absolute minima - a problem common to most statutory regulations.

Clause 12(3) allows for subdivision of land in 1(a) or 1(b) zones into allotments smaller than 40 hectares if the Council is satisfied that the lots so created are to be used for purposes permitted in a 1(a) or 1(b) zone. Presumably this refers to 'as of right' uses as well as uses requiring consent. A dwelling house can be erected on an allotment so created if used in conjunction with the purpose for which subdivision was approved.

Clause 12(4) makes provision for the excision of lots within the size range of 1,000 square metres to 4,000 square metres from an existing holding. One lot could be excised if the area of the existing holding was 10 hectares or more; two if it was 20 hectares or more and three if it was 30 hectares or more.

There was also a limit to the number of lots created by subdivision under clauses 12(2) and 12(3). This limit referred not to the parcel of land, but to the existing holdings which is defined as any area of adjoining or adjacent land held in the same ownership at the appointed day (the day the IDO was gazetted). Irrespective of the size of the existing holding, the maximum number of lots that could be excised in this way was 4 (i.e. 4 lots plus the residue).

Under the definition of a country dwelling, a dwelling house could be constructed on an existing holding over 40 hectares or a lot created by subdivision pursuant to clauses 12(2), 12(3) and 12(4). Under clause 17 a dwelling house can be built on any existing holding. Thus the right to erect a dwelling is related to existing holdings on which there is no other dwellings and also lots created by subdivision under clause 12 of the IDO.

A second country dwelling could be constructed on allotments that have a large enough area if Council is satisfied that it is intended to accommodate agricultural workers.

#### **Amendments to IDO No. 1**

These provisions were altered in a major revision of the IDO in July 1978. The major changes were to clause 12(4) allowing smaller lots up to 1,000 square metres to be excised from an existing holding. The new provisions, contained in clause 11, allowed such subdivision provided that the allotment is for the erection or use of a dwelling house by the owner or owner's relative or a person employed in agriculture.

The major change however was in reducing the number of concessional lots that could be created by subdivision. The Table 10.1 compares entitlements under the original and amended Interim Development Order.

Table 10.1: Entitlements under Original and Amended IDO

Holding Size	Amended Entitlements	Original Entitlements
Less than 10 hectares	Nil	4
10 - 20 hectares	1	4
20 - 30 hectares	2	4
More than 30 hectares	3	4

Allotments created in accordance with the above clauses also had one dwelling entitlement. Lots created under the 1968 provisions also kept their right to a dwelling.

Clause 12(3)(e) was inserted giving owners the right to construct houses on lots that formed part of an existing holding at the appointed day if such lots met the conditions of subdivision outlined above.

#### **Effectiveness of the Current Controls**

There are a number of factors that have limited the effectiveness of these controls. These include:

- \* the liberal interpretation of the IDO and the benefit of the doubt bestowed upon the applicant referred to above is obviously one area where the rigidity of the controls was eroded;
- \* the sale of an allotment with separate title but part of an existing holding at the appointed day with no dwelling rights;
- \* the problem of determining who has concessional entitlements after parts of an 'existing holding' have been sold; and
- \* the problem of natural subdivision where a land owner lodges a subdivision directly to the registrar general creating a natural subdivision where two or more parts of the one lot are separated by a road, creek or other natural barrier. Strictly, these lots have no dwelling entitlement. However, because of the expectation in the community to build at least one house on a block of land in separate ownership, political pressure is often applied resulting in Council approval of dwelling development on such lots.

There is no accepted measure of the effectiveness of such policies in achieving the stated objectives. As will be seen below, the subdivision of rural land has not been prevented, yet on the other hand there is no clear indication that agricultural production has been threatened. During the years of relative population and development stability, the system seemed to function adequately. The increase in the rate of development in the late seventies placed strains on the adequacy of the existing system and prompted the current review.

The next section looks at the adequacy of the objectives of rural land policy and the major issues in the rural land debate.

## 10.2 Objectives of Rural Lands Policy - Issues in the Rural Land Debate

### 10.2.1 Current Objectives

The purpose of this section of the report is to review existing objectives of rural lands policy and appraise them in the light of recent research. This will involve an analysis of the major issues in rural land use planning. As a result of this, objectives of a rural lands policy for Bellingen Shire can be developed and specific policies developed to achieve those objectives.

It is emphasised that this section refers to land use and subdivision controls over rural land generally. Emphasis is given to general agricultural land rather than specific policies for environmental protection areas or crown lands which are discussed in other sections of the study. It should also be pointed out that statutory land use controls implemented through a planning instrument are only one of a larger consortium of management tools available to public administrators of various government departments for satisfying non-urban policy objectives. This implies that land use controls might not in themselves achieve stated non-urban policy objectives. More likely they will play a facilitating role by providing a framework within which private individuals and public agencies can work toward the achievement of wider objectives.

#### Complexity of Issues

Different groups in society would place different emphasis on those objectives set out in Section 10.1 reflecting their particular area of interest. This derives from the fact that rural areas perform a number of potentially conflicting roles such as:

- \* supplying food and grain;
- \* supplying economic mineral resources;
- \* supplying land for future urban development and population growth;
- \* supplying land for tourist development and outdoor recreation;
- \* providing a habitat for flora and fauna;
- \* providing aesthetic views and vistas;
- \* providing basic resources such as fresh water, timber etc.;
- \* providing a means of escaping from the rigors of urban life.

It is difficult to develop policies so that all of these roles can be fulfilled to the satisfaction of the different user groups, and it is up to the community and its elected representatives to make the value judgements to give priority to the objectives. **Within this framework it is the aim of the local environmental plan to develop land use controls that will compromise the desires and values of different groups in the community and to eliminate or minimise land use conflicts resulting from the alternative use of rural land.**

The objectives outlined above have been subjected to a great deal of discussion in the literature. Such discussion has focussed on two related issues:

- \* The validity of the need for protecting the productiveness and productivity of agricultural land from incompatible uses, particularly subdivision into sub-economic units.
- \* The advantages and disadvantages of small holding subdivision in rural areas: the small lot debate and the effect of small acre subdivision on production of agricultural products.

The discussion on the advantages and disadvantages of small holding subdivision has been clouded by the diverse nature of users. One of the most important aspects in rural land use planning is the need to clearly identify the various categories of demand for land for rural residential and related activity. (The demand for land itself is a derived or indirect demand, the primary demand being for the use to which that land can be put.) So when discussing hobby farms or small acre lots there is a wide range of ultimate users of the land making it difficult to generalise on the effects of the use of these lots. In view of the complexity of the demand for rural land, the primary objective of rural planning should be:

**To accommodate growth and development, subject to the constraints of preserving the environment where necessary and the ability of social and physical infrastructure to accommodate such growth.**

This is similar in effect to the broad objectives of the Environmental Planning and Assessment Act, 1979. The debate around preservation of agricultural land and small holding subdivision will be discussed below. The identification of problems or disadvantages will lead to the development of guidelines and objectives for the rural land policy in Bellingen Shire.

### 10.2.2 Preservation of Agricultural Land

The preservation of agricultural land is the primary objective of rural land use planning in NSW. Stated more concisely this objective means the maintenance of good quality agricultural land in productive use. The perceived threat to achieving this objective has been rural land subdivision into lots below the size at which a farmer can derive a living for himself/herself and his/her family. As a result, it is maintained that there will be a tendency for land to be taken out of productive use. The relevant points for discussion therefore are:

- \* the scarcity of agricultural land and the relationship between supply of land and agricultural production;
- \* the principle of economic viability and the appropriate size of a viable holding;
- \* the effect of subdivision on agricultural production and productivity.

#### Scarcity of Agricultural Land

The argument for the preservation of land in agricultural use is based on the fact that good agricultural land is a limited resource, i.e. in limited supply while the Australian and world demand for food is expanding. It is based on the argument that world population growth will soon outweigh the ability of the earth to feed, clothe and shelter this population. This contention has been discussed at length in the literature (Beasley, 1980; Davidson, 1980).

While the particulars of the argument will not be repeated here, the weight of evidence leads to the conclusion that the loss of agricultural land is of little significance to agricultural production and that it will be other factors that influence how much food will be produced. Salient points in the discussion are:

- \* Land is only one factor of agricultural production - the others being capital, labour and organisation (research management etc.). Technological advances have led to an increase in agricultural production and productivity per hectare of land in production and there is no reason to suggest this will not continue. Between the years 1960-1961 and 1975-76 the area used for agricultural production in NSW increased by only 0.3 per cent while the value of agricultural output in Australia in constant money terms was 33 per cent.
- \* While land has been taken out of agricultural production in NSW, it cannot be shown to what degree this has been caused by rural subdivision rather than other purposes. Other factors such as soil erosion, salinity and toxicity may be more serious depletors of the State's agricultural land resource. To combat these problems, effort is required from a number of government agencies, and land use planning can only play a minor role.

### **Agricultural Viability**

Preserving agricultural land through subdivision control implies the use of the term agricultural viability. A number of planning instruments in NSW have contained clauses permitting subdivision of rural lands into lots smaller than the standard 40 hectares if resulting lots are economically viable. The term 'viability' is never defined, resulting in vague legislation difficult to implement. This is mainly because of the conceptual problems in defining agricultural viability.

Conventional wisdom among planners in NSW suggests that viability means that sized farm that can support a family farm enterprise of any particular nature. There is no way of generalising to identify what that size can be, however, for a number of reasons:

- \* Farmers are not discrete units. That is it is not possible to clearly define what constitutes a farmer or a farm family. Returns and, presumably, farm size will need to vary with the size of the family, the number of family workers etc. Furthermore, there is an infinite range of people who choose to live on farms or in rural environments extending from the full time commercial farmer, to part-time retired farmers, to hobby farmers to retired people, to rural dwellers.
- \* Viability is influenced more by forces outside the control of land use planners, such as the national and global demand and supply for agricultural products. These are typically cyclical, thus resulting in variable viable farm size.
- \* Viability will depend on the mixed nature of farm enterprises and the extent to which farmers change their operations in response to short or long term market forces.

Thus the concept of a viable farm holding size is infinitely variable and susceptible to change over time. Other problems with viability provisions are:

- \* the ability of Council planners and Councillors to assess viability;

- \* the concept of viability is not related to longer term agricultural production or productivity.

However, there is still a need to define minimum lot size for subdivision of rural land of some type, and a method of choosing an appropriate standard is necessary. This should be related to the existing patterns of subdivision and holding size, the nature of and potential for agriculture in the area, and some concept of technical viability. Technical viability is a more generalised concept of agricultural viability and refers to the effective operation of holding whereby such a holding has to be large enough to support a range of enterprises (giving the farmer the choice to vary his enterprise mix in response to market forces), and large enough to support a reasonable amount of farm machinery.

Other planning factors should be considered also, such as the capability of the land to absorb additional population and the capacity of the existing infrastructure system. These factors will be addressed in subsequent sections.

### **The Effect of Subdivision on Agricultural Production**

An increasing number of studies have been undertaken to specifically address the problems of small acre holdings. Of relevance to the preservation debate is the effect of subdivision of larger, presumably more viable farms into smaller lots that may not be as productive.

Surveys undertaken to date, many of which are reported in Davidson (1980) and Crompton (1981) have provided evidence to suggest that the fragmentation of large farms into farmlets do not necessarily decrease agricultural productivity. The effect of subdivision on agricultural production very much depends on the end use of the land. In the case of small holdings, it has been shown that such holdings are more intensively farmed, thus increasing the overall output and value of production. If the holdings are used only for residential or recreational purposes, then it is likely that agricultural production will be reduced.

It is true therefore that small acre subdivision does irreversibly fragment larger holdings, but it has not been proven that such activity has led to an overall decline in agricultural output.

The arguments about the importance of global supplies of agricultural land and agricultural production, and the threats to this production from subdivision of rural lands are no less pertinent at the local level. As will be shown below, agriculture in Bellingen Shire is expanding and has continued to do so over the period of intense subdivision activity. It is difficult therefore to conclude that subdivision of larger holdings into smaller lots has decreased agricultural production in the Shire or on the North Coast to any significant extent. It would be equally difficult to prove that production is less than it would have been had subdivision not occurred, since such subdivision has enabled more intensive agricultural pursuits to become established.

While agriculture continues to play an important and expanding role in the local economy, it is true that development and land use replacing agriculture will also contribute significantly to the local economy by inflow of outside money and expertise generated by development.

Recent research at the University of New England has attempted to analyse hobby farm development in a benefit cost framework (Crompton, 1981). This work attempted to quantify in dollar terms the effect of hobby farm development on a wide range of factors, including agricultural production and agricultural

productivity in the Armidale area. The results of this work supported previous work in the area (McQuinn, 1978) in that hobby farm development had not resulted in a loss of agricultural production. In fact, Crompton found that agricultural output actually increased as a result of subdivision. However, it should also be pointed out that agricultural activity on hobby farms (defined as a rural holding greater than 2 hectares and smaller than 40 hectares whose owner holds an urban oriented occupation that supplies over 60 per cent of the annual gross income, and lives permanently on the holding) was less efficient than commercially operated farms. This means that the net returns were less for hobby farms than commercial farms. This problem of less efficient hobby farm production is not something that can be influenced by planning control, and indeed the situation may be different on other types of small holdings, e.g. semi-retired farmers, part-time farmers or full time intensive farmers.

There does not necessarily have to be any conflict between agriculture and small acre subdivision. Rural residential and hobby farm type development can take place, while at the same time steps can be taken to minimise the effect of this development on agricultural land stocks and agricultural productivity.

Loss of good quality agricultural land can occur unnecessarily. It is obviously more desirable to enable subdivision to occur to maximise the agricultural use of land as well as the residential or recreational use. At the present time there are factors limiting the achievement of these objectives. One such factor is the fact that people are sometimes forced to purchase a parcel of land of a size in excess of their requirements. Also, the current subdivision controls are such that land owners wishing to dispose of their larger land holdings subdivide into 40 hectare lots first, and also subdivide off their concessional allotments. This creates a large number of 40 hectare lots too small for commercial farming and often too large for rural residential or recreational use. If these lots are in poorer quality agricultural land, then they are not usually satisfactory for hobby farms or more intensive agriculture either. There is no incentive for rural landowners wishing to subdivide and sell to subdivide off a number of smaller lots and retail the residue in a parcel large enough to sustain a more productive farm enterprise.

Similarly, rural landowners, when exploiting their concessional entitlements, have excised off large lots of sometimes prime agricultural land. Provisions can be made in the planning instrument to reduce the incidence of this by reducing the minimum size of concessional allotments, and encouraging landowners to excise the less suitable agricultural land.

While it can be argued that there are few economic grounds for preserving agricultural land rather than allowing it to be developed for other uses such as hobby farms, there are strong economic grounds for minimising the amount of good agricultural land that may be lost if alternative land is available and as equally desirable from a planning point of view.

### Conclusions

The conclusions that can be drawn from this discussion are that:

- \* While it seems logical that the subdivision of broadacre farms into small acre holdings would reduce the supply of agricultural land, there is no conclusive evidence that this has resulted in a decline in agricultural production or productivity. Production is influenced by many other more important factors.

- \* The nature of broadacre farm fragmentation and the eventual uses to which the land may be put are important determinants of the effects of subdivision on agricultural production.
- \* The emphasis given in the earlier State Government policies to control subdivision to maintain agricultural production seems to be somewhat misdirected.
- \* There does not seem to be any sound economic reason for protecting agricultural land from subdivision into smaller lots, particularly on the North Coast of NSW where the alternative uses of these lands yields higher social economic returns.

In view of the last conclusion, however, there may be reasons for protecting good quality agricultural land on conservation and preservation grounds or to ensure the orderly and economic development of land. Although an adequate supply of agricultural land is not of critical importance in ensuring a sufficient level of national and global food, good quality land in a more localised context is a non-renewable resource that fulfils a number of non-economic functions, such as providing the unique rural character of the environment, and providing a long term supply of good agricultural land. In view of current State policy, the non-renewability of good land, the contribution of such land to the character of the environment, and the need to ensure the orderly development of land, the preservation of good quality agricultural land is necessary. **An objective of land use planning, therefore, with respect to rural land is to maximise the potential productivity of rural land, while at the same time ensuring that demand for other land uses such as hobby farming, rural residential uses and tourist uses for example are satisfied.**

### 10.2.3 Small Holding Subdivision

#### Definition of Terms

One of the most basic problems confusing debate on small holding subdivisions and undermining past policy initiatives is a lack of understanding as to what the term implies. To some, such subdivision is taken to refer to the establishment of hobby farms; to others purely retirement or rural living without any involvement in agriculture; and to yet others, weekend or holiday recreational uses. The important variables in the definition of small holding (small acre) subdivisions are:

- \* size of lot;
- \* land use;
- \* land capability.

The demand for small lots in rural areas is related to the process of urban/rural population decentralisation. The studies that have been done to categorise or identify types of rural land dweller have concluded that the needs and activities of such persons are many and varied, thus pointing to the problems of trying to draw any links between small holding subdivision and one particular category of use, such as hobby farming or holiday farming or part-time farming or rural residential for example. Archer (1977) identified the following typology of rural lot occupants:

- \* full time commercial farm;
- \* part time commercial farm;

- \* resident hobby farm in commuting distance;
- \* non-resident holding for weekends/vacation;
- \* retirement;
- \* speculative purposes.

The nature of demand for small holding lots in rural areas therefore is quite complex and difficult to clearly classify for planning purposes. It follows also that a variable range of lot sizes is required to satisfy the needs of the consumer. In this framework it can be argued that subdivision minima to control development in rural areas of 40 hectares in most cases with the possibility for a number of concessional lots of a smaller size does not provide sufficient flexibility to enable demand to be satisfied. Even though more positive steps can be taken to provide appropriate locations for small holdings, it is only in relatively recent years that such land has been zoned. In rural 1(a) and 1(b) zones the existence of the 40 hectare policy has restricted the ability of the market to respond to the needs of those purchasing land. It can be argued that the disadvantages of this are:

- \* inflated land values for scarcer smaller lots;
- \* a lack of supply of smaller lots forcing people to purchase more land than they actually need leading to waste and neglect of significant amounts of land;
- \* an inability to comprehensively design development in rural areas due to the scattered nature of new concessional lots created and the distribution of such lots along arterial roads.

The implication for planning therefore is that future attempts at promoting and controlling development in rural areas should not be biased with respect to any one particular group such as hobby farmers. The lifestyles of the future residents are of no real relevance to planners. Attention should be focussed on existing and potential land use conflicts as a result of small lot subdivision, the need to conserve good agricultural land in certain circumstances, and the implications of additional population growth in rural areas on the provision of physical and social infrastructure.

#### **Perceived Problems with Small Holding Subdivision**

Small holding subdivision in general, and hobby farms/rural retreats in particular, have been subject to detailed, often emotional, debate on the advantages and disadvantages of such activity. Part of this debate has focussed on the effects of such development on agricultural production and the supply of agricultural land which was discussed above. Other perceived problems will be discussed below and where such problems are validated, proposals for overcoming or minimising them will be suggested.

The major criticisms levelled at small acre subdivision are:

- \* problems of rural adjustment in that subdivision has an inflationary effect on land prices which is seen as a cost to the commercial farmer who may wish to expand his operations;
- \* related to this is the subsequent effect of rising land values on rates;

- \* small acre subdivision leads to inadequate management practices such as a lack of control over weed and vermin infestation, inadequate fence maintenance, soil erosion, bushfire risk, etc.
- \* an increase in the demand for urban services such as roads, electricity, schools, community services etc.
- \* small acre subdivision has a detrimental effect on the character of the rural environment through measures such as indiscriminant tree clearing, building on ridgelines, choice of visually incompatible building materials, ribbon development;
- \* increase in demand for the advisory services of bodies such as Department of Agriculture, Soil Conservation Service, Pastures Protection Board;
- \* unfair competition for commercial farmers caused by hobby farmers or part time farmers who can often subsidise their operations.

Many of these problems are constantly raised by existing farmer groups or their representatives suggesting a dichotomy between 'rural' and 'urban' activities in the rural areas or a conflict between rural dwellers and urban influences through hobby farmers or rural retreaters.

As well as the influence of subdivision and ensuing development on the attitudes and operations of traditional farming communities, the other problems relate to the total cost of such subdivision to the community either in terms of the costs of providing services or the environmental costs of a degraded rural environment.

#### Effects of Subdivision on Land Values and Rates

The major incentive for landowners to subdivide off smaller parcels from a larger holding is the expectation that the smaller lots will achieve a higher price per hectare. This tends to have a flow-on effect in the surrounding areas thus increasing broad acre land values in anticipation of subdivision activity. Thus, a wide disparity emerges between what land is worth for agricultural purposes and actual market prices. The agricultural value of land can be determined for a range of agricultural enterprises by calculating the net present value of future returns per hectare for farms of different sizes. Latona (1978) investigated the relationship between the agricultural worth of a hectare of land compared to market values of land at different sizes for the Bathurst/Orange area of NSW. For land with a general agricultural worth of \$1,000 per hectare, the following market prices were recorded:

Small lots up to 1.5 hectares	\$11-20,000 per hectare
Lots up to 4 hectares	\$5-6,000 per hectare
Lots up to 10 hectares	\$2,000-\$2,500 per hectare
Lots up to 40 hectares	\$500-\$1,000 per hectare

(Latona (1978), p.31)

Such differences are more obvious in coastal areas such as Bellingen Shire.

The reasons for these higher values are fairly obvious. There are other factors influencing the value of smaller lots other than potential agricultural uses such as proximity to urban settlements, development for rural residential or holiday uses. High prices for smaller lots can also be attributed to limited supply caused by the inflexibility of current planning controls such as the 40 hectare policy. While this may be true it is not only a problem of rigid subdivision controls but also of the

inability of many councils to zone land specifically for small acre rural residential development. Another commonly expressed but almost contradictory reason for the higher values of smaller lots is the lack of rigidity in the application of planning controls. The commencement of subdivision activity in an area involving perhaps a very liberal interpretation of the planning controls, particularly concessional rights, sparks off speculative expectation on adjoining properties. Such expectation is often blamed on the lack of clarity in intent or interpretation of the planning controls. While this may be remedied to a certain extent by the strict enforcement of controls, it is not something that can effectively be eradicated since it is the pressure of demand rather than the practice of implementing planning control that excites speculative expectation.

The growing demand for small lots and the expectation and potential for such subdivision is the major reason why the price of agricultural land is increasing. Tighter controls preventing further subdivision may contain price increases but because of the pressure for changing such controls, expectation and speculation would be unlikely to decline. Thus the effectiveness of subdivision control in stabilising rural land prices would probably be limited.

This same argument also applies to rural rating since rates are generally based on land values as reflected in the market place. Higher rates can be attributed more to the expectation of subdivision and growing demand for rural land rather than the actual creation of small lots that is causing an increase in land value.

Nevertheless the cost of increasing local rates in growth areas is adding to the financial burden of farming communities, particularly marginal enterprises. There are a number of ways of minimising the impact of rate increases on farmers. Firstly of course increase in land values does not automatically lead to an increase in rates of the same proportion as the set rate in the dollar can be varied downwards to compensate. Secondly, there are relief schemes available to farmers. Under Section 118 of the Local Government Act, Shires may apply a differential rate to 'rural' land in selected areas. Also under Section 160C farmers can apply for a postponement of rates for a period of 5 years which rolls over annually after the first 5 years.

When attention is given to the average annual farm budget, rates and land taxes are generally a small component, particularly if the farm is operating efficiently. It is usually the marginal farm enterprises that would be hardest hit.

Land use planning can have some effect on land valuation in rural areas. This would involve clear delineation of land suitable for small holding subdivision and clear delineation and enforcement of stricter subdivision controls in the better quality agricultural areas. It is only in this way that the expectation and speculative influence on rural land values could be controlled. The effectiveness of such policies in controlling land values in rural areas would however be limited.

#### Deterioration in Land Management

It has been held by a number of authors that hobby farm development or rural subdivision has decreased the standard of land management in the areas where such development has occurred. Hobby farms in particular have been blamed for increases in noxious weeds, vermin, soil erosion, animal diseases, overstocking, increased bushfire risks etc. These criticisms usually relate to the inexperience of new hobby farmers. Whilst in some areas these problems may be very real, it is doubtful if they can be directly or even partly blamed on small acre rural subdivision. In areas where demand for rural land is high, any increase in these management problems could be attributed to factors such as:

- \* Changing lifestyles where once commercially operated farms are sold to people interested in rural living and revegetating the land. This cannot be controlled through planning legislation however and it becomes essentially a problem of educating newcomers to an area of the likely problems of weeds etc. in the area.
- \* General inexperience of new settlers. This would occur anywhere there are newcomers and again cannot be related to the creation of smaller farm lots. Recent surveys undertaken by McQuinn (1978) and Davidson (1981) have indicated that after a brief settling-in period, hobby farmers soon learn of their responsibilities with regard to farm management.
- \* The inability of farm advisory services to gear-up to the increase in demand brought about by the influx of new residents to an area.

Planning policies however can accentuate these problems. The short supply of smaller lots in certain areas is forcing some people to purchase parcels of land of a size in excess of their requirements. It can be understood therefore how such surplus land could be avoided. The subdivision of once viable farms into parcels of a size of no real use for farming yet too large for rural residential and hobby farming is also adding to the problem. Subdividing a 200 hectare farm into five 40 hectare blocks creates five lots of no real use for farming (unless on good quality fertile land which can be intensively cropped) and too large for rural residential purposes involving part-time farm management, particularly if located some distance from an existing urban centre.

A closer examination of subdivision controls in certain areas therefore may help in reducing the problems of land management deterioration in areas of change.

#### Effect on Character of the Rural Environment

Criticisms of the impact of rural subdivision on the character of the rural environment have focussed on the effects of subdivision and residential development on farming lands, national bushlands, and visually prominent areas. The criticisms mentioned by various writers and summarised by Crompton (1981) include:

- \* rural residential land use destroys the character of farm land because it is neither urban or rural in character;
- \* new residents on small holding lots destroy the traditional (rural) social fabric;
- \* such development results in a 'red tile and brick' rash across the country;
- \* buildings are often sited on visually prominent areas;
- \* poor quality owner built homes, sheds and outhouses often result;
- \* subdivision usually results in unsightly new roads, the destruction of natural vegetation etc.;
- \* such development often blocks public access to rivers, beaches or parklands.

Other studies have disputed these arguments suggesting that hobby farmers are generally environmentally aware and regard conserving the environment with high priority. Most of the problems mentioned above however are created at the

development stage (i.e. at the time of subdivision) rather than at the time of occupation. The most frequent solution put forward is to prevent further subdivision. However there are obviously other solutions to the problem. These would involve:

- \* controlling development in areas of significant bushland or scenic quality;
- \* controlling development on ridgelines and other visually prominent areas to ensure that development is in harmony with the environment;
- \* ensuring that the design of rural residential subdivisions takes into consideration the environment;
- \* concentrating rural residential development in specific areas and ensuring that such areas are developed in accordance with an overall development plan such that road layouts, lot design and location are in sympathy with the environment;
- \* by recommending the use of certain building materials and colours in sympathy with the rural character of the area.

These purported problems of small holding subdivision are problems that can be overcome by the implementation of planning controls and design performance criteria.

#### Effect on Demand for Advisory Services

The fact that increased population in rural areas increases the demand on advisory services provided by organisations such as the Department of Agriculture and Soil Conservation Service is probably a logical conclusion. However, whether this is a problem is disputed. If such activity is straining the resources of the advisory units then the more appropriate response would be to increase staffing or introduce a price structure. If more use is being made of agricultural land by the new residents then perhaps it is justification for additional resources to be devoted by advisory service agencies. It is up to those service agencies to ascertain the worth of their services to new rural residents and to determine future service levels and prices if necessary.

#### The Threat of Hobby Farming on Viability of Commercial Farming

As mentioned above studies of hobby farms or part time farms have shown that they are not generally as efficient as full time farms and there is a tendency for farming activities to be subsidised by money gained from employment elsewhere or savings and investments etc. Thus, hobby or part-time farmers may tend to sell their produce below the price acceptable to commercial farmers. This tends to reduce the overall price of particular commodities and is the classic problem of oversupply coupled by the propensity of part-time or subsidised farmers to accept lower prices. As with most agricultural products, this is a product of free competition. While a proliferation of smaller, often subsidised, farms may add to the problem of temporary over-production and may be difficult to organise into effective grower co-operatives they nonetheless show a capacity to increase food production in the country. It would not be in the country's interest to prevent the growth of these farms through control of subdivision.

### Pressure for Additional Services

As far as local government is concerned, perhaps the most important problem of small holding subdivisions, particularly in rural residential zones, is the additional demand placed on the Council and the community for basically urban services. In the past, many subdivisions have taken place with no argument having been made for proper road construction (including kerbing and guttering, water and sewerage, garbage disposal etc.). There are two aspects to this problem:

- \* The distribution of such development over a wider area, i.e. the low density of development increases the costs to the community in providing such services.
- \* The demand for such services often only becomes apparent when the subdivision is fully developed. Substantial political pressure is subsequently applied to Council (and other organisations such as Telecom, Australia Post) to extend services.

To the extent that these areas pay the same (or lower) prices as urban dwellers, there is a inequitable subsidisation of people living in rural residential areas. The solution to these problems rests firmly in a planning framework. For equity and efficiency reasons it is necessary to charge developers of rural areas the full costs of providing services to these areas. People generally live in pleasant rural environments on small lots through choice rather than necessity. As such, the full costs of providing urban services should be passed on at the development state. In the past, rural residents have moved into an area slowly in marginal increments. What was once an adequate level of service soon becomes an undersupply with political pressure being applied on Councils to provide the service backlog.

In order to prevent problems arising in the future, Council should ensure that adequate provision is made for infrastructure services either on-site by the individual owners or by Council. If rural residential and small holding subdivision are to be regarded as legitimate land uses, which in fact they are, then full servicing to an acceptable standard should be enforced on developments within zones set up for these uses. Such contributions can be specified in the Local Environmental Plan under the provisions of Section 94.

Where it is not appropriate and economical to provide certain services such as water and sewerage, then satisfactory alternative arrangements need to be found. The need for regular septic tank pump-outs or for water carting to replenish depleted tank supplies can be equally politically unpalatable for a Local Government Council.

### **Conclusion**

The above discussion has highlighted some problems commonly attributed generally to small holding subdivision. In discussing the validity of such criticism, a number of conclusions emerge:

- \* Much of the criticism has focussed on the users of the land rather than the uses to which it is put. Also there is a need to more clearly define the uses to which small lots are put. While there is a long list of possible uses, two streams dominate - rural residential uses on smaller lots with little or no agriculture; and the larger lot used for part-time (or full-time intensive) agriculture.

- \* Given the evidence that has been put forward in support of claims of the detrimental effects of small acre subdivisions, there does not appear to be any firm grounds for the general prevention of such activity through land use planning controls.
- \* While many of the problems outlined above are being caused or accentuated by the proliferation of small lots in some areas, it would be inappropriate to assume that such problems could be most effectively overcome by preventing further subdivision. Rural residential living and small acre holdings are legitimate land uses. Alternative solutions to problems that arise need to be found.

While it is acknowledged that certain forms of small holding subdivision do create problems, the extent to which these can be overcome totally by land use environmental planning instruments, rather than other forms of public action, is limited. Areas where land use planning can minimise problems are shown in the Table 10.2.

The review and analysis of the literature has shown that small holding subdivision is not such a threat to rural production or the menace to rural communities or Councils as suggested by some. Uses associated with such subdivision do create some problems but it is felt that these can be overcome by the adoption of relevant planning policies. These uses are legitimate uses for which there is a strong demand. It is necessary to assess this demand and identify areas where it can be satisfied. This will be undertaken in Section 10.5. Before that, the agricultural resources of the Shire will be investigated in order to identify good agricultural land.

### **10.3 Agriculture and Agricultural Suitability**

#### **10.3.1 Introduction**

In this Section consideration is given to the location of good agricultural land in Bellingen Shire and the contribution agriculture makes to the local economy. From this assessment policies for land use control and preservation of good quality agricultural land can be developed.

In undertaking the Rural Lands Study, Bellingen Shire Council, at the suggestion of the Department of Environment and Planning requested in July 1982 that the Department of Agriculture undertake an investigation into the agricultural potential of the Shire. The Department investigated the agricultural resources of the Shire with a view to protecting good agricultural land.

This chapter summarises the findings of the Department of Agriculture and assesses its recommendations. The overall aim of the exercise is to develop appropriate land use policies for good agricultural land consistent with the objectives of the plan and the Directions of the Minister under Section 117(2) of the Environmental Planning and Assessment Act 1979, released in July 1983. In particular, Direction G8 should be noted.

This chapter therefore draws heavily on the report to Council from the Department of Agriculture entitled "Agricultural Land Suitability Study - Bellingen Shire".

Table 10.2: Rural Subdivision - Problems and Possible Solutions

Problem	Planning Response
Increase in land values for traditional farmers.	<ul style="list-style-type: none"> <li>* Clear identification of rural residential, small holding and agricultural zones to protect good farm land.</li> <li>* Clear identification of subdivision controls in each zone.</li> <li>* The consistent application of controls by Local Government Councils.</li> </ul>
Increase in rural rates.	<ul style="list-style-type: none"> <li>* Same response as above.</li> <li>* Development of alternatives procedures for differential rating.</li> </ul>
Decline in quality of land management.	<ul style="list-style-type: none"> <li>* Enabling creation of lots to more closely reflect demand.</li> <li>* Where necessary in sensitive areas, soil erosion or certain types of agricultural works could be controlled.</li> <li>* The concentration of subdivision into specific areas would enable relevant agencies to plan their strategies to combat mismanagement more effectively.</li> </ul>
Increased demand for urban services.	<ul style="list-style-type: none"> <li>* Ensuring that the appropriate servicing requirements are identified and that the full costs of providing such services are met by the developer.</li> <li>* By locating development to take advantage of existing distribution of infrastructural and community facilities.</li> <li>* Developing design criteria to ensure that on-site servicing is adequate.</li> </ul>
Decline in character of rural area.	<ul style="list-style-type: none"> <li>* Identifying and protecting areas of environmental or visual significance.</li> <li>* Ensuring the implementation of design criteria to ensure that layout and building design (choice of materials) was in keeping with surrounding area.</li> <li>* By controlling development on ridgelines and areas of visual significance.</li> </ul>

### 10.3.2 Agricultural Suitability Mapping

The first stage of the investigation is to identify good quality agricultural land. This land suitability survey was undertaken by Advisory Officers of the Department of Agriculture. The aim of the exercise is to determine the potential for agriculture in a particular area taking into consideration limitations on the land for agriculture.

The classification of good agricultural land was based on a 5 level suitability system. Land within each class is similar with respect to the degree of limitations on agricultural activity. This classification system was developed by the Department of Agriculture and the Department of Environment and Planning.

The classification system is described below.

Other inputs into the process were:

- \* Aerial photographs;
- \* Soil Conservation Service maps on land capability, particularly on the Dorrigo Plateau.
- \* The experiences of well managed farms in the area.

The survey work and the resulting agricultural suitability map were prepared at 1:100,000 based on a generalised Shire-wide reconnaissance survey (Map 14). A description of the suitability of land in Bellingen Shire is as follows:

**Class 1:** This is the highest quality agricultural land capable for continuous cropping and sustained high levels of production. In Bellingen Shire the areas of such land were too small to map at the 1:100,000 scale. At the regional scale therefore it can be assumed that such lands would not be significant. In any case, such lands would lie generally in the alluvial flats and thus be prone to flooding. Such areas would not be suitable for urban or semi-urban development.

**Class 2:** Class 2 land is suitable for rotational cropping only. This class of land is restricted to the alluvial and basaltic areas and on gently sloping sites. Again, many of these areas are too small to map and are restricted to the Dorrigo Plateau and flood plain. There is very little Class 2 land in the Shire.

**Class 3:** Generally this is land suitable for grazing with improved pastures. Graziers sometimes subsidise this primary activity with the occasional cash crop. In the Shire, Class 3 land occurs in three groups:

- \* Moderate sloping land derived from basaltic rocks on the Dorrigo Plateau.
- \* The flood plain area.
- \* Moderately sloped land derived from sedimentary rock.

In Bellingen Shire, the Class 3 land is restricted to the river and creek systems up to Thora in the Bellinger Valley and to south of Bellingen on the Kalang River. On the Dorrigo Plateau, Class 3 land is predominantly located to the east along Main Road 119.

**Class 4:** This land is located mainly on the undulating to hilly valley sideslopes and the coastal catchments to the north of Bellingen.

**Class 5:** This is the steeper land suitable only for rough grazing. Catchment protection controls prevent extensive clearing for more intensive agriculture.

Class 4 and 5 land make up the majority of the rural lands of the Shire.

Table 10.3 summarises the agricultural land suitability classes.

From the map showing agricultural land suitability classes, a contiguous area has been identified containing the major areas of Class 2 and 3 land (Map 15). It is to this area that the Department's interests are focussed.

The planning implications of the identification of a contiguous belt of better quality agricultural land must be qualified by the scale and precision of the suitability assessment.

The land suitability assessment was done at a broad scale. Working from maps at 1:100,000 scale, the analysis can only be general and the lines drawn accurate at best to the nearest 40 hectares. Planning control is more site specific. Thus the determination of agricultural suitability of a particular site cannot accurately be inferred from a perusal of the contiguous areas map aligned around property boundaries. It is important that the planning system be flexible enough to take into consideration information on land suitability at the more detailed site specific level.

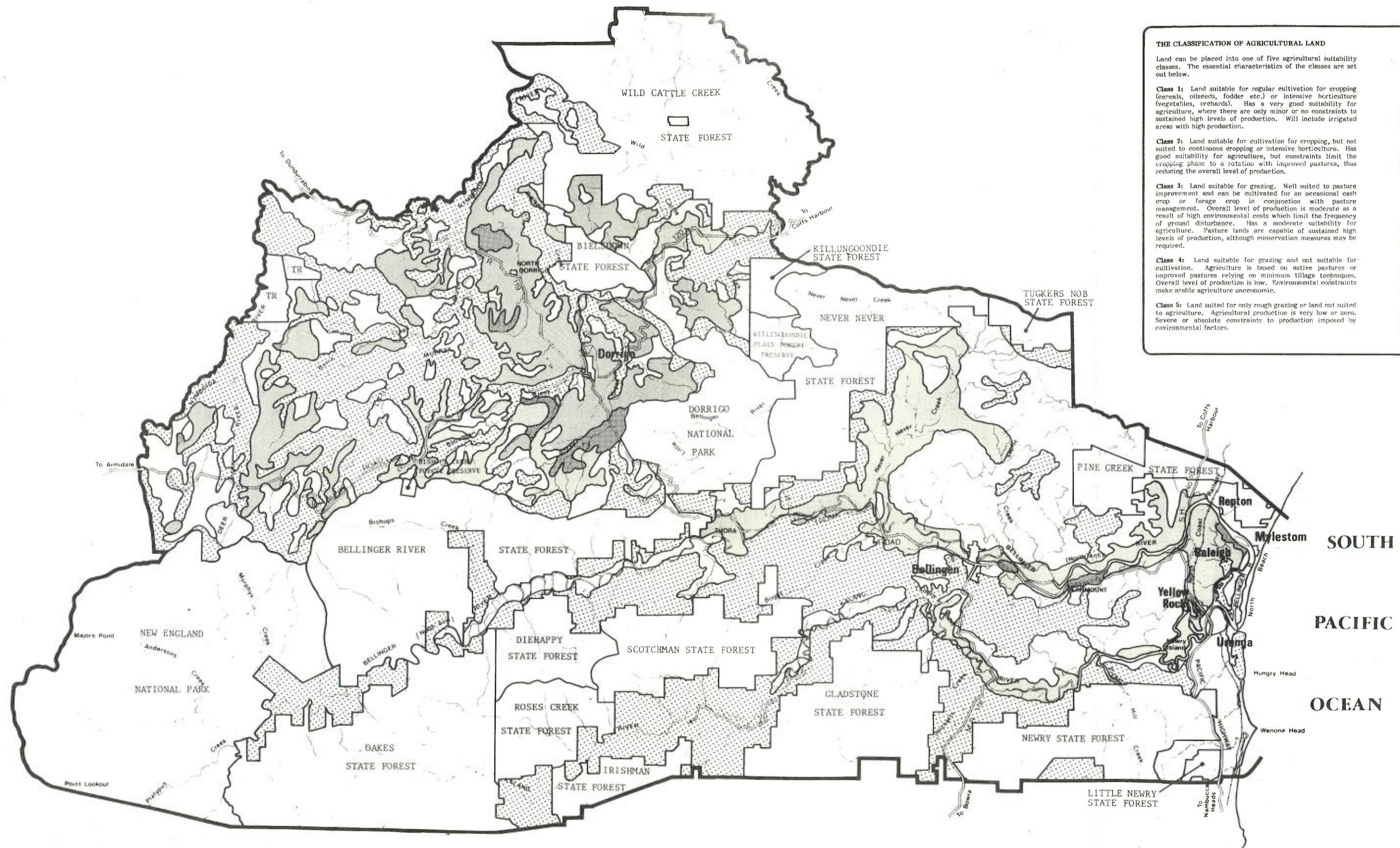
### 10.3.3 **Agricultural Activity and the Impact of Subdivision**

Agricultural holdings in the Shire are estimated by the Department of Agriculture to total approximately some 50,544 hectares or 32 per cent of the total Shire. The Shire has an average value of production of \$154 per hectare, three times the State average of \$48. As far as value of production is concerned, dairying is prominent with an estimated value of \$11.8 million in 1982. Vegetables, beef and horticulture contribute approximately \$2 million each. Agricultural Land Use is shown on Map 16.

Farm gate value of production has increased consistently over recent years and is expected to continue to expand. Over the last 5 years farm earnings increased by 175 per cent.

There is no doubt that agriculture is an important contributor to the local economy of the Shire. It is less clear how land use planning policies can maintain or enhance this contribution relative to the inputs of other sectors such as tourism or building and whether they should.

The traditional industries such as dairying, beef and vegetables are expected to continue with cost increases from rate increases off-set by growing local markets. There is potential for expansion in horticultural industries including potatoes, pecan nuts and kiwi fruit (but not tropical fruits). Bananas are expected to remain stable at best or continue their decline. Generally the more specialised horticultural pursuits are incorporated into the traditional beef/dairy enterprise as innovative farmers diversify their production to give more stability to their income.



**THE CLASSIFICATION OF AGRICULTURAL LAND**

Land can be placed into one of five agricultural suitability classes. The essential characteristics of the classes are set out below.

**Class 1:** Land suitable for regular cultivation for cropping (cereals, oilseeds, fodder etc.) or intensive horticulture (vegetables, orchards). Has a very good suitability for agriculture, where there are only minor or no constraints to sustained high levels of production. Will include irrigated areas with high production.

**Class 2:** Land suitable for cultivation for cropping, but not suited to continuous cropping or intensive horticulture. Has good suitability for agriculture, but constraints limit the cropping phase to a rotation with improved pastures, thus reducing the overall level of production.

**Class 3:** Land suitable for grazing. Well suited to pasture improvement and can be cultivated for an occasional cash crop or forage crop in conjunction with pasture management. Overall level of production is moderate as a result of high environmental costs which limit the frequency of ground disturbance. Has a moderate suitability for agriculture. Pasture lands are capable of sustained high levels of production, although conservation measures may be required.

**Class 4:** Land suitable for grazing and not suitable for cultivation. Agriculture is based on native pastures or improved pastures relying on minimum tillage techniques. Overall level of production is low. Environmental constraints make arable agriculture uneconomic.

**Class 5:** Land suited for only rough grazing or land not suited to agriculture. Agricultural production is very low or zero. Severe or absolute constraints to production imposed by environmental factors.



BASED ON A SURVEY CONDUCTED BY  
THE NEW SOUTH WALES  
DEPARTMENT OF AGRICULTURE  
AT THE REQUEST OF  
BELLINGER SHIRE COUNCIL  
OCTOBER 1982

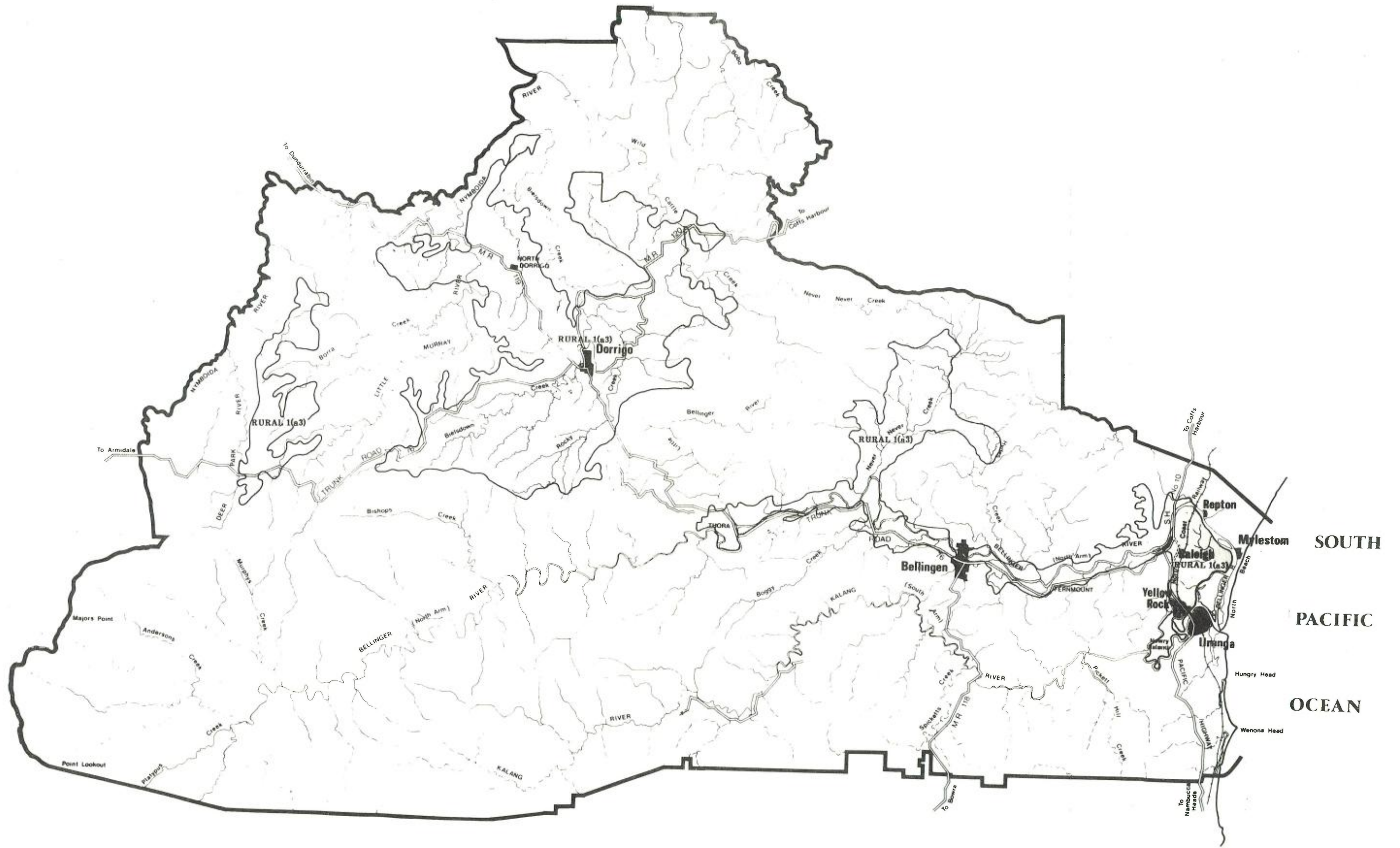
**SHIRE OF BELLINGER ENVIRONMENTAL STUDY**

**AGRICULTURAL LAND SUITABILITY 14**

0 5km 10km

↑

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OCTOBER 1982

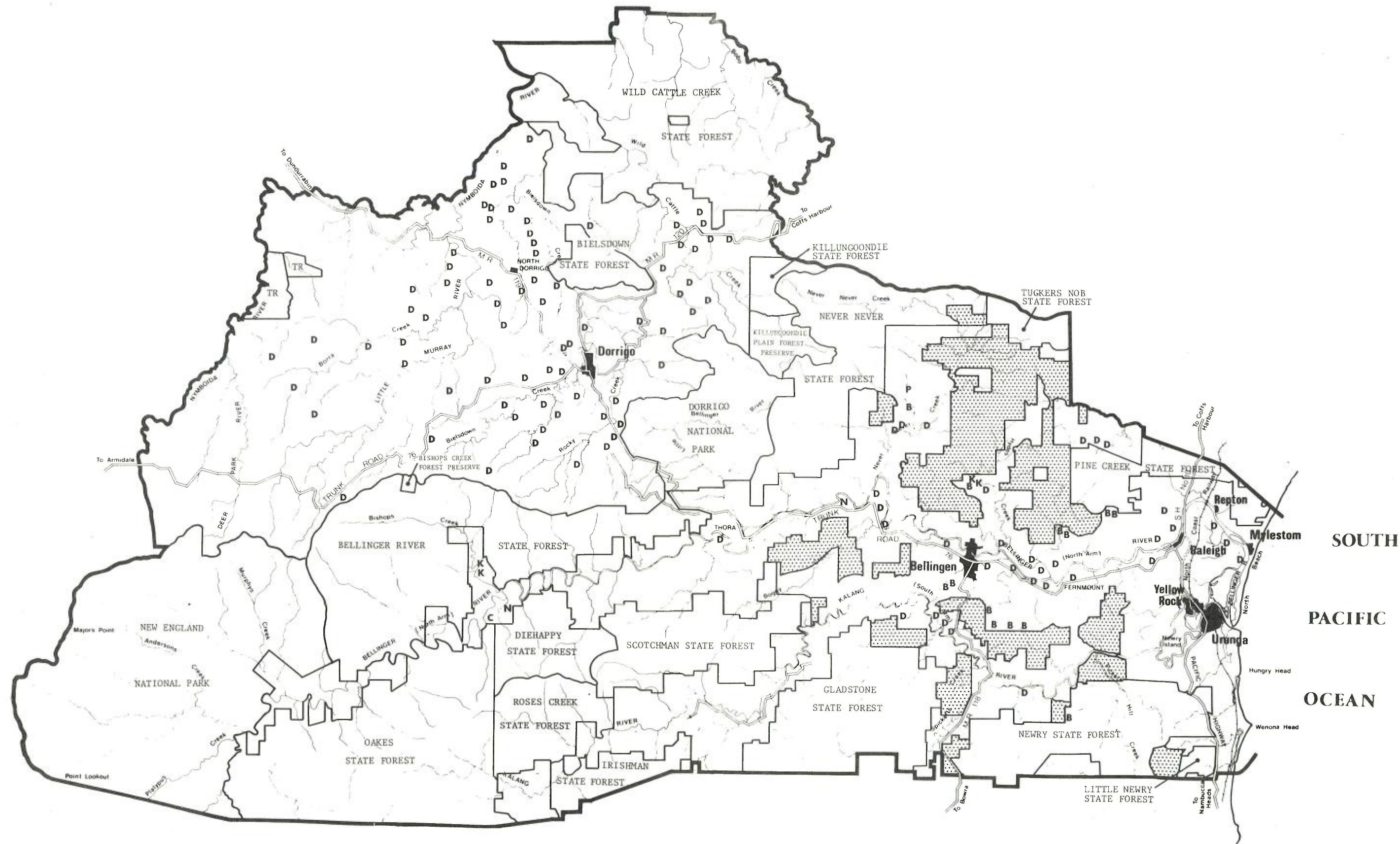
THIS MAP SHOWS LAND WORTHY OF PROTECTION AS GOOD AGRICULTURAL LAND. PROPERTIES WITH A PREDOMINANCE OF GOOD AGRICULTURAL LAND, OR FORMING PART OF A CONTIGUOUS AREA, ARE TO BE INCLUDED IN PROPOSED AGRICULTURAL PROTECTION ZONE, RURAL 1(a3).

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**GOOD AGRICULTURAL LAND**

0 5km 10km


**15**  
↑

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SOUTH  
PACIFIC  
OCEAN

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AT THE REQUEST OF  
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OCTOBER 1982

<b>APM LAND (PRIVATE FORESTS)</b>	
DAIRYING	D
PIGGERIES	P
BANANAS	B
PECAN NUTS	N
KIWIFRUIT	K
CITRUS	C

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**CURRENT AGRICULTURAL LAND USE** **16**

0 5km 10km

↑

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Table 10.3: Summary of the Agricultural Land Suitability Classes

Class	Description*	Major Locations (see map)	Current and Potential Use
1	Land suitable for regular cultivation or intensive horticulture. Excellent for intensive horticulture. Minor or no constraints to agriculture.	Very limited areas, on highest alluvial levies and basaltic ridges (too small to map).	Dairying, beef regular cash crops including fruit, vegetables and grain.
2	Land suitable for cultivation for cropping but not suited to continuous cropping. Good capability for intensive agriculture, but constraints limit cropping phase to a rotation with improved pasture.	Many small areas on the higher, well drained alluvials and basaltic soils of the plateau.	Dairying, beef, forage crops and rotational cash crops as above.
3	Land most suited to grazing but can be cultivated for an occasional cash crop. Overall level of production is moderate. Conservation measures required.	Most extensive in lower flood plain and hill country and plateau areas with gentler slopes.	Beef and dairying with occasional forage and cash crops and extensive pasture improvement.
4	Land suitable for grazing and not suitable for cultivation.	Extensive areas of moderate to steep hill country.	Beef grazing at low stocking rates, limited pasture improvement, potential for re-forestation.
5	Land suitable for only rough grazing or land not suited to agriculture.	Confined to steep mountainous country, largely timbered.	Sparse seasonal grazing with most potential for timber production.

\* Rural Land Evaluation Manual

Source: Department of Agriculture Report - Appendix I.

The growth in agriculture in Bellingen Shire is undoubtedly related to population growth in the area. It can be argued that the increased level of subdivision in the Shire has contributed rather than detracted from the value of agricultural production. To further test the relationship between rural subdivision and value of production, the extent of subdivision on good agricultural land as defined by the Department of Agriculture area was analysed (Table 10.4). Thirty-five per cent of lots created by subdivision were on good agricultural land, the majority of these lots being between 2 and 20 hectares in size. Although the level of subdivision activity on good agricultural land is substantial, it doesn't seem to have influenced the longer term trend in growth of agricultural production. By providing more land on the market it can be argued that subdivision has encouraged farm adjustment and enabled new farmers to establish themselves. It appears therefore that subdivision does not necessarily fragment or sterilise good farm land. Planning policies for areas of good agricultural land should not totally prevent subdivision, but encourage development that would enhance the productive capacity of the area.

Table 10.4: Lots Created by Subdivision on Good Agricultural Lands

Area	Lots Created in Contiguous Areas*	Total Lots Created	% of Total Area
0-4,000m <sup>2</sup>	9	24	37.5
4,000m <sup>2</sup> - 1 ha.	10	103	9.7
1 - 2 ha.	10	39	25.6
2 - 5 ha.	71	155	45.8
5 - 10 ha.	25	86	29.1
10 - 20 ha.	43	106	40.6
20 - 40 ha.	41	115	35.7
40 - 100 ha.	50	112	44.6
100 ha. +	5	18	27.8

\* Contiguous areas means an area of continuous good quality agricultural land as shown in Map 15.

Source: Council records.

## 10.4 Demand for and Supply of Rural Land

### 10.4.1 Introduction

As mentioned above, the uses to which agricultural land can be put and the types of people seeking to live in rural areas are varied. It is possible to identify a number of market subgroups and it is important to do so if a clear indication of the demand for rural lots is to be achieved. In estimating demand, attention should focus on the end uses of the land rather than the status of the eventual occupier although this is an important determinant of demand.

Generally, the market for small rural holdings can be divided into three basic groups:

- \* Rural residences where a dwelling is the primary purpose but where limited agricultural pursuits may be undertaken.
- \* Part-time farming with residence where agriculture is of equal relevance as residence as the primary use of the land.
- \* full-time small acre intensive commercial farming where agriculture is the primary use and a dwelling is a secondary use.

There are a number of sub-groups within each class also that perhaps might require separate planning response.

Within the rural residential category, a 4,000-8,000 square metre lot size category can be identified. This is basically a large urban lot and as such should be located in close proximity to existing urban areas and generally be fully serviced. There may also be a demand for small rural lots in the 1 to 4 hectare group that conforms generally with the traditional hobby farm. These areas should be located relatively close to urban centres and be provided with limited services. The land should be of reasonable quality to enable limited agricultural activity. There is also a sub-group of this sector consisting of people who want to live in a total rural environment yet not engage in agriculture. Traditionally, these people have bought 40 hectare lots or smaller if available and have generally been forced into the role of a part-time farmer. Examples where this has occurred in the Bathurst-Orange Growth Centre have not been too successful with high turnover rates and a problem of land management practices (control of weeds etc.). A solution to this problem would be to allow a limited number of smaller concessional allotments so that 4,000 square metre to 2 hectare lots could be excised from larger properties for this purpose. Generally these groups have different locational requirements and thus should be addressed separately as far as possible.

In order to assess what changes need to be made to the existing deemed local environmental plan for Bellingen by way of releasing land for various rural uses, there is a need to indicate whether there is a clear demand for such uses and to assess the adequacy of current land supply. This is particularly relevant in the area of Rural 1(C) residential zones.

Demand for small holdings for these purposes can be assessed by addressing the following factors:

- \* General characteristics of the market and the aspirations of potential buyers.
- \* The movement in land prices and sales for different sized lots.
- \* Population growth and building activity in rural areas of the Shire.
- \* An assessment of the state of the market from discussions with estate agents in the area.

Patterns in the supply of rural land can be assessed by looking at:

- \* subdivision activity in the Shire;
- \* the distribution of holding sizes and how this has changed since gazettal.

These supply-side considerations can also be taken as an indication of how the market has responded to demand pressures within the existing statutory framework. It is these supply-side considerations that will be addressed firstly.

#### 10.4.2 Supply of Rural Land

##### Past Patterns of Subdivision

The past pattern of rural subdivision gives an indication of how the market reads the demand situation within the constraints imposed by the current Interim Development Order (IDO). An analysis of rural subdivision in Bellingen Shire since gazettal of the IDO in 1968 was undertaken to determine:

- \* the spatial distribution of rural subdivisions;
- \* the distribution of lot sizes created by subdivision.

Copies of Deposited Plans of rural subdivision since 1968 were analysed and information on location and lot sizes extracted. The analysis excluded:

- \* subdivisions involving realignment of property boundaries unless such a realignment resulted in more reasonable access being provided to lots thus making them available for development;
- \* subdivisions involving road boundary changes or subdivisions for public authority use (easements etc.).

The intention of the exercise was to obtain an indication of lots created by subdivision permissible under the IDO and thus with the right to construct a dwelling.

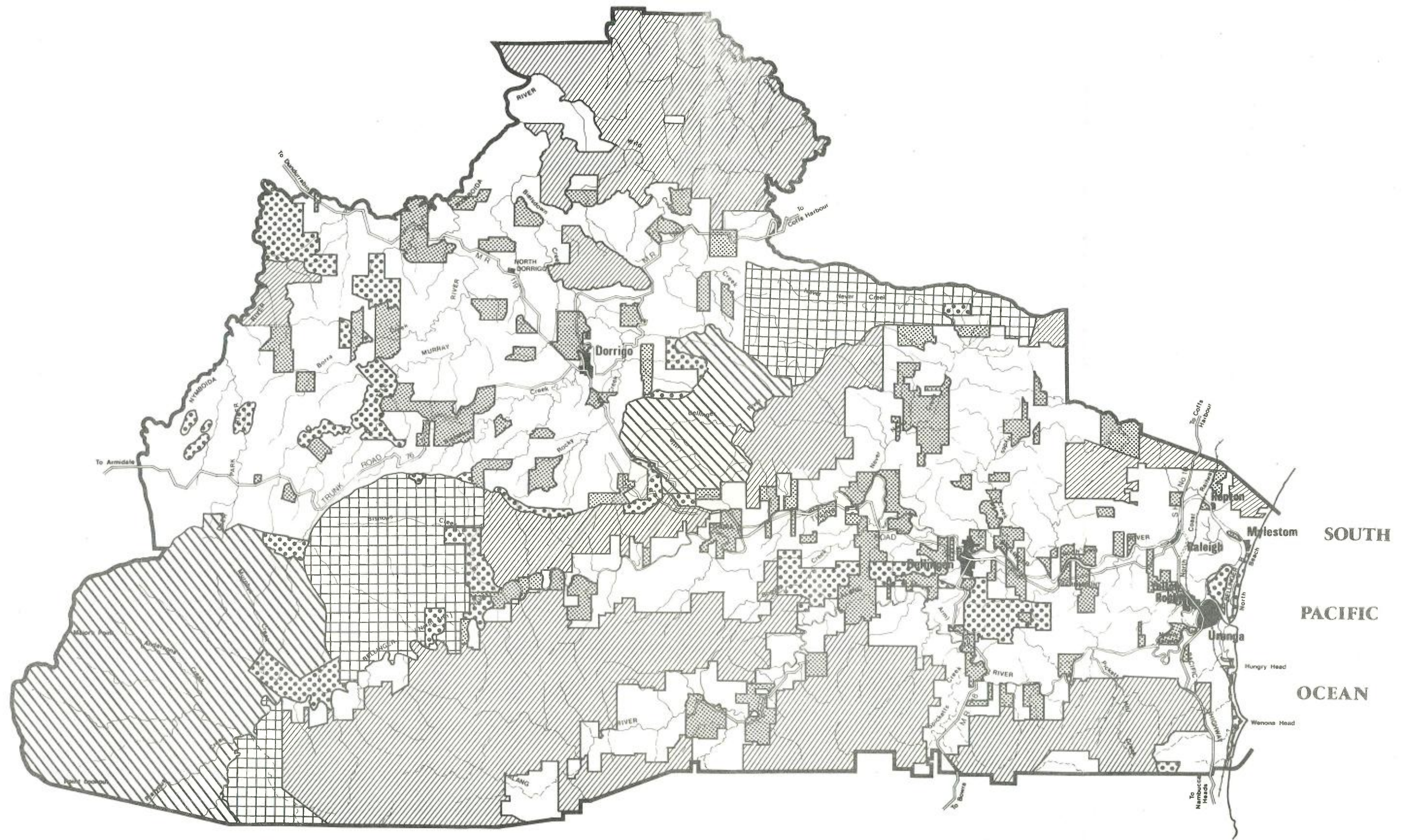
The pattern of subdivision has been strongly influenced by the controls outlined in the IDO. As can be seen in Table 10.5, the largest number of lots created were in the 2-5 hectare category this being the smallest size into which rural land could be subdivided. The large number of lots in the 40-100 hectare category reflect the 40 hectare minimum subdivision size rule.






Other than lots within the 2-5 hectare category, lots created by subdivision are reasonably evenly spread over the other size categories, particularly the 20-40 and 40-100 hectare categories.

Subdivision activity in the Shire has been generally increasing over time reaching peak levels in 1981 and 1982, the increase being associated with rural residential subdivisions in the area at that time.

Activity picked up in the early 70's prior to the credit squeeze and general downturn of 1974. Subdivision increased again in 1977/78 accompanying the second wave of land price escalation on the North Coast.

Map 17 shows land affected by rural concessional lot subdivisions within the Shire. Generally rural subdivision has focussed around Bellingen and the Valleys of the Bellinger and Kalang Rivers and more recently in the rural residential zones gazetted in since 1977. On the plateau, the area subdivided has been fairly evenly distributed although the smaller lots have been concentrated in the Dorrigo area.



STATE FOREST	
NATIONAL PARK	
EXTENSION TO NATIONAL PARK	
SCENIC PROTECTION AREA	
NEW SUBDIVISIONS	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**

**SUBDIVISION PATTERN 17**

0      5km      10km

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Table 10.5: Rural Lots Created by Subdivision - Bellinghen Shire

Year	Lot Size Categories										Total No. Lots	Total No. Subdivisions
	0-4,000m <sup>2</sup>	4,000m <sup>2</sup> -1 ha.	1-2 ha.	2-5 ha.	5-10 ha.	10-20 ha.	20-40 ha.	40-100 ha.	100-200 ha.	Over 200 ha.		
1982	1	9	3	24	15	9	6	22	6	1	96	37
1981	1	42	14	22	11	14	10	11	5	-	120	32
1980	6	22	2	9	13	5	14	7	-	-	78	23
1979	3	3	6	9	1	10	6	5	-	-	43	16
1978	4	12	4	12	11	12	14	9	1	1	73	25
1977	1	5	5	12	13	18	25	19	1	-	99	42
1976	2	4	1	21	9	15	13	13	-	-	78	33
1975	1	1	2	18	2	1	12	8	1	-	46	18
1974	1	4	2	11	2	8	1	11	2	-	42	20
1973	1	-	-	9	4	6	3	5	-	-	28	12
1972	-	1	-	6	3	4	5	1	-	-	20	6
1971	2	-	-	2	1	4	4	1	-	-	14	4
1970	-	-	-	-	1	-	2	-	-	-	4	2
1969	1	-	-	-	-	-	-	-	-	-	1	-
TOTAL	24	103	39	155	86	106	115	112	16	2	758	270
%	3.1	12.9	5.2	20.7	11.4	14.2	15.2	15.0	2.1	0.3	100.0	

The impact of subdivision on the size of holdings can be analysed by comparing the size of holdings at the time the IDO was gazetted and the size of holdings at the present time. This can be done by comparing the maps on property holdings prepared by the Central Mapping Authority information supplied by the Valuer General. Tables 10.6 and 10.7 show the number of rural holdings in the Shire by lot size for 1971 and 1981.

The ownership maps prepared in 1971 were the closest available to the date of gazettal of the IDO. The table shows a clear trend towards an increase in the number of holdings and thus, an increase in the number of smaller holdings. Holdings less than 10 hectares for example represented approximately 2.5 per cent of the total rural holdings included on the Valuer-General's maps in 1971. By 1981, this had increased to 25 per cent. Conversely the percentage of holdings over 100 hectares decreased from 33 per cent in 1971 to 22.5 per cent in 1981. The creation of smaller lots has been more dramatic on the seaboard and the valleys and predictably less so on the plateau. In fact, on the plateau, despite a reasonable rate of subdivision, there seems to have been a consolidation of holdings as the proportion of holdings over 100 hectares increase from 26 per cent in 1971 to 47 per cent in 1981. The probable explanation for this increase in property size (and overall decrease in the number of properties) is the natural process of farm amalgamation in response to a changing rural environment.

There appears therefore to be a difference in trends between the plateau and the valley and coastal areas. Such differences in the pattern of rural subdivision, and property amalgamation suggests that perhaps different planning policies would be appropriate for the plateau and valley/coastal areas.

There is a qualification to the use and interpretation of the information of holding size in rural areas. Not all rural holdings are mentioned. Properties below 2 hectares in 1981 and 5 hectares in 1971 were not included on the maps prepared by the Valuer-General. An exact indication of rural holdings was obtained from Council rate records. These show that for November 1982, there were 1,465 rural holdings in Bellingen Shire compared with approximately 1,080 recorded on the Valuer General's maps. However, the comparative 1971 and 1981 Valuer General's information gives a good indication of trends in subdivision and holding size.

Table 10.8 provides a more precise indication of the size of rural holdings in various areas in Bellingen Shire. The rural land category is defined as rural land under Section 118 of the Local Government Act for which differential rating would apply. Thus, it would generally refer to commercial rural holdings rather than rural residential or hobby farm holdings. Of 1,465 holdings in total, only 144 are eligible for differential rating. However, there are a large number of 'non-urban' holdings (outside the settlements and town areas) that would be operated as commercial farms, particularly in the larger categories. The information in this table further reinforces the dominance of the Plateau area as the major agricultural area in the Shire.

It can also be seen from Table 10.8 that the majority of small lots in the Shire are concentrated around the towns and villages. Nearly 70 per cent of all rural holdings under 5 hectares are located in the vicinity of the villages. The Plateau area has the majority of its holdings in the larger size categories while the valley areas have a more even representation of each size category but generally displaying a pattern of increasing holding size with distance from Bellingen.

Table 10.6: Land Holding - Size Distribution (1971)

	Less than 5 ha.		5-10 ha.		10-20 ha.		20-40 ha.		40-100 ha.		100-200 ha.		More than 200 ha.		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Plateau	2	0.5	11	3.2	3	0.9	16	4.6	189	54.6	92	26.6	33	9.6	346	100.0
Valleys	-	-	6	1.7	15	4.3	67	19.1	145	41.4	94	26.9	23	6.8	350	100.0
Seaboard	-	-	-	-	9	17.3	16	30.8	22	42.3	2	3.8	3	5.8	52	100.0
TOTAL	2	0.2	17	2.3	27	3.6	99	13.2	356	47.6	188	25.1	59	7.9	748	100.0
<u>Average Holding Size in Each Category (ha.)</u>																
Plateau	4.8		6.7		18		29		63		145		333			
Valley	-		7		12.3		31		66		134		444			
Seaboard	-		-		12		28		65		118		219			

Source: Valuer General's Department Property Maps, 1971, prepared by Central Mapping Authority.

Table 10.7: Land Holding - Size Distribution (1981)

	Less than 5 ha.		5-10 ha.		10-20 ha.		20-40 ha.		40-100 ha.		100-200 ha.		More than 200 ha.		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Plateau	17	5.2	9	2.7	8	2.4	14	4.2	128	38.7	110	33.2	45	13.6	331	100.0
Valleys	93	17.1	48	8.8	77	14.2	97	17.8	150	27.6	56	10.2	23	4.2	544	100.0
Seaboard	84	40.4	21	10.1	26	12.5	29	13.9	39	18.8	6	2.9	3	1.4	208	100.0
TOTAL	194	17.9	78	7.2	111	10.2	140	12.9	317	29.3	172	15.9	71	6.6	1,083	100.0

Source: Valuer General's Department Property Maps 1981, prepared by Central Mapping Authority.

Table 10.8: Analysis of Size of Holdings in Rural Areas (November 1982)

Category	Number of Holdings per Category								Totals
	Less than 5 ha.	Less than 10 ha.	Less than 15 ha.	Less than 20 ha.	Less than 40 ha.	Less than 50 ha.	Less than or = 100 ha.	More than 100 ha.	
<u>Rural Land</u>									
Plateau	0	0	0	0	0	8	39	46	93
Valley	0	0	0	0	8	3	18	8	37
Coastal	6	0	0	1	0	2	5	1	14
<u>Non-Urban Land</u>									
Plateau	51	9	5	3	13	19	65	100	265
Valley	157	45	36	48	97	39	90	63	575
Seaboard	66	10	8	8	25	13	20	9	159
North Dorrigo	35	0	0	0	0	0	0	0	35
Fernmount	35	3	0	0	1	0	0	0	39
Repton	129	3	0	0	3	0	0	1	136
Raleigh	100	4	1	1	0	0	0	0	106
Deervale	67	1	0	0	0	0	0	0	68
Bostobrick	12	1	0	0	0	0	0	0	13
Megan	10	0	0	0	0	0	0	1	11
Cascade/ Briggsvale	14	2	0	2	2	0	0	0	20
<b>TOTAL</b>	<b>582</b>	<b>74</b>	<b>49</b>	<b>62</b>	<b>149</b>	<b>84</b>	<b>237</b>	<b>228</b>	<b>1,465</b>

Source: Bellingen Council Rate Files

### Supply of Rural Residential Land

In response to an expressed demand for rural residential land, Council has sought the rezoning of a number of areas within the Shire for small acre subdivision. In assessing the current demand for additional small acre subdivision, it is useful to review progress in these lots as an indicator of the need for additional zonings.

Table 10.9 shows the availability, capacity and rate of development of rural residential zones in Bellingen Shire. Since 1977, five areas have been rezoned from Rural 1(a) to Rural 1(c) rural residential development.

These rural residential areas are as follows:

South Arm Road: This area of 10.93 hectares was originally gazetted on October 14th 1977. Subdivision of land was permissible down to a minimum size of 6,000 square metres, provided there was no access to arterial roads and there was a reticulated water supply. A first stage of 7 lots was subdivided in late 1978, all approximately 6,000 square metres in size. These were sold in 1979 and 1980. In Stage 2, 9 lots were subdivided in late 1980 and sold in 1981. At the present time, building applications have been received for over 50 per cent of the 16 lots (September). There have been very few resales since that time.

Dorrigo: A large area of 43 hectares was rezoned to the north of Dorrigo in September 1978. Seven lots, 2 at 6,000 square metres and 4 between 1 and 2 hectares, were created in early 1979 and to date, building applications have been received for 6 of these. A Development Application has recently been received to subdivide the remaining 35.26 hectares into 25 lots.

Repton: In August 1979, 91 hectares of land at Repton was rezoned for rural residential development. This land has been subdivided into 68 lots to date, the majority of which have been sold. Building applications have been received for 15 per cent of these lots so far (September 1982). The pattern of subdivision has been:

1980	-	10 lots (6,000-7,000 square metres)
1981	-	50 lots (6,000 square metres - 1.3 hectares)
1982	-	6 lots (2 at 6,000 square metres, 2 at 1-2 hectares)

The area has a capacity for an additional 12 lots approximately.

Roses Road: This was the first rezoning processed under the Environmental Planning and Assessment Act, 1979. An area of 107 hectares was rezoned on March 13th 1981. As yet, no development application has been considered for this area although one is pending. Minimum subdivision size in this area is 5 hectares. Allowing for roads, and open space, this area will have a capacity for an estimated 20 lots.

Newry Island: An area of 43 hectares on Newry Island was rezoned Non-Urban 1(c) in June 1981. Soon after a subdivision of 20 lots was approved. So far, 11 lots have been sold and 3 dwelling approvals have been issued (September 1982). Local Environmental Plan No. 4, gazetted in June 1982 has prevented any further rural residential development on Newry Island, and so there is no capacity in this area for further development.

Table 10.9: Rural Residential Zones - Bellingen Shire

Area	Date Gazetted	Capacity (in lots)	Lots Created	Date	Rate of Development*	Vacant Lot Potential
South Arm	October 1977	16	7 9	1978 ) 1980 )	50%	8
Dorrigo	September 1978	32	7 25	1979 D.A. pending	85%	26
Repton	August 1979	80 (approx.)	10 50 8	1980 ) 1981 ) 1982 )	15%	70
Roses Road	March 1981	20 approx.		D.A. pending	-	20
Newry Island	June 1981	20	20	1981	15%	17
<b>TOTAL</b>		168	111		27	141

\* Rate of development means the proportion of lots for which building applications have been lodged.

Source: Bellingen Shire Council

The rate of sale and development of these lands has been strong, indicating healthy demand. Sales for the later releases (Newry Island) have been slower than the areas released earlier, due mainly to the downturn in the economy and high interest rates. As at September 1982, of a total capacity of 168 lots (approximately) 111 lots have been created with applications pending for a further 45. Ninety-two per cent of lots created by subdivision have been sold and building applications received for about 27 per cent of these. Given that 70 per cent of lots were created in 1981 or 1982, the rate of development can be considered strong. There is, however, capacity for an additional 68 lots in these rural 1(c) zones and 141 dwellings.

### Concessional Lot Entitlements

As discussed in Section 10.1.3, the Interim Development Order for the Shire of Bellinger makes provision for the excision of a certain number of lots from land holdings as they existed in 1968. Since that time a number of subdivisions have occurred whereby land owners have used up their entitlements. An indication of the extent to which the entitlements have been used in the Shire would give an indication of the ability to create additional lots in rural areas.

An account of the concessional potential remaining can be obtained by superimposing the map of rural land subdivided over the 1971 Valuer Genreal's Department's property map (an indication of the existing holding situation at 1968). The table below shows the total number of holdings and those holdings that have been subdivided and analysed above. This analysis is by no means accurate, but it gives an indication of the extent to which concessional lots have been used up.

Table 10.10: Subdivisions on Existing Holdings 1971

	Number Holdings Subdivided	Total No. of Holdings	Percentage Subdivided
Dorrigo Plateau	51	346	15
Bellinger Valleys	120	350	34
Seaboard	10	52	19
Total	181	748	24

This table should be treated with caution for the following reasons:

- \* Not all subdivisions have been recorded - only those creating new lots (rather than boundary realignments).
- \* The 1971 property maps from the Valuer General's Department are indicative of the existing holding situation but not accurate.
- \* The extent to which all the lot entitlements for each subdivision have been used is not known.

Furthermore, many of the holdings that have not been subdivided are relatively inaccessible. APM Forests Limited own a large number of holdings in the valley area that have not been subdivided to date. The implications of this information is that at least one quarter of all holdings have either fully or partially used up their entitlements.

### 10.4.3 Indicators of Demand

#### General Characteristics of the Market

Over recent years there has been an obvious and strong trend towards rural or semi-rural lifestyles particularly on the North Coast as opposed to urban or suburban living. This has been due to a number of factors including:

- \* An increasing proportion of the population reaching retirement age and wishing to retire to coastal rural areas.
- \* A growing incidence and awareness of the stress of modern city living accompanied by a reassessment of priorities towards a 'satisfying' life rather than a 'maximising' life. Monetary gain is being overtaken by other factors as a measure of quality of life.
- \* Favourable superannuation payments giving people the opportunity to move to an environment of their choice.
- \* Rising property values in capital cities, particularly Sydney, giving people the mobility required to realise their aspirations.
- \* New opportunities in certain agricultural industries such as tropical fruits and nuts, nurseries, etc.
- \* The opportunity for tax deductions from certain agricultural activities and the growing need for individuals and corporations to find such deductions.

The North Coast is particularly suited as a focus for this trend having a unique combination of an attractive climate, coastline and countryside which together with a decline in traditional agricultural industries (such as dairying and bananas) provides the opportunity for such demand to be absorbed.

There have been a large number of polls and community surveys commissioned to ascertain living preferences. In these surveys a strong preference was shown towards the North Coast because of its climatic suitability and its pleasant combination of coastal and rural environments.

A review of the aspirations of residents of small holdings gives some indication of demand which can act as a guide to planning the provision of small acre holdings. Surveys have shown that rural residential dwellers seek the following attributes:

- \* space;
- \* seclusion (privacy);
- \* pleasant scenery/views;
- \* reasonably fertile soil;
- \* proximity to towns;
- \* creek frontage;
- \* town water;
- \* good roads.

A telephone survey of real estate agents on the North Coast was undertaken to obtain a perspective on the market situation. In this survey, agents were asked what people were looking for in rural real estate in their area. The above factors were well represented in the responses.

### Survey of Estate Agents

A survey of estate agents in the Coffs Harbour, Bellingen, Nambucca areas was undertaken in October 1982 to obtain information on the following:

- \* the level of inquiries for rural land;
- \* the lot size preferences of those making the enquiries;
- \* the locational preferences of those making the enquiries;
- \* the socio-economic characteristics of those making the enquiries;
- \* the service requirements of those enquiring;
- \* the adequacy of supply for rural land.

Twenty real estate agencies participated in the survey.

Because of the nature of the survey and the operations of real estate agencies, the information supplied is more qualitative than quantitative. Nevertheless, it provides a good indication of the market situation from a known vested interest group.

### Level of Enquiry

At the time of the survey, the general real estate market was in a state of depression where enquiries across the board were depressed. Relative to other areas of enquiry, however, the demand for rural lots was strong, particularly relative to supply. Enquiry rates averaged 6-10 per week. The general industry consideration that the demand is 'strong' or 'good' was prevalent and can be assumed to mean that if the land was available they would have little trouble in selling it.

### Locational Preferences

The locational preferences of those making the enquiries varied considerably. Preferences were understandably expressed for the following characteristics:

- \* rural or coastal views;
- \* proximity to creek;
- \* rural atmosphere;
- \* relative proximity to shops and services etc., i.e. approximately 15 to 20 minutes drive from a town.

### Lot Size Preferences

The majority of inquiries were for smaller lots although the number of people interested in larger lots for full-time commercial or subsistence farming was also substantial. Those looking for smaller lots generally had a preference for 1 to 5 acres. One large agent in Coffs Harbour identified a number of classes into which inquiries could be grouped:

- \* 0.4 to 2 hectares.
- \* 5 to 10 hectares.
- \* Over 10 hectares.

Over about 10 hectares, there were no discernible categories. Responses from other agents supported this grouping.

### Characteristics of Potential Purchasers

Generally enquiries came from three groups:

- \* local residents, generally younger professional families looking for rural lifestyle;
- \* retired people, both local and from other areas;
- \* people from larger cities interested in rural lifestyles now or in the future.

The last category would be more likely to contain a larger speculative or investment element. In general however, a wide range of age groups and socio-economic groups expressed interest in rural land and the only conclusion that can be drawn is that the new residents of rural areas will tend to have different lifestyles and values to the traditional farming communities.

Other studies of hobby farming on small rural holding areas have supported the view that new rural residents are "well educated, employed in professional and business capacities, with moderate to high incomes, a wife and perhaps two children" (McQuin, 1978).

### Service Requirements

The agents understanding of the servicing requirements indicates that the following services were preferred:

- \* sealed roads;
- \* power;
- \* telephone;
- \* reticulated water supply.

This supports information provided elsewhere in the literature (Sexton 1981, Archer 1977, Wagner 1975, Crompton 1981) that people moving onto smaller lots, particularly if they move from a city, will demand a high level of services. These need to be provided economically and as far as Council is concerned, these factors should be taken into consideration at the development stage.

### Adequacy of Supply

Agents' comments on the adequacy of supply were in the context of the recession in the real estate market which was reflected in a general decline in sales. Thus the consensus was that supply was adequate in most size categories at the moment - a situation dramatically different from 12 months previously. This consensus was not unanimous and there were a number of agents who recorded a shortage of supply, particularly in the smaller lot sizes. There was also a scarcity of larger properties on the market.

Comments on the adequacy of supply when compared with the number of enquiries suggests that due to rising interest rates and the general expectation in the economy for even higher rates, effective demand was not as strong as the real level of demand. While people were interested in buying land, the general economic climate prevented the realisation of their intentions.

### Land Prices

Perhaps the clearest indicator of the demand for rural land is movement in prices for lots of various prices. The price of land is a reflection of how the market rationalises the demand for land and supply. As supply is generally fixed in that it is more stable in the short term at least, fluctuations in price tend to be more of a reflection of changes in demand rather than supply. The demand for land in a Shire such as Bellingen, can be influenced by a number of factors such as:

- \* the general economic climate reflected in people's expectations of future economic prosperity and the availability of credit;
- \* real demand for land for residential and/or commercial reasons;
- \* the size of the speculative/investment market.

All these three elements are interconnected. People often purchase land for retirement purposes some time in the future, perhaps 10 to 20 years away. While generally speculative in nature, this demand must be recognised as legitimate. Holding land for speculative purposes or for eventual long term use is and will continue to be a major component of demand on the North Coast with participants in this market being a large number of private individuals as well as the larger business institutions.

Information on land prices and sales were obtained from the Department of the Valuer General, Coffs Harbour Regional Office.

### Population Growth and Building Activity

Section 5.1 on population growth and building activity discussed in detail trends in the distribution of population and dwelling growth within the Shire.

Between 1976 and 1981 - the intercensal period of most rapid population growth - the rural districts of the Shire increased their share of total population from 38.6 per cent to 41.2 per cent. Population grew by 31.5 per cent in rural areas compared with 18.2 per cent in the urban areas and 23.3 per cent in the Shire as a whole. Bellinger Valley experienced most of this population growth housing an extra 600 rural dwellers of the total rural population increase of 900 people. Fifty-two per cent of growth between 1976 and 1981 was in rural areas.

A similar trend can be experienced in dwelling construction. Between 1976 and 1981, the total number of dwellings in the Shire (occupied and unoccupied) increased by 580, 47 per cent of which was in rural areas.

Information from Council building records supports this information. New dwelling approvals in rural areas for the years 1976 to 1982 represented 45 per cent of total approvals. This includes the areas of Raleigh and Repton. Excluding these village areas the percentage of total approvals given in rural areas was 33 per cent. Again most of this activity was in the Bellinger Valley and to a lesser extent, the Dorrigo Plateau. Most of the rural building activity on the seaboard is focussed on Repton and to a lesser extent Raleigh and consists of dwellings on rural residential subdivisions.

This trend towards an increasing proportion of building activity in rural areas is occurring in most areas along the North Coast and provision must be made in future planning schemes for such demand to be absorbed.

This apparent increase in the demand for rural land is due partly to population growth and partly from an increasing tendency to consume rural land.

#### Demand Predictions

Predicting future rural residential land requirements involves the following:

- \* estimating future rural dwelling requirements;
- \* estimating the appropriate size of a land bank to accommodate the time lag between buying and building and to accommodate a reasonable level of speculation;
- \* identifying current supply of rural lots.

#### Future Rural Dwelling Requirements

As mentioned above, over the 5 years from 1976 to 1981, approximately 52 per cent of all population growth and 48 per cent of all dwelling growth was in the rural areas of the Shire. In determining future land needs, a prediction has to be made on how these percentages will change in the future.

The high level of market demand for small holdings during the 70's can be attributed to:

- \* Spillover growth from Coffs Harbour and cheaper land prices suggesting that people working in Coffs Harbour could commute from the rural environment of Bellingen.
- \* General land price inflation stimulating investment and mobility. This is particularly so in capital cities where price rises were much higher than other areas giving people, particularly retirees the necessary mobility.
- \* A rise in savings and in the activity investment funds together with a rise in superannuation payouts.
- \* The growth of the tax avoidance industry.
- \* A trend towards alternative lifestyles and rural environments.

It is difficult to predict with any accuracy how these factors of demand will change over time. However, by extrapolating past trends, an indication of likely total demand can be obtained for forward planning purposes.

Table 10.11 below shows the proportion of total building approvals issued in rural areas since 1976.

Some of these 'rural' dwellings would have been approved on urban lots in rural areas such as North Dorrigo, Fernmount, Newry Island, Raleigh and Repton. This would reduce the Shire percentage from 45 per cent. Discussions with Council officers suggest that a more realistic figure would be approximately 35 per cent.

Table 10.11: Building Approvals in Rural Areas

	1976	1977	1978	1979	1980	1981	1982*	Total
Raleigh Urban/Rural	2	5	6	11	8	3	2	37
Repton Urban/Rural	3	3	6	4	5	13	20	54
Bellingen Rural	24	28	24	32	32	31	26	197
Dorrigo Rural	4	5	7	11	13	8	19	67
Urunga Rural	1	-	-	2	2	2	-	7
Total Rural	34	41	43	60	60	57	67	362
Total Shire	85	79	105	133	135	149	119	805
Percentage	40	52	41	45	44	38	56	45

\* Up to June 1982 (Source: Bellingen Shire Council)

Work undertaken in other areas indicates the adoption of a much lower proportion of rural lots for prediction purposes than this. Investigations in the Hunter Valley and the Bathurst/Orange Growth Centre suggests that 12 and 15 per cent respectively of future dwelling requirements would be in rural areas. There are valid reasons, however, why the demand for rural dwellings in Bellingen would be higher than this and these include:

- \* the higher rate of population growth on the North Coast;
- \* the more attractive living environment;
- \* the smaller size of the urban area populations in Bellingen and thus the relatively larger proportion of total building activity occurring in rural areas.

It is assumed therefore that 35 per cent of total future dwelling requirements will be located in rural areas.

The projected population growth in Bellingen Shire is discussed in Section 5.1 of this report and a high forecast of 17,763 persons by 2001 is assumed for forward planning purposes. The total number of dwellings required to house an additional population of 8,900 is 3,750 (using the marginal occupancy rate, 1976-81, developed in Section 5.1 of this report - Population Characteristics and Growth).

Thus, over the next 20 years, the number of rural dwellings (lots) required in Bellinggen would be in the order of 1,300 on the assumption that trends over the past 6 years will continue.

Broken down over 5 year periods, this requirement would be as shown below.

Table 10.12: Rural Dwelling Demand

	1981-86	1986-91	1991-96	1996-2001
Population Growth*	2,505	2,292	2,061	2,032
Dwelling Growth	1,057	967	870	857
Rural Dwelling Growth	370	340	300	300

\* High population projection

Estimates of future rural dwelling requirements must be treated cautiously, however, due to a number of factors including the following:

- \* There has been very little experience elsewhere with rural residential development or demand assessment on which to base firm planning proposals.
- \* Rural residential developments by their very existence could increase the tendency for rural living by providing the opportunity for that lifestyle thus generating their own demand.

The weight of evidence suggests that the demand for small holdings in Bellinggen Shire is strong, however the exact extent of that demand is not known. Experience to date with rural residential development in the Shire has been encouraging with no indication of either an acute oversupply or a drastic undersupply. Take-up and development rates have been healthy, particularly if the effects of the hike in interest rates in the later months of 1982 are taken into consideration. The satisfactory performance of the market to date suggests that the supply of 1(c) Rural land between 1977 and 1982 would be an adequate 5 year target.

Close monitoring of the rural residential release areas would be necessary in order to gauge the market's reaction and to ensure that an oversupply situation did not develop.

Land Bank

There is no apparent way of estimating an appropriate land bank for rural residential development on the North Coast. Again the approach is going to have to be one of experimentation, with smaller releases onto the market and close monitoring of progress. It is also difficult to identify the speculative buyer from the intending resident. Larger investment companies or property trusts would be in the business of buying up whole estates more than individual lots. From the experience in Bellinggen Shire to date and elsewhere on the North Coast, the large scale speculative element is not present.

Many individuals buy lots for longer term capital gain, but it is impossible to distinguish these buyers from intending immediate or longer term builders. Also people buy land for retirement or holiday home purposes - activities not strictly speculative in nature.

Speculative demand is therefore a legitimate element of demand and one that has to be incorporated into forward planning proposals.

For planning purposes therefore, it is suggested that a land bank of 10 years supply of rural residential lots be maintained where possible. This situation should be closely monitored, with Council planning officers perusing notices of transfer and holding discussions with real estate agents to ascertain the speculative component of the market.

#### **10.4.4 Nature of Demand**

Because the nature of demand for rural lots is diversified, the ways of accommodating such demand are many. In determining a planning response to this demand, weight should be given to market forces subject to sound planning principles.

From the assessment above it appears as if the demand for rural lots can be divided into the following categories:

- \* Rural farm lots for full time commercial farming.
- \* Rural hobby-farm lots of 5 to 10 hectares in specific areas.
- \* Rural residential lots ranging in size from 6,000 square metres to 2 hectares.
- \* Isolated rural lots.

The first category can largely be satisfied currently from existing land supply. The distribution of holding sizes suggests that there is a wide range of larger holdings in existence and limited ability to create more lots. Provision remains under the current IDO to cater for this demand and any supply constraints would be the result of a limited overall land supply.

The last category is also largely satisfied at present under the IDO whereby landowners can subdivide off concessional lots. At the present time there is a minimum size for these concessional lots and attention may need to be given to reduce this minimum.

Most attention needs to be given therefore to rural residential lots and to the distribution of future rural residential development between specifically zoned areas and the general rural areas. This suggests a concentrated versus dispersed pattern of rural residential development.

The options for providing small rural lots are:

- \* To relax restrictions on subdivision in rural areas generally so that rural residential development can occur at the owner's discretion subject to site specific design controls or performance standards and adequate contribution for road works and community facilities, etc.

- \* To concentrate small holding development in particular areas (zones) appropriately located based on market indicators.
- \* A combination of the above whereby subdivision controls are relaxed in certain rural areas together with the designation of specific small holding zones.

From Council's point of view the first approach while being most responsive to market forces, is not advisable because it takes control of subdivision activity away from Council and development could occur in a disjointed fashion over a wide area greatly adding to the costs to the community of providing and maintaining services. Furthermore it would be difficult to comprehensively design rural residential development. It is therefore recommended that in view of the limited experience with rural residential areas in NSW that such subdivisions be controlled and located in specific rural areas. This also supports the objectives of preserving good agricultural land.

Since 1977 when the first rural residential zone was gazetted, approximately 143 lots less than 2 hectares in size have been created by subdivision. Of these 111 lots were in rural residential zones. Of all lots created of less than 40 hectares in size since 1977, over 25 per cent were in rural residential zones. This percentage increased dramatically from 1977 as more lots in rural residential zones came on stream. In 1980-82 for example, nearly 40 per cent of all lots under 40 hectares created by subdivision were in rural residential zones.

This then suggests a strong and growing demand for small acre lots in Bellingen Shire.

If this percentage over the past 3 years is applied into the future then the demand lots in rural residential or small holding zones would be as shown in Table 10.13 below.

In order to encourage the preservation of good quality agricultural land and given the need for a concentrated pattern of rural development rather than a dispersed pattern, the proportion of lots located in specifically zoned areas should increase. In this fashion control over subdivision in good agricultural land and rural land generally could be tightened in favour of an increase in the supply of lots in specific locations.

Table 10.13: Distribution of Small Rural Allotments

	1981-86	1986-91	1991-96	1996-2001
Rural dwelling growth (from Table 11)	370	340	300	300
Dwellings in rural residential zones	220	200	180	180
Dwellings in remaining rural areas	150	140	120	120

**10.5 Rural Land Policies**

The discussion in this section of the report so far suggests that recommendations for rural land use policies need to be developed for the following areas:

- \* appropriate policies for the use and protection of good quality agricultural land;
- \* policies for the identification of land suitable for rural residential development;
- \* policies for the control of development in remaining rural areas of the Shire.

Again it must be emphasised those recommendations will be addressed to rural lands generally and will support recommendation elsewhere in the study on scenic protection, development in flood-prone land, flora and fauna protection etc.

**10.5.1 Good Agricultural Land**

A recommended objective of the Local Environmental Plan for Bellingen Shire is to maximise the potential productivity of rural land while at the same time ensuring that demand for other land uses such as hobby farming, rural residential development and tourist uses are satisfied.

An initial step in achieving this objective is to identify the good quality agricultural land in the Shire. This task was undertaken for Council by the Department of Agriculture as discussed in Section 10.3. A contiguous area of better quality agricultural land was identified and mapped (Map 15).

**Land Use and Development Control**

The following land use policies are suggested for better quality agricultural land as defined by the Department of Agriculture:

- \* Land use should be restricted primarily to agriculture and agriculture related industries (including battery and similar intensive farming, boarding kennels, etc.). That is, the land should be retained in a rural 1(a) zoning.
- \* Tourist related developments compatible with the rural environment (motels, cabins, etc.) should be permitted but subject to Council control.
- \* Industrial uses related to agriculture or to the natural resources of the area should be permitted again subject to Council consent. Specific urban industrial zones should be designated to cater for demand for general industrial uses.
- \* Development other than agriculture should be restricted on the flood plain in accordance with State Government policy on flood-prone lands.
- \* In order to enable Council to implement the policy of preserving good agricultural land, it is recommended that all permissible development except agriculture be subject to Council consent. Intensive agricultural pursuits such as feed lots, stock homes, piggeries, battery farms etc. should be subject to Council consent. This will no doubt increase the workload for Council's planning staff, but it will also allow council to give proper consideration under Section 90 of the Environmental Planning and Assessment Act to all forms of development. Rural dwellings should be

included in this assessment so that Council can encourage the appropriate design and siting of dwellings, and achieve other planning objectives such as maintenance of visual quality, control of development on hazard prone land etc.

- \* Provision should be made for Council to refer applications for development on good agricultural land to the Department of Agriculture, or any other relevant body for their comments.
- \* When determining development applications on good quality agricultural land, Council should take into consideration the effect of that development on the long term supply and productivity of good agricultural land.

**Subdivision Control**

Section 10.4 above has described the pattern of subdivision on the good quality agricultural land in the Shire. In order to encourage the retention of good quality agricultural land in agricultural uses, the fragmentation of land should be controlled. The general principle in determining the minimum subdivision size is one of technical viability as discussed above in Section 10.2.3. In determining minimum subdivision size attention should also be given to:

- \* The existing distribution of lot sizes in the good agricultural land.
- \* The recommendation of the Department of Agriculture.

The size distribution of holdings on good agricultural land is shown below.

Table 10.14: Size Distribution of Holdings on Good Agricultural Land

Size of Holding	Dorrigo		Valleys and Coast	
	Number	Mean Size (ha.)	Number	Mean Size (ha.)
0-5 hectares	11	2.4	52	2.7
5-10 hectares	7	6.7	29	7.0
10-20 hectares	5	13.2	38	15.0
20-40 hectares	11	34.0	54	27.0
40-100 hectares	86	68.0	67	61.0
100-200 hectares	47	139.0	21	128.0
More than 200 hectares	13	274.0	31	-

The overall average allotment size on the plateau is 91 hectares and below the escarpment 33 hectares. There are relatively few holdings on the plateau under 40 hectares (19 per cent) with the majority (73 per cent) between 40 and 200 hectares with property sizes averaging out at between 70 and 140 hectares.

The Department of Agriculture reported significant differences in agriculture on the plateau and in the valleys. On the plateau agricultural industries consist mainly of beef, dairying and potatoes, with potatoes or other vegetables often being part of a dairy or beef enterprises activity. Thus holdings tend to be larger. This is supported by the fact that the analysis of holding sizes suggests that properties have been amalgamated on the plateau presumably so that the operation can expand and continue viability.

The subdivision and disposal of rural lots is part of the normal process of rural adjustment and should be maintained. This should be only to the extent that it does not threaten the technical viability of the land nor limit the agricultural uses to which it can be put. Implementing the principles adopted in Section 10.2, planning controls should aim at providing a range of lot sizes in response to the market situation. This has generally occurred in Bellingen Shire, particularly in the valley area, where there is a reasonably even distribution of holding sizes. However, the provision of such lots should not be at the expense of preserving good agricultural land.

**It is therefore recommended that the following provisions for subdivision on good quality agricultural land be adopted:**

- \* **That the minimum subdivision size for rural land should be 40 hectares in the valley and coastal areas and 70 hectares on the plateau.**

#### **Conditions Under which Smaller Lots can be Created**

Under the existing deemed local environmental plan, subdivision into lots smaller than 40 hectares (with the right to construct a dwelling house) in the following circumstances:

- \* If Council is satisfied that the allotment is intended to be used for any development (other than a dwelling house) referred to in Column III or IV of the table of land use zones. In the case of 1(a) and 1(b) zones this refers to any development other than the following uses which are prohibited:

##### 1(a) Zones

Motor showrooms  
Residential buildings  
Shops (other than  
general stores)

##### 1(b) Zones

Bulk stores  
Car repair stations  
Commercial premises  
Junk yards  
Liquid fuel depots  
Motor showrooms  
Offensive and hazardous industries  
Residential buildings  
Roadside stalls  
Shops  
Timber yards  
Warehouses

(Clause 11(b) - no minimum lot size)

- \* If Council is satisfied that the allotment is intended to be used for the purpose of agriculture (Clause 11(4) - minimum lot size of 2 hectares).
- \* If the allotment so created is used for erection of a dwelling house for the actual occupation by the owner, a relative of the owner or a person employed by the adjoining or adjacent owner (Clause 11(5) minimum lot size 1,000 square metres).

These are the standard concessional allotment rights included in most planning instruments in NSW.

With respect to concessional lots and conditions under which smaller lots can be created, it is **recommended** that the existing concessional lot entitlements be maintained subject to Council consent and made conditional upon:

- \* Lots created by such subdivisions having a size of not less than 4,000 square metres.
- \* Appropriate frontage and depth requirements.
- \* The provision of adequate access to the lots.

Such applications should be referred to the Department of Agriculture or any other relevant body (if Council so desires).

In determining such applications it is recommended that Council take the following into consideration:

- \* The impact of that subdivision on the supply and productivity of good agricultural land.
- \* Whether access can be provided to the site and the adequacy of linkages to established towns and villages.
- \* The impact of the development (and presumably the resulting dwelling house) and any access roads on the visual environment.
- \* Whether ribbon development will result and the feasibility of internal access roads to a number of lots.
- \* The natural constraints to development such as steep slopes, poor drainage, soil stability, wind exposure and aspect and bush fire risk.
- \* The possibility of consolidating titles to provide a viable agricultural holding.

As well as this minimum lot size, Council has also recommended that there be a maximum concessional lot size provision on good quality agricultural land and that this maximum be 2 hectares.

In the preparation of the Local Environmental Plan, attention will be given to the feasibility of transferring concessional lot subdivision entitlements from one rural holding to another to enable the 'clustering' of entitlements on land more suitable for that form of development. It should be pointed out, however, that there are difficulties in this. These include:

- \* Difficulties in administering provision.

- \* It would lead to confusion as to what development rights specific parcels of land have and thus to a lack of market confidence and unstable market values.

Attention will also be given to encouraging the clustering of concessional lots into parts of holdings most suitable to rural residential development.

### **10.5.2 Rural Residential Zonings**

Section 10.4 on demand analysis indicated a high demand for the provision of small acre holdings and rural residential zonings. The overall principle in designating these zones is to enable the market to respond to demand by supplying rural lots in sizes that people want. There are a number of advantages in doing this, including:

- \* Promoting the overall conservation of good agricultural land and land generally by enabling people to purchase the block size they wish rather than being forced to take a larger block.
- \* Promoting the co-ordinated growth and development of the Shire.
- \* Maintaining the character of the rural environment.

It is suggested that provision of small rural holdings should be primarily in clearly designated zones. Locating such development within specific zones would have the following advantages:

- \* Council would have more control over the location of such development and thus could more easily monitor the market.
- \* There would be economies in the provision of urban services to the benefit of Council and the community.
- \* Residential development could be focussed in particular locations thus maintaining the overall rural character of the Shire and contributing to the protection of good agricultural land.
- \* Clearly designating rural residential zones would relieve general agricultural land of some development pressure thus minimising the increase in land values and rates for the genuine farmer.
- \* It would facilitate the planned and co-ordinated provision of small holdings which would not be possible if provision of such lots were to be dispersed throughout the Shire.

#### **Rural Residential Zones (4,000 square metres minimum)**

This form of development should be regarded as very low density urban residential development.

#### Location Criteria

In determining the location of rural residential zones for the purposes of the present plan and in order to satisfy future demand, a number of locational/service criteria can be developed and implemented where possible. These criteria have been applied in identifying the areas in the Shire suitable for rural residential development.

The following criteria are recommended:

- \* Rural residential zones should be restricted from:
  - . flood-prone lands;
  - . lands susceptible to slip or instability;
  - . committed lands;
  - . areas of extractive resource potential;
  - . visually significant areas;
  - . areas of floral or faunal significance;
  - . areas of good agricultural land;
  - . poorly drained areas;
  - . areas of cultural or historical significance.
- \* Rural residential zones should be restricted where possible from high bushfire risk areas. Alternatively, if such areas are subject to bushfire risk, preventative measures should be incorporated into the design and development of these areas. Given the density of development in rural residential zones, it is possible to plan development to minimise the bushfire risk.
- \* Rural residential zones should be located in areas that can be economically provided with reticulated town water supplies. Attention should be given to means of encouraging support water supply schemes such as communal dams for non-domestic uses such as gardens.
- \* Development should be encouraged in areas readily serviced with telephone and electricity.
- \* Development should be located within 5 to 10 minutes travel time from the major urban centres of Dorrigo, Bellingen and Urunga to encourage the efficient provision of services. Such zones could be located on the immediate outskirts of existing towns and the subdivision designed so that further subdivision into smaller urban lots could occur.
- \* Development should take place in areas served by sealed roads. Flood-free access should be available at all times where possible.
- \* Development should take place in areas readily accessible to employment centres.
- \* Rural residential zones should be located in areas with soil characteristics suitable for the absorption of septic effluent and the size of lots should be such as to enable the satisfactory absorption of effluent on site.

These criteria were applied to identify lands suitable to accommodate demand over the next 20 years. It is not recommended that all the land identified be rezoned immediately. Council needs to carefully monitor the demand and supply situation so that an oversupply of land does not result. A suggested staging programme for the release of such land is discussed below.

Areas recommended for rural residential development are discussed below and shown on Map 18. The above constraints to development were mapped based on information gathered during the course of the Environmental Study and discussed in previous sections of the report.

Repton/Mylestom

Ninety-one hectares of land have already been rezoned for rural residential development to the north-west of Repton. There is the capacity to expand this provision to the east and west of the existing 1(c) zone. Water is currently available.

There is potential for some rural residential development to the north of Mylestom. Linking this with the proposed land at Repton would facilitate the provision of flood-free access from the Pacific Highway to Repton and Mylestom.

In determining the exact location of these zones, care should be taken to ensure:

- \* that flood-labile land is excluded;
- \* that risks of bush fires spreading from the Pine Creek State Forest be minimised;
- \* that sufficient land is reserved for the future expansion of the village zones;
- \* that the locational criteria identified above are applied at the local level when determining the appropriate location of development.

South Arm Road, Urunga

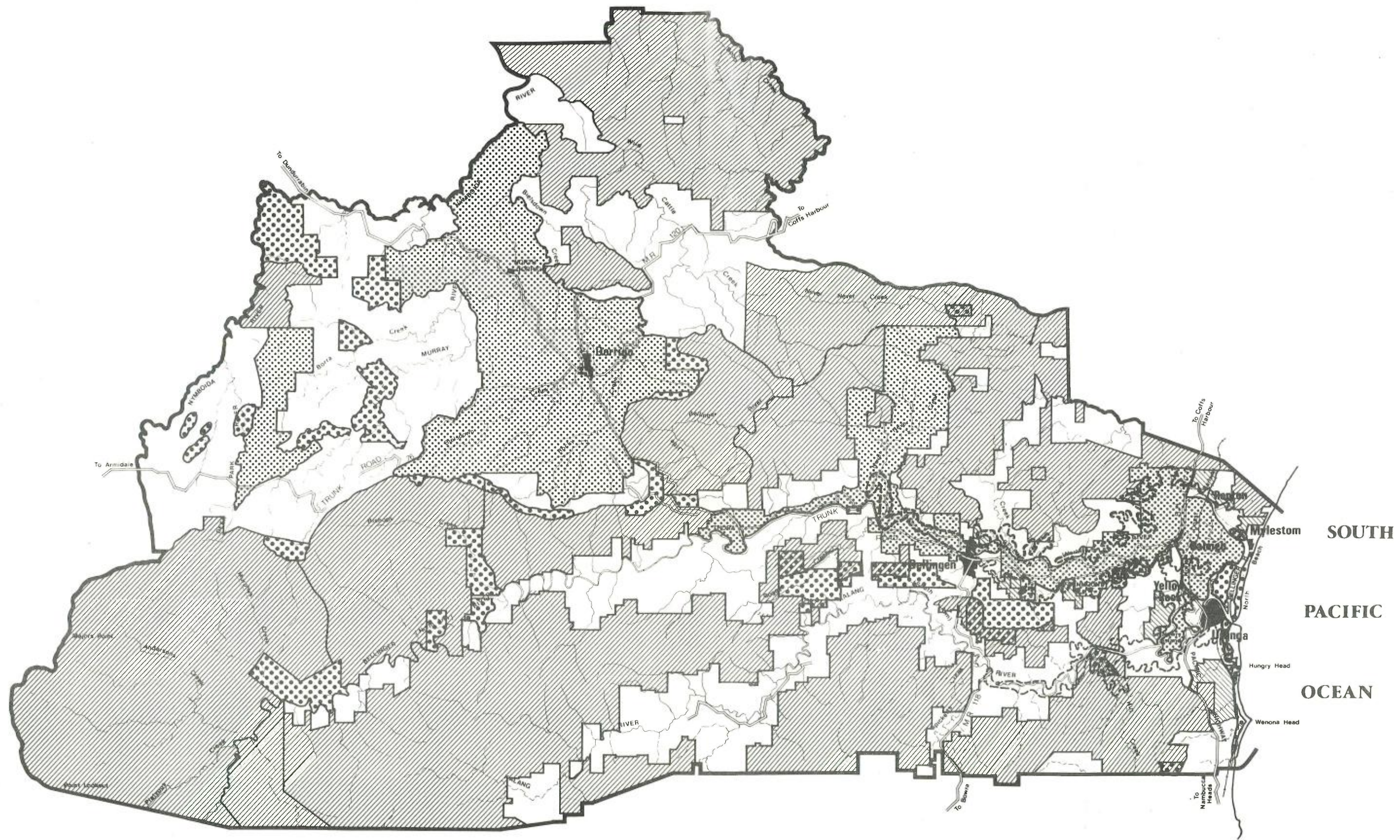
An area of 10.9 hectares has been rezoned at the intersection of South Arm Road and Short Cut Road, and an application has been received by Council for the rezoning of a further 154 hectares (approximately 132 hectares to be developed). It is considered that this is a suitable location for rural residential development being located on foothills out of the flood plain with a pleasant aspect and views. Access will be via South Arm Road. In rezoning this area, consideration should be given to:

- \* a fully reticulated town water supply;
- \* the upgrading of the South Arm Road/Short Cut Road intersection with respect to traffic generated on association with rural residential development and proposed expansion and development of the Industrial Estate.
- \* excluding development from flood-prone lands.






Before rezoning of this land proceeds, consultations should be held with the Department of Main Roads to ensure that longer term options for rerouting the Pacific Highway are not precluded. The resolution of the highway deviation should be resolved prior to this land being rezoned.

South of Urunga

Land to the south of Urunga on the eastern side of the Pacific Highway adjacent to Hungry Head is estimated in close proximity to Urunga and linked to it via Hungry Head Road and the Pacific Highway or alternatively Hungry Head Road east of the railway line. It is felt that there is only limited potential for development at Hungry Head to the east of the railway line. This area is considered a suitable location for rural residential development subject to the following qualifications:



SOUTH  
PACIFIC  
OCEAN

PRIME AGRICULTURAL LAND	
COMMITTED LAND (National Parks, State and Private Forests)	
ENVIRONMENTAL PROTECTION AREAS	
FLOOD PRONE LAND	
AREAS SUITABLE FOR RURAL RESIDENTIAL DEVELOPMENT OVER PLANNING PERIOD	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**AREAS IDENTIFIED FOR RURAL RESIDENTIAL DEVELOPMENT 18**

0 5km 10km

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 For BELLINGEN SHIRE COUNCIL

- \* Land should be reserved for the southerly expansion of Urunga. A ridgeline running east/west approximately 1 kilometre north of Hungry Head Road has been identified as the northern-most boundary of this zone.
- \* Reticulated town water should be provided.
- \* Steps should be taken to ensure that there is no adverse effect on the Dalhousie Creek estuary system due to siltation pollutant run-off etc.
- \* Further access to the Pacific Highway should be restricted.
- \* Steps are taken to minimise bushfire risk.

A rezoning proposal for part of this land is currently before Council.

#### Bellingen/Marx Hill/Fernmount

Substantial amounts of land suitable for rural residential development is located to the south-east of Bellingen on the foothills of the Scotchmans Range. This can extend from the existing rural residential zone to the south of Bellingen eastwards to Marx Hill and Fernmount. The land has good aspect and can be economically serviced. The extension of low density development in this direction will provide alternative flood-free access from Fernmount/Marx Hill to Bellingen. The designation of zones in this area should take into consideration the following:

- \* The steep nature of the terrain in some places.
- \* Proximity to a proposed scenic protection area and the need to ensure that development is not obtrusive when viewed from Trunk Road 76, Bellingen to the Pacific Highway. Rural residential development at Fernmount could further reinforce the village.
- \* The need to identify a road corridor linking Trunk Road 76 at Marx Hill with Bellingen to provide alternative flood-free access into Bellingen.

#### Hyde's Creek Valley

This valley system extends to the north of Bellingen and provides a large amount of land for future residential development. There is potential in this area for the provision of a wide range of lot sizes. Factors contributing to this desirable location include:

- \* close proximity to Bellingen;
- \* its location on the Hydes Creek Road which will eventually become an alternative route between Coffs Harbour and Bellingen.

In developing this area attention should be given to the following:

- \* eventual upgrading the access linkage between Bellingen and Coffs Harbour;
- \* development should be staged generally from the south to the north;
- \* at the detailed design stage, attention should be given to preserving good agricultural land in larger parcels or hobby farms.

It is envisaged that this area would provide a wide range of lot sizes.

### Dorrigo Plateau

Council has identified some areas in the Dorrigo area for rural residential development. These areas are to the north of the existing rural residential zone at Dorrigo.

### Development Control in Rural Residential Zones

- \* There should be flexibility in the provisions for control of subdivision size in rural residential zones to enable local site constraints to be accommodated. A minimum of 4,000 square metre lots is recommended with an average of 8,000 square metres. Large residual lots should be excluded from the averaging process. In this manner, the market can respond to reflect demand at any one point in time.
- \* Each lot created by subdivision must be capable of absorbing all sewage effluent on site.
- \* Satisfactory arrangements should be made where possible for the provision of a reticulated town water supply.
- \* It is recommended that Council prepare development control guidelines for each rural residential zone and for such development generally covering aspects such as:
  - . access;
  - . identification of constrained areas;
  - . identification of visually significant areas, prominent ridgelines, views;
  - . identification of site opportunities (direction of views, aspect, wind direction exposure, existing landscaping etc.);
  - . alternative on-site support water supply systems;
  - . control over ancillary buildings such as hot-houses, machinery sheds etc;
  - . dwelling design considerations;
  - . landscaping;
  - . fire protection and bushfire control procedures;
  - . the protection in large parcels of any land of good agricultural suitability;
  - . the economical provision of services;
  - . the provision of community facilities and services such as public telephones, mail boxes, shops, school, bus routes, fire brigades;
  - . the provision of public open space, e.g. lookouts and picnic areas and/or landscape features, drainage reserves.
- \* Rural businesses such as nurseries, stables, boarding kennels and other forms of stock homes should not be permitted in rural residential zones.

The purpose of such guidelines is to create a pleasant living environment and to ensure that the development is in harmony with the rural character of the area and thus be unobtrusive.

### Land Supply

In Sections 10.4.3 and 10.4.4, estimates were made of rural residential land needs over the planning period (to 2001). Accurate predictions in this area are difficult to make because of the uncertainty surrounding likely future demand. Nevertheless,

they provide a broad frame of reference for identifying land needs. Close attention should be given to monitoring more immediate indicators of demand such as price trends, rate of development, etc., to ensure that sufficient land is available to cater for expected demand.

It has been estimated that rural dwelling needs from 1981-2001 would be in the order of 1,300, of which 800 could be reasonably located in rural residential or small holding zones.

The amount of land proposed for rezoning for rural residential purposes totals approximately 1,600 hectares. Assuming an average lot size of 1 hectare and making an allowance for a proportion of land unsuitable for development and services such as roads, reserves, etc., of 20 per cent of the total zoned area, it is estimated that these zoned areas would have a dwelling capacity of approximately 1,300 dwellings.

This is in excess of projected dwelling demand.

The proposed small holding zone discussed below is approximately 700 hectares. Assuming an average lot size of 10 hectares (including roads and reserves) this area would have a capacity for 70 to 80 lots.

The amount of land identified for rural residential development therefore is in excess of expected future demand. It is not suggested that the land be released in stages in accordance with demand as suggested below.

Staging of Development

As discussed in Section 10.4.3, future demand for rural residential land is difficult to predict with any accuracy. It is recommended that Council keep a close monitor on the level and pace of development in existing zones and to make further land releases as the market requires. The timing of the rezoning of the areas identified as suitable for rural residential needs therefore cannot be accurately determined. Attention has been given however to the appropriate staging of the release of the land identified. The recommended staging programme is shown in Table 10.15.

Table 10.15: Rural Residential Release Programme

Area	Order of Release
Repton/Mylestom	1
South Arm Road	Release to await resolution of highway deviation.
South Urunga	
. north of Hungry Head Road	1
. south of Hungry Head Road	2
Bellingen/Marx Hill/Fernmount	1-3
Hydes Creek	1
North Dorrigo	1-3

This staging programme is based on the following:

- \* the expressed wishes of developers interested in rural residential development;
- \* general land suitability;
- \* economies in the provision of services.

### 10.5.3 Small Holding Zones

The rural residential demand analysis indicated a demand for small rural holdings in the vicinity of 5-10 hectares. It is considered desirable that such holdings be provided in specifically zoned areas. The criteria for locating these zones are similar to those for rural residential zones. It is considered that such zones be located relatively close to existing urban areas to encourage efficiency in the provision of services and the orderly and economic development of land.

An area to the north of Bellingen has been identified as being suitable to satisfy expected future demand (see Figure 19). Development of this area should be monitored more accurately to assess future demand.

The extent of demand for this type of development is difficult to ascertain. It is recommended that the area identified be considered for development first with other areas being released subsequently if demand warrants. The Hydes Creek Valley area was identified as most suitable because:

- \* It is close to Bellingen and represents a logical extension of that urban area.
- \* It is situated on the Bellingen/Coffs Harbour road and thus provides the opportunity for progressively upgrading that road.
- \* The land is considered suitable for that form of development.

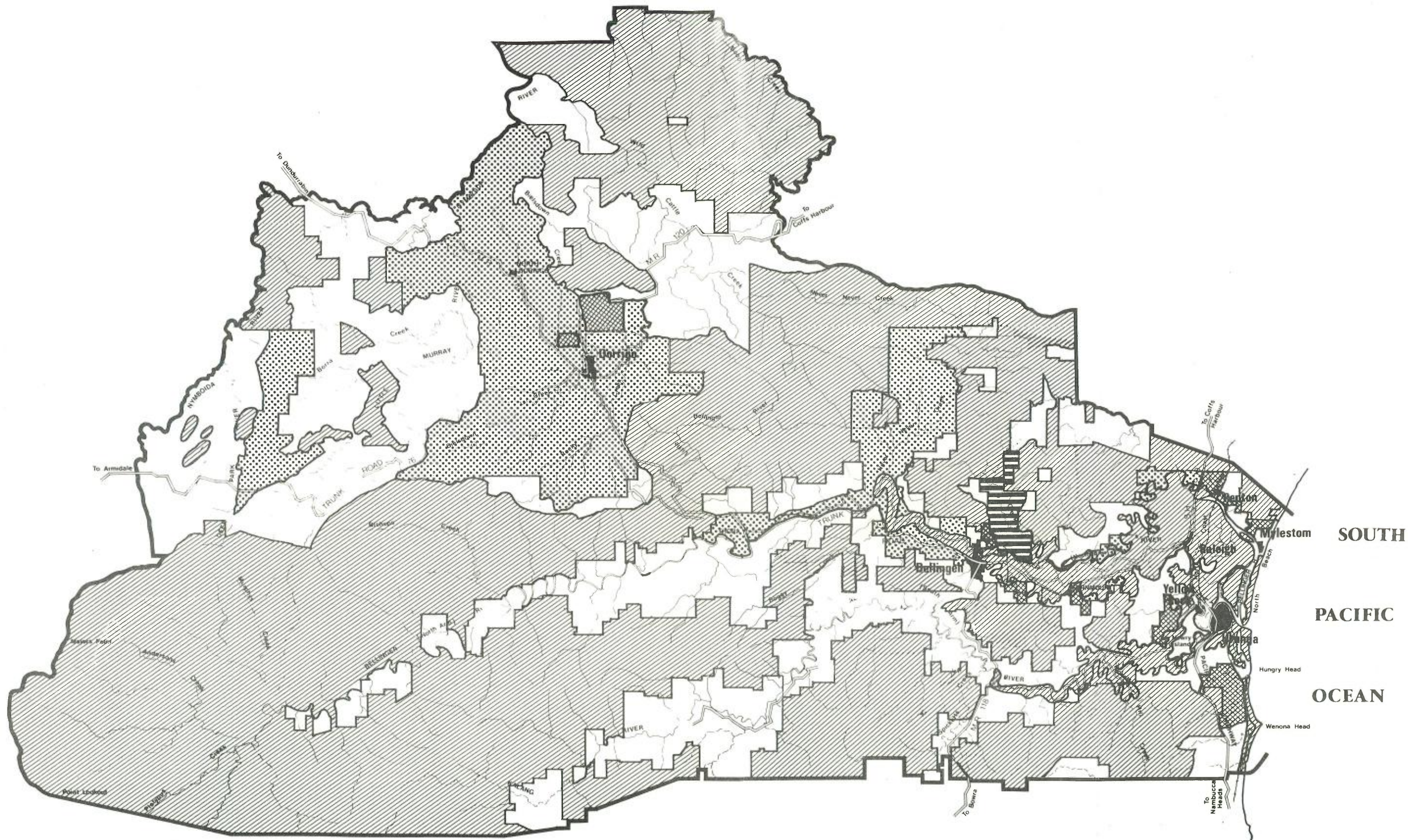
Other areas were considered suitable but were not recommended for immediate release for a number of reasons.

Brierfield: The Sunny Corner/Brierfield area is located close to Bellingen although separated by the mountain range separating the Kalang and Bellinger Valleys. Being located on the Bowraville road, as there were seen to be more economic benefits in encouraging development along the Coffs Harbour Road initially so as to provide funds for upgrading that road and for flood-proofing works.





The North Bank Road area: This area, extending through to the Pacific Highway, was considered less suitable because:

- \* flooding constraints and the existence of better quality agricultural land restrict the amount of land in this area substantially; and
- \* development in this area would be cut off in flood times and providing flood free access to these areas would be generally costly.

The Gleniffer/Roses Road area: The Structure Plan for Bellingen identifies the residential expansion of the town as proceeding generally in a north-westerly direction and land adjacent to the existing urban area should be reserved for this purpose. In the longer term unconstrained land toward Gleniffer is considered suitable for small holding development.



SOUTH  
PACIFIC  
OCEAN

CONSTRAINED LANDS	
AREAS RECOMMENDED FOR RURAL RESIDENTIAL DEVELOPMENT	
AREAS RECOMMENDED FOR SMALLHOLDING DEVELOPMENT	
PRIME AGRICULTURAL LAND OUTSIDE FLOOD PLAIN	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**RURAL LANDS STRUCTURE 19**  
**PLAN**

0      5km      10km



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 For BELLINGEN SHIRE COUNCIL

**10.5.4 Remaining Rural Areas**

**Development Principles**

Generally the remaining rural lands in the Shire comprise the steeper sloped foothills of the valley systems and the more remote parts of the Dorrigo Plateau. The land is therefore generally a considerable distance from urban centres and is therefore remote. The land is of little agricultural value and is generally quite steep and heavily vegetated.

Generally it is felt that further more intensive residential development should not be encouraged in these areas, particularly because of their remoteness and limited access.

Recommended development policies for these areas are:

- \* Minimum subdivision size be restricted to 40 hectares in the valleys and 70 hectares on the plateau.
- \* The existing concessional lot entitlements be maintained subject to Council consent and made conditional upon:
  - . lots created by such subdivisions having a size of not less than 4,000 square metres;
  - . appropriate frontage and depth requirements;
  - . the provision of adequate access to the lots.

**10.5.5 Township of Dorrigo and Villages of Fernmount and North Dorrigo**

Although this Environmental Study specifically excludes consideration of urban centres within the Shire - with the exception of Bellingen - consideration has been given to likely future residential land needs in the township of Dorrigo. The township of Dorrigo has not been subjected to substantial growth pressures in the past, with its population growing by less than 1 per cent per annum. There are no indications or reasons to suggest that growth is likely to substantially increase in the foreseeable future. Assuming an annual growth rate of 1 per cent, the population of Dorrigo by the year 2001 would be 1,450 - an increase of 258 over the 1981 Census figures.

Even if there is no population growth, there would still be a need for additional urban land to accommodate the change that inevitably occurs in urban environments brought about by social forces such as smaller household sizes. Between 1976 and 1981, for example, the population of Dorrigo increased by 40 while the dwelling stock increased by 28. That is, for an even increase in dwelling stock (house or flat) there was a corresponding increase in population of 1.4.

Thus, over the next 20 years, it is likely that approximately 184 dwellings will be needed. Some, if not a significant proportion, of these dwellings will be provided in the proposed rural residential zones surrounding Dorrigo.

A land use survey of the township of Dorrigo undertaken in 1982 identified that there were 99 vacant residential allotments in the township and sufficient unsubdivided land to provide an additional 29 lots. This gives a total number of lots of 130 approximately.<sup>1</sup>

There will always be a need for some vacant blocks in the town and this is likely to represent 10 per cent of total dwelling needs - increasing needs from 184 to 204.

Summarising therefore, there is a current supply of land within the existing zoned village area to accommodate an additional 130 lots. There is a total need for 204 lots to cater for expected demand to the year 2001.

It should be pointed out that the study recommends that 470 hectares of land be rezoned for rural residential uses in close proximity to the existing township. This will have a capacity for approximately 400 lots and while not all this land is proposed for immediate release, there is ample capacity to accommodate expected growth.

It can be concluded that given the proposed rural residential rezonings and the existing supply of vacant land within the village area, that there is no immediate pressure for further land releases in the Dorrigo area. The land supply situation should be closely monitored and investigations should be undertaken to determine the most appropriate direction for further growth if and when demand strengthens.

There are currently a number of village areas in the Shire that do not have any formal urban zoning. This tends to limit potential for expansion of these villages. In order to provide more opportunities for rural lifestyles and in order to revitalise these traditionally declining villages, it is recommended that attention be given to identifying urban zones within these villages.

The villages of Fernmount and North Dorrigo were created by subdivision early in the history of settlement of the Shire. Consequently there are a large number of separate lots in existence. Such lots often cannot be built on because they were in the one ownership when the current Interim Development Order was gazetted in 1969.

With respect to these villages, it is recommended that:

- \* urban zones be created to enable additional growth and redevelopment;
- \* investigations be undertaken into providing urban services to these villages;
- \* investigations be undertaken to determine the appropriate size of these zones.

## **10.5.6 Multiple Occupancy Development**

### **Introduction**

Section 9 discusses the issues relating to multiple occupancy development in Bellingen Shire. This section lists a number of criteria to be applied in identifying areas where multiple occupancy provisions can be applied, performance criteria for

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1. Land likely to be flood prone along the river, steep land and vacant land in the vicinity of the industrial area were excluded from the analysis.

determining development applications for multiple occupancy, and appropriate controls to be incorporated into the Local Environmental Plan.

Discussion of these criteria in relation to overall rural lands development policies has led to the following recommendations on multiple occupancy:

#### Location of Multiple Occupancy Areas

In determining the most appropriate location for multiple occupancy developments, the following factors were taken into account:

- \* the present distribution of multiple occupancy developments and expressed locational requirements of alternate residents;
- \* constraints to development including:
  - . flood-labile lands;
  - . good agricultural land;
  - . forestry resource land (public and private);
  - . national parks and proposed extensions;
  - . scenic protection areas;
  - . land stability;
  - . unsuitable topography.
- \* provision of and access to community facilities, including:
  - . access to urban centres (condition of roads, number of bridges as well as distance from urban centres);
  - . the need for alternative flood-free access if possible;
- \* market factors such as land prices.

The application of these factors led to the identification of a number of areas where it is considered multiple occupancy development would be more appropriate. The amount of land identified is rather large and in excess of expected demand for the following reasons:

- \* to provide a wide choice for intending multiple occupancy developers;
- \* to prevent the overconcentration of multiple occupancies in small specific locations;
- \* to reflect the existing distribution of multiple occupancy developments.

The areas initially identified are as follows:

#### Bellinger Valley

This area extends from the Thora turn-off along the Thora-Darkwood Road to the end of the formed road. Although access is poor due to the condition of the roads and the large number of bridges, some of which are cut during periods of heavy rain thus attributing to the relative isolation of the valley, the existing distribution of multiple occupancy developments in this valley was instrumental in including this area in the recommended areas. The Shire as a whole, in fact, has few areas which might be considered ideal for this type of occupancy. However, it is not considered a practical solution to not providing areas for multiple occupancy on this basis.

In considering multiple occupancy development in this particular area, special attention would consequently need to be given to:

- \* contributions for the upgrading and improvement to the Thora-Darkwood Road with specific attention to extension of the sealed surface and continuing attention to the upgrading of bridges with the goal of minimising the extent and length of flood liability;
- \* the need for reasonable public access onto the Thora-Darkwood Road which would limit development to the same side of the river as the road in most cases;
- \* the nature of the terrain and the stability of the soil;
- \* bush fire risk;
- \* visual quality of the valley;
- \* ensuring that there would be no siltation or pollution of the Bellinger River.

#### Kalang Valley

There are a number of multiple occupancy developments already in existence in the Kalang Valley. It lies immediately to the south of Bellinger with access via Sunny Corner and Brierfield. This valley still suffers, however, from the same constraints of flood liability and poor road condition as the Bellinger Valley. In the former regard it is believed that one of the first bridges travelling up the valley is, in fact, the most problematic. The same considerations as apply in the Bellinger Valley should consequently be applied to the approval of multiple occupancies in this valley. Because of the steep valley terrain, the area where multiple occupancy might be permissible is limited.

#### Additional Areas

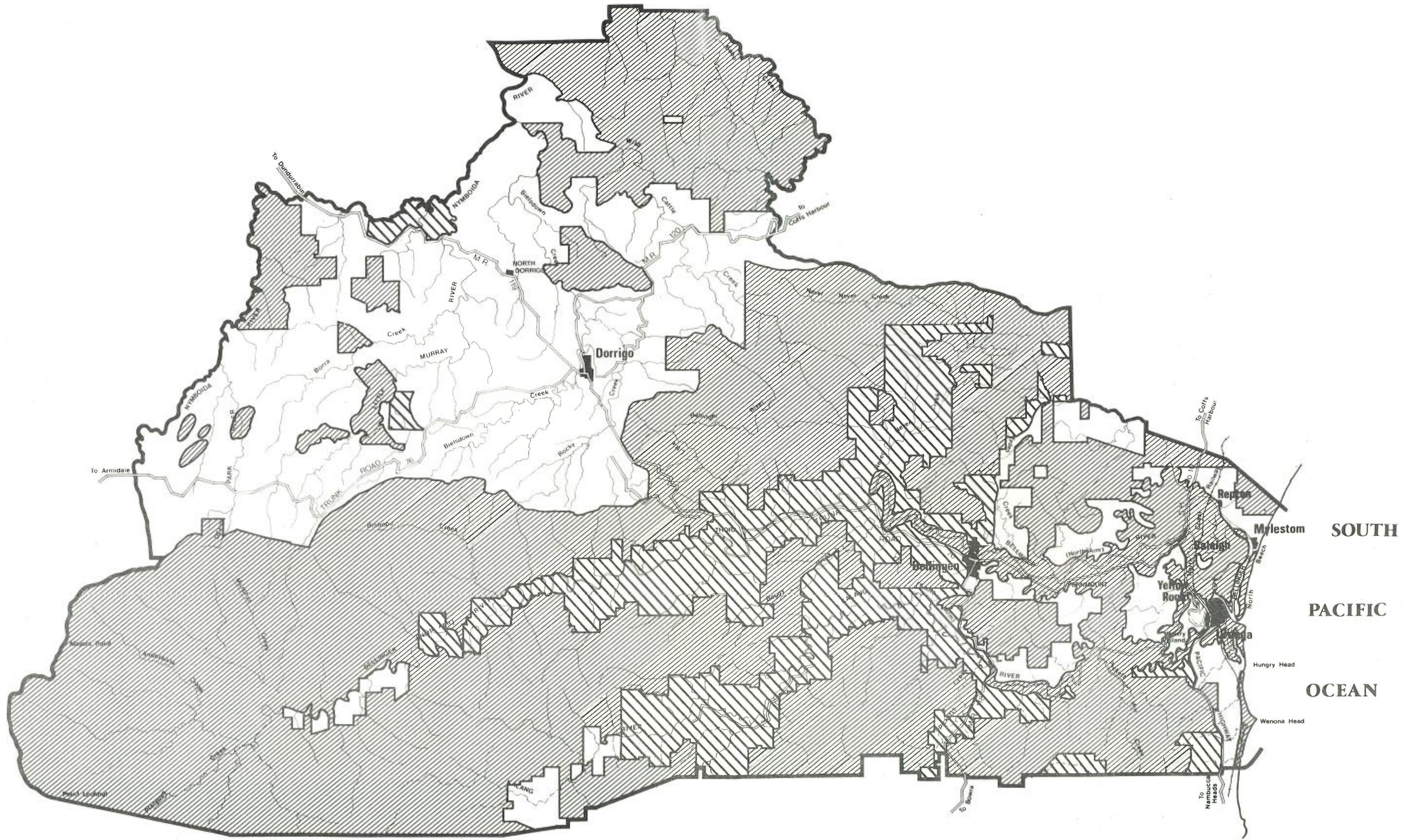
At its meeting of 17th August 1982, Council resolved to allow multiple occupancy development subject to consent on additional areas of the Shire. Council proposes to allow multiple occupancy development subject to consent in these areas which are shown on Map 19A.

#### **Minimum Lot Size**


The recommended minimum lot size for subdivision in rural lands in the valley areas is 40 hectares. It is considered that, as a general principle, the level of development in the upper Kalang and Bellinger valleys should be restricted for the following reasons:


- \* the isolation of the upper valleys;
- \* the steep terrain and its general unsuitability for development;
- \* the difficulty in gaining access and the lack of alternative access routes;
- \* the possible higher bush fire risk in the valleys.

It is basically for these reasons that the minimum subdivision size of 40 hectares in the upper valleys was recommended. For similar reasons, the recommended minimum size for multiple occupancy developments is 40 hectares. To allow



SOUTH  
PACIFIC  
OCEAN

CONSTRAINED LANDS 

LAND TO WHICH MULTIPLE OCCUPANCY PROVISIONS WILL APPLY 

SHIRE OF BELLINGEN ENVIRONMENTAL STUDY  
**MULTIPLE OCCUPANCY AREAS** 19a

0 5km 10km 



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For BELLINGEN SHIRE COUNCIL

multiple occupancy developments on lot sizes smaller than this while not allowing subdivision to create such lot sizes would be introducing inconsistencies into the planning instrument and inequality in the treatment of individual land owners.

### Density Controls

It is recommended that the maximum density provision for multiple occupancy provisions generally conform with the recommendations of the Department of Environment and Planning, i.e., an overall site density of 1 person per hectare. With regard to density of development, it is recommended that:

- \* density provisions for multiple occupancy relate to 'habitable' rooms per hectare rather than population per hectare;
- \* these density provisions refer to the area of the site that is suitable for development; this can be most appropriately organised by controlling separation distances between buildings;
- \* the density of development should be such that adequate provision for the absorption of domestic effluent to occur in the vicinity of each unit with no possibility of run-off, soil erosion, or other effects on adjacent living units, public places or streams.

### Performance Criteria and Development Control

The identification of areas where multiple occupancy should be permitted has been quite broad to ensure sufficient flexibility and range of choice for groups wishing to undertake this form of development. However, the designation of these zones does not imply that all multiple occupancy development applications should be approved. Thus there is a need for performance criteria that can be useful to potential developers in assessing the suitability of their sites and to Council in determining development applications. Such criteria would include:

- \* Buildings should be located so as not to create any adverse visual effect when viewed from public roads or places or adjoining lands. This is in order to protect the rural character of the environment.
- \* There should be adequately constructed public road access to the site boundary. Access to each dwelling unit within the site should be constructed to an acceptable standard with major internal access roads being of two lane width. All internal roads should be constructed to an all weather standard.
- \* Development should only be permitted on land suitable for development. It should be ensured that development which does take place on any land in this zone is located and designed to:
  - . minimise bush fire risk;
  - . avoid land subject to inundation;
  - . protect good agricultural land;
  - . avoid land susceptible to slip;
  - . avoid land of a gradient of greater than 33 per cent;
  - . avoid land that is visually significant;
  - . avoid land containing large tracts of native vegetation.
- \* Development should not be permitted where it is likely to increase stream pollution or siltation.

## PLANNING WORKSHOP

- \* Development should be located in areas where the nature of adjoining land uses is such that there will not be a likelihood of land use conflict.
- \* Adequate provision should be made for domestic water supply by way of rain water tanks. The use of dams or riparian rights should be encouraged for non-domestic water requirements.

These provisions should be incorporated into a Multiple Occupancy Development Code. It is recommended that Council prepare such a code as a matter of priority.

### Permitted Uses

- \* Multiple occupancy developments should be primarily for residential purposes, agriculture, forestry and home industries. Other forms of development should be prohibited.

### Other Issues

Recommendations on developer contributions, rating structure, building standards and other areas of concern with respect to multiple occupancy are discussed in Section 9, "Multiple Occupancy of Rural Lands".

#### **10.5.7 Additional Dwellings on Rural Properties**

The draft Local Environmental Plan to be prepared by Council will contain provision for the erection of workers dwelling-houses on existing holdings. In addition, consideration will be given to including provisions for:

- \* The provision of tourist/holiday accommodation on farms. This would take the form of holiday cabins operated as a secondary use to the prime agricultural use of the holding.
- \* The provision of dual occupancy of rural holdings enabling an additional dwelling to be built on a rural holding.

In these cases, the further subdivision of land to which these provisions would apply would be restricted.

#### **10.5.8 Bushfire Risk**

In the preparation of a Local Environmental Plan and in the consideration of development in rural areas, it is important to give consideration to fire hazard. There are two interrelated planning responses to development in fire hazard areas:

- \* Exclude closer rural settlement from areas of significant fire hazard.
- \* Incorporate development controls into the planning framework to ensure that adequate measures are taken to prevent fire and to protect development from fire risk as far as possible.

The basic information requirement to enable the determination of the appropriate response is information on the level of fire hazard within the Shire. This information is not yet available but is expected to be completed prior to the preparation of the Local Environmental Plan. There is a now well-established method of assessing the degree of fire risk within an area.

On areas identified as high or medium fire risk, closer settlement of rural land should not be encouraged by a Local Environmental Plan in cases where:

- \* There are viable alternative locations for closer settlement (such as multiple occupancy, rural residential zones, etc.) elsewhere in the Shire on land not prone to fire hazard.
- \* The provision of hazard reduction works is not feasible or would result in unacceptable community costs. This would include works such as through roads, perimeter trails, land clearing in fire radiation zones, etc.

In the identification of areas suitable for rural residential development, it is felt that there is scope to provide adequate protective measures in the design of subdivisions. Upon the receipt of information on the degree of bushfire hazard in the Shire, some adjustment to the area recommended for multiple occupancy development may be required.

Development control policies to reduce bushfire risk in hazard areas would include:

- \* the provision of a through-road;
- \* the provision of a perimeter fire trail and fire redirection areas;
- \* the provision of communal fire fighting equipment including water storages and pumps;
- \* the preparation and dissemination of information on household and garden management techniques to minimise fire risk.

The extent to which these requirements are desired with respect to particular development applications can be assessed when more detailed information on fire risk hazard in the Shire is available and on the nature of the proposed development.<sup>1</sup>

## 10.6 Conclusion - Aims and Objectives and Policies

The aims and objectives of the Local Environmental Plan will be developed for the Shire as a whole in the final summary report for the Environmental Study. As far as rural land is concerned, a number of aims, objectives and policies have been outlined in this report. These are summarised below:

### 10.6.1 Aims of Rural Lands Policies

To provide for the economic growth and development of the Shire in a well managed and environmentally sensitive manner.

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1. Additional information on bushfire risk is contained in a publication entitled "Hazard Reduction for the Protection of Buildings in Bushland Areas" prepared by the NSW Fire Brigades, Board of Fire Commissioners of NSW, 1982.

**10.6.2 Objectives**

- \* To maximise the potential productivity of rural lands.
- \* To cater for demand for a wide range of land uses in rural areas such as tourist and rural residential uses.
- \* To encourage efficiency in the provision of urban goods and services such as water supplies, roads.
- \* To encourage the orderly development of rural residential zones.
- \* To protect and enhance the rural character of the Shire.
- \* To protect areas of environmental and scenic importance.

**Recommended Policies**Good Agricultural Land

- \* Restrict unproductive subdivision on good agricultural land by enforcing a minimum subdivision size of 40 hectares east of the New England/Dorrigo National Parks and 70 hectares west of the Parks on the Dorrigo Plateau.
- \* Enable the excision of a number of small lots from existing holdings at the appointed day of September 1969. Lots should have a minimum size of 4,000 square metres and the number of lots that can be created from an existing holding should be as shown below. Council has also recommended that these concessional lots have a maximum area of 2 hectares.

Table 10.16: Number of Lots from Existing Holding

Holding Size	Number of Concessional Lots
Less than 10 hectares	Nil
10-20 hectares	1
20-30 hectares	2
30+	3

- \* Investigate the feasibility of transferring subdivision rights and means of encouraging the clustering of subdivision entitlement in areas more suitable to rural residential development.
- \* The advice of the Department of Agriculture should be obtained for development involving subdivision in prime agricultural land.
- \* In determining development applications, Council should take into consideration the effect of that development on the long term supply and productivity of good agricultural land.

Rural Residential Development

- \* Rural residential development should be focussed in specific zones rather than dispersed throughout the Shire.
- \* Additional rural residential areas should be zoned in response to demand as indicated in Section 10.5.2.
- \* There should be flexibility in the provisions for control of subdivision size with a minimum lot size of 4,000 square metres and an average of 8,000 square metres.
- \* As a general principle, rural residential zones should be provided with reticulated town water unless the lots are of a size that renders such provision uneconomical.
- \* Council should have Development Control guidelines prepared for rural residential zones that links future development with the existing urban form.
- \* The zoning of rural residential land should be in accordance with the staging programme.

Remaining Rural Areas

- \* In general, development in the more remote rural areas should be discouraged.
- \* The minimum subdivision size for good rural land as identified above should apply to the remaining rural lands.
- \* Concessional lot entitlements and development control guidelines as outlined above should apply to these rural lands without the 2 hectare maximum.
- \* Development on flood plain should be restricted in accordance with State Government policy.
- \* All development other than agriculture (except feed lots, piggeries, etc.) should be subject to Council consent.
- \* Investigate the feasibility of transferring subdivision rights and means of encouraging the clustering of subdivision entitlement in areas more suitable to rural residential development.

## 11. BELLINGEN TOWNSHIP

### 11.1 Zoning

Development within the town of Bellingen is presently governed by the 'Shire of Bellingen - Interim Development Order No. 1', and Shire of Bellingen Local Environmental Plan No. 3 (which relates to the use of land in north Bellingen for village purposes).

The Interim Development Order is a deemed environmental planning instrument which was initially gazetted on September 12th, 1969. As documented in Section 3 of the report, various amendments and alterations have been made to this instrument. In respect of the Town of Bellingen, alterations were made on the following dates:

**May 11th 1973:** Amendment No. 2 which provided for the extension of the village boundary of Bellingen.

**September 13th 1974:** Amendment No. 4, which provided for both the extension and, in part, the reduction of the village zone of Bellingen. A section of flood-prone land south of Dowle Street was withdrawn from the Village Zone and rezoned Non Urban 1(a).

**Bellingen Local Environmental Plan No. 3:** This relates to Lots 52 and 62 Lyon Street which were formerly zoned Non Urban 1(a). These lots now form part of the village zone of Bellingen and are subject to recent subdivision.

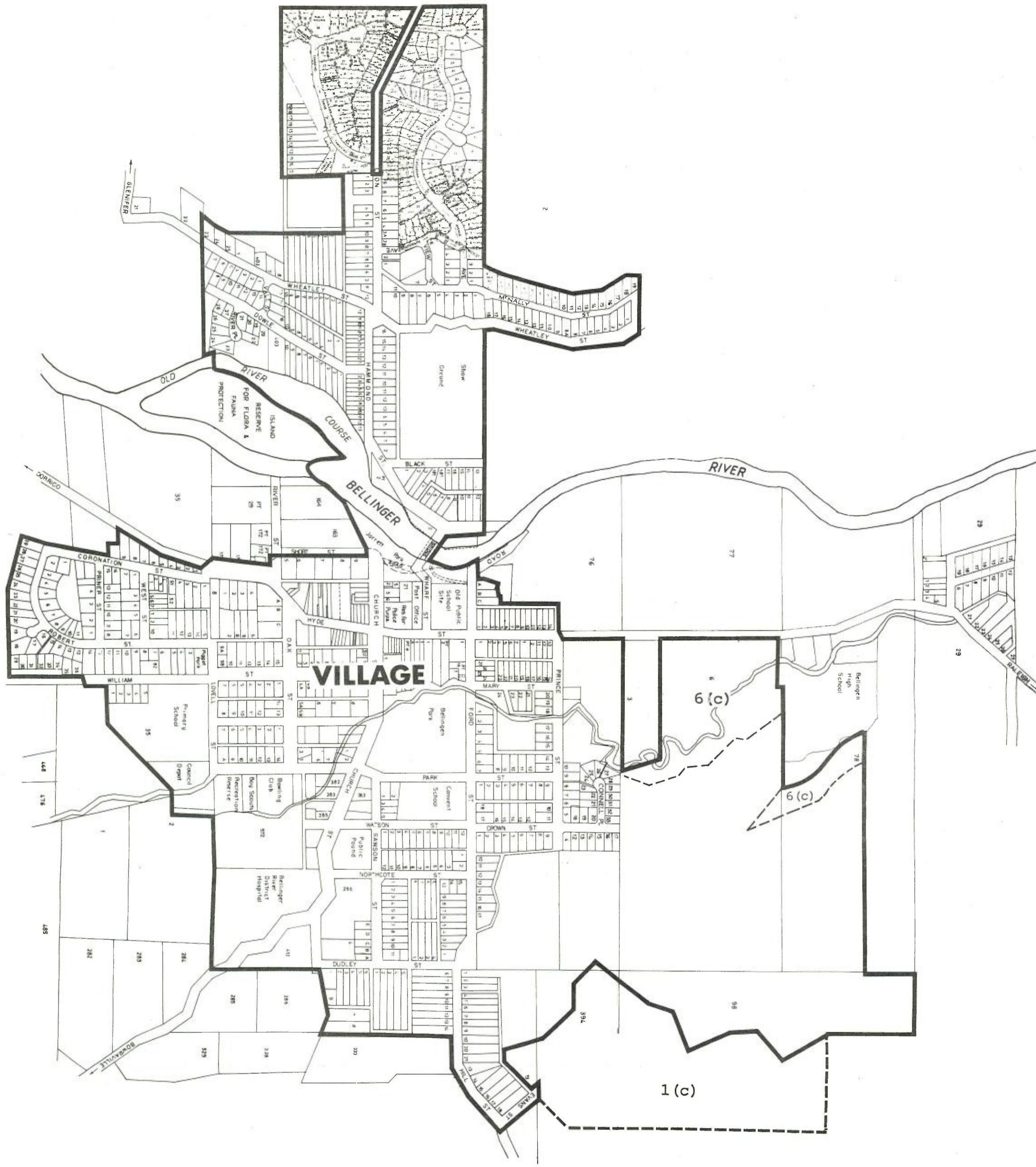
If gazetted in its present form the draft Local Environmental Plan relating to Lot 622, DP 602568, Lot 2 DP 225199, Part Portion 76, Portion 98 and Lot 4 DP 618174, will provide for a major eastward extension to the Village Zone of Bellingen.

The above land to the east of Connells estate has been the subject of correspondence between the Department of Environment and Planning and Council. The Department has stated that:

"Council will need to justify why expansion should take place in this particular situation. It is suggested that the following items be included in any brief for the study:

- (i) Identify the constraints and opportunities for residential expansion of Bellingen with a view to determining the most appropriate lands for both future growth of the settlement and for environmental control or retention for specific land use purposes; and
- (ii) present an analysis of population growth and building activity for Bellingen Township and relate this to the supply of land already zoned for residential development with a view to recommending a staged release of land to meet anticipated growth for an 8 to 10 year supply period."

The town of Bellingen is zoned 2(a) Village under the provisions of Interim Development Order No. 1. This zoning permits, with the consent of Council, all development other than institutions, junk yards within 90 metres of a main road, miners, offensive or hazardous industries, liquid fuel depots and sawmills. These latter uses are prohibited in the Village Zone.



RURAL RESIDENTIAL	1 (c)
OPEN SPACE	6 (c)

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**ZONING - BELLINGEN** **20**

0 200m 400m

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There are no specific requirements within the Interim Development Order applying to development in the village zone. The Department of Environment and Planning has indicated to Council that as Bellingen is experiencing a significant degree of population growth and is achieving more regional importance, the use of Village zoning is less appropriate as a planning mechanism. The Department recommends that Council:

"Should therefore consider the adoption of specific zonings for the settlement and bring forward these zonings in any future local environmental plan for Bellingen."

## 11.2 Land Use

A land use study of the town was undertaken by the staff of Planning Workshop Pty Ltd during August 1982. The following major land uses were identified and plotted on a base map (see Map 21).

- \* dwelling houses;
- \* residential flat buildings;
- \* vacant residential blocks;
- \* retail and commercial premises;
- \* caravan parks;
- \* industrial premises;
- \* special use purposes such as schools and hospitals;
- \* parks and recreation areas.

The purpose of the study was to identify the existing use of land within the village boundary. The land use survey enabled the following observations of the village structure to be made:

- \* There are approximately 533 dwellings in the town of Bellingen. There are also approximately 250 vacant residential blocks within the village boundary (this includes the subdivision of land to both the east and west of Lyon Street). The majority of vacant residential blocks are located in north Bellingen.
- \* There are no significant parcels of land which have yet to be subdivided.
- \* There are very few residential flats within the town and none at all in north Bellingen (5 semi-detached and 20 other medium density dwellings in June 1981).
- \* Commercial and retail development is almost wholly centred within the Hyde Street area.
- \* A significant number of dwellings, some of recent construction are located on land which is liable to flooding.
- \* Very little land within the town is used for industrial activities, the largest single area used for such purpose being that land occupied by Planet Industries in Tamarind Drive, north Bellingen.

**11.3 Bellingen Water Supplies and Sewerage****11.3.1 Water Supply**

The town of Bellingen is provided with water from an infiltration well located approximately 0.625 kilometres upstream of the existing Bridge. Water is pumped to a reservoir located to the north of Scotchman Road to the west of the town. Water drawn from this source serves all the communities in the lower Bellingen District Scheme including Bellingen, Urunga, Raleigh, Repton and Mylestom.

The Public Works Department is presently in the process of preparing a report of the town and its environs to be entitled "Lower Bellingen Water Supply Augmentation - Investigation Report". Previous work has been done on the town water supply. In 1972, Gutteridge Haskins and Davey, a firm of consulting engineers published a report entitled Lower Bellingen Water Supply Scheme. In 1975, the same company prepared the Lower Bellingen Water Supply Augmentation Report.

More recently in April 1978, Gutteridge Haskins and Davey prepared a Community Water Supplies Investigation Report of the Macleay, Nambucca and Bellingen Areas on behalf of the Public Works Department.

The water supply for the town of Bellingen is wholly administered by Bellingen Shire Council for domestic, institutional, industrial, recreational and commercial use.

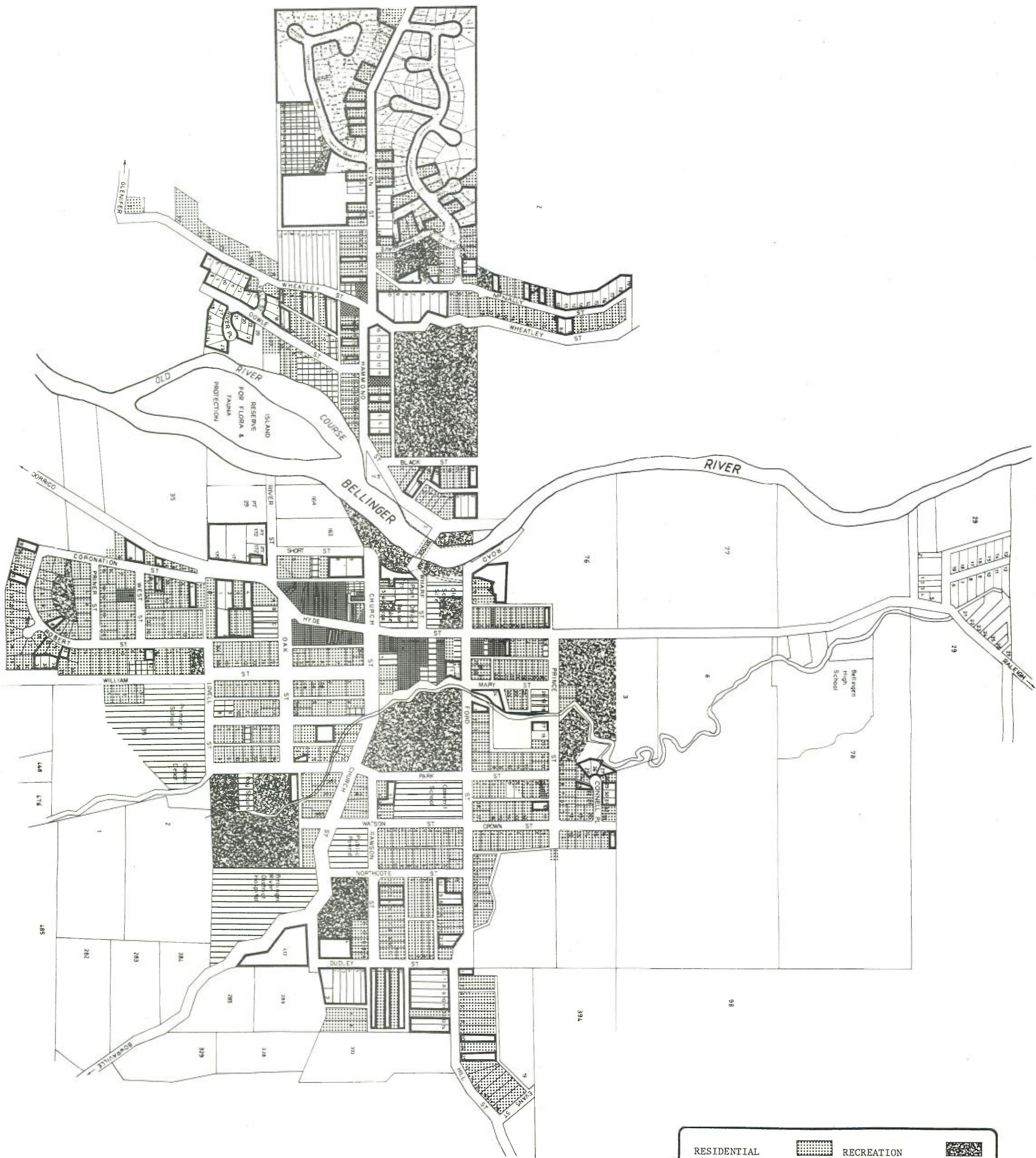
The town's water is drawn from the Bellinger River by means of an infiltration well, which was originally sunk in 1937 and a dry well pumping station. From this point the water is pumped to either the concrete service reservoir, constructed in 1937, to the north of Scotchman Road, Bellingen, on to the Marx Hill reservoir (concrete 1960) located 2.5 kilometres downstream of the town.

The pumping station has a capacity to pump 5.9 megalitres per day (ML/d) to the Bellingen service reservoir (this is based on 22 hours of operation per day) and 5.0 ML/d to the Marx Hill service reservoir. There are two pumps within the station, constructed in 1960, which operate singly.

Water is transferred to the Bellingen service reservoir by means of a 250 millimetre cast iron, cement-lined rising main (constructed in 1960). The capacity of the reservoir is 0.9 megalitres. Its top and bottom water levels are 93.7 metres and 87.5 metres respectively.

Water is similarly transferred to the service reservoir at Marx Hill. Also constructed in 1960, this is a large reservoir having a capacity of 1.4 megalitres with a top water level of 89.0 metres and a bottom water level of 81.4 metres. From Marx Hill, the supply gravitates via a 250 millimetres asbestos cement trunk main to an off-line storage dam located near the intersection of Short Cut Road and the main Raleigh-Bellingen Road, as well as to service reservoirs at Repton and Urunga. The storage dam has a capacity of 45 megalitres and was constructed in 1976.

Water can be pumped from the off-line storage dam (via a 200 millimetre PVC trunk main) to Raleigh (and from thence via a 150 millimetre PVC trunk main to Repton) and also to Urunga (via a 250 millimetre asbestos cement trunk main). The pumping station has a capacity to discharge 2.8 megalitres per day into the main which delivers to Raleigh, Repton and Mylestom and 6.7 megalitres per day to the Urunga reservoir.



RESIDENTIAL		RECREATION	
RESIDENTIAL FLATS		VACANT	
RESIDENTIAL RURAL			
COMMERCIAL			
INDUSTRIAL			
SPECIAL USES			

SHIRE OF BELLINGEN ENVIRONMENTAL STUDY  
**LAND USE - BELLINGEN** **21**

0 200m 400m

↑

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The service reservoirs at Urunga and Repton have storage capacities of 1.4 megalitres and 0.7 megalitres respectively. Both were constructed in 1960.

The community of Fernmount is connected to the system and draws water from it. The village of Mylestom is served via a gravity pipeline from the Repton service reservoir.

The Community Water Supplies Investigation Report (Gutteridge Haskins and Davey 1978) states "The quality of the water is satisfactory and no treatment is carried out."

Whilst work presently being undertaken by the Public Works Department will provide up to date details of required modification and augmentation, it is relevant to note the content of the Community Water Supplies Investigation Report in respect of augmentation proposals for the Lower Bellingen District Scheme described above. First however, it is necessary to summarise the anticipated demand calculated in the report. Table 11.1 is found in Appendix B of the report. From the projections in Table 11.1, predicted peak summer population estimates were made as shown in Table 11.2.

The report states that by 2006 the source will need to be capable of yielding at peak rate 9.1 megalitres per day over a period of days. The consultants refer to a previous report indicating that the infiltration well is capable of maintaining a constant flow of 6 megalitres per day. However, the report assumed "that the supply of groundwater in the vicinity of the existing headworks is adequate to meet demands at year 2006 but this is a matter which warrants further investigation".

The report states that as a consequence of the age of the existing pumping station (40 years) "it is proposed to construct new headworks before 1981 with a pumping capacity of 9.1 megalitres per day".

The report states that the pipeline system has capacities adequate to cope with estimated demands to year 2006. In respect of reservoirs the report states that existing capacities of service reservoirs will be required to be increased as follows:

- \* Bellingen: from 0.9 ML to 1.5 ML in 1981 to 2.0 ML in 1996.
- \* Urunga: from 1.4 ML to 2.0 ML in 1981 to 3.0 ML in 1986 to 4.0 ML in 1996 to 5.5 ML in 2006.
- \* Repton/Raleigh/Urunga: from 0.7 ML to 2.7 ML in 1981 to 3.2 ML in 2006.

Council is currently undertaking a study to review Council's water supply requirements.

### 11.3.2 Bellingen - Sewerage

In 1965 the town of Bellingen was sewered and the installed system was designed to have a capacity of 2,050 EP (equivalent persons). The sewage treatment works is located to the north of the river at a distance of approximately 550 metres from the bridge.

The capacity of the treatment units based on current design criteria is shown in Table 11.3.

Table 11.1: Mid-Year Populations - Shire of Bellingen

Town	Census Figures			Adopted Predicted Figures				Previous Predictions by:		Adopted Basis for Predicted Figures
	1966	1971	1976	1981	1986	1996	2006	Munro	Telecom	
Bellingen	1,390	1,371	1,398	1,400	1,420	1,450	1,490	x	x	Munro (1)
Urunga	924	1,207	1,601	1,875	2,212	2,620	2,930	x	x	Munro (1)
Mylestom	(a)	(b)	265	280	295	325	360			) ) ) ) Urunga's growth rate (2)
Raleigh	(a)	(b)	299 (c)	320	330	365	405			
Repton	(a)	(b)	199	210	220	245	270			

(a) Population less than 100 and not recorded in Census.

(b) Population less than 200 and not recorded in Census.

(c) Figures supplied by Council as no Census figure available.

(1) Department of Industrial Development and Decentralisation, North Coast Region, Demographic Analysis and Projections 1921-2001, Dr. R.G. Munro, et al., Lismore, 1976.

(2) The Urunga growth rate has been adopted as a conservative estimate of growth for these towns.

Table 11.2: Estimated Summer Populations - Bellinghen Shire

Towns	Adopted Increase Factors	Predicted Peak Summer Populations				
		1976	1981	1986	1996	2006
Bellinghen	1.40	1,958	1,960	1,988	2,030	2,086
Urunga	3.00	4,803	5,625	6,636	7,860	8,790
Mylestom	3.50	928	980	1,033	1,138	1,260
Raleigh	2.40	718	768	792	876	972
Repton	3.00	597	630	660	735	810

Table 11.3: Capacity of Treatment Units

Treatment Unit	Design Capacity (EP)
Sedimentation Tanks	1,982
Dosing Tanks	2,182
Trickling Filters	2,537
Humus Tanks	1,982
Chlorination Tanks	1,785
Digestion Tanks	2,149
Sludge Drying Beds	2,000

There are presently 2 main pumping stations and 2 minor pump stations:

- \* A wet and dry well pumping station is located in Ford Street. The Department of Public Works has stated that this station cannot handle existing flows and needs upgrading. The diameter of the rising main requires increase from 150 to 300 millimetres.
- \* A pump station is located in Black Street. It has recently been upgraded and is capable of levelling predicted future flows.
- \* A minor pump station caters for 8 tenements off Crown Street.
- \* A minor pump station serves the High School.

During 1980 and 1981 it became clear that the existing Bellinghen sewerage system was overloaded and then proposed land developments would be likely to exacerbate the problem. On June 24th 1981, Bellinghen Shire Council requested that the Bellinghen sewerage scheme be placed on the Department of Public Works priority list for subsidy. A feasibility report was prepared by the Department in September 1982.

In this report the Department calculates that in 1981 there were 502 occupied dwellings. In addition to this the hospitals and clubs and other non-residential properties in the town are calculated to contribute a further 186 equivalent tenements. By the year 2010, the Department estimates that this latter figure may rise to 220. The Department then forecasts future tenement growth.

Table 11.4: Estimated Tenement Increase

Year	Tenements	Equivalent Tenements	Equivalent Persons
1981	500	686	2,744
1990	565	761	3,044
2000	640	848	3,392
2010	720	940	3,760

The equivalent person estimates are high when compared with the high population projections given in Table 5.31 which indicates population totals of 2,350 and 3,212 for the years 1991 and 1996 respectively. The feasibility study suggests that a further 2,000 EP treatment unit be provided for Bellingen. Because the existing treatment works suffers from the problem of soil slip and river encroachment (particularly onto land on which the Council proposes to construct effluent ponds) it may be necessary to construct the future treatment works on a new site.

As stated above, the Ford Street pumping station requires augmentation and amplification. Should land be released to the east of the town for residential purposes a further two pump stations would be required. The feasibility report states that there are no serious reticulation problems but that certain trunk mains may require augmentation.

#### 11.4 Retail and Commercial Activities

A floor space survey was carried out, in conjunction with the land use survey, of the retail and commercial premises located within the central area of Bellingen. The results of this survey are shown in Table 11.5.

The Bellingen retail and commercial centre services the town of Bellingen and the rural lands of the Shire located to the east of the escarpment. Dorrigo largely serves the plateau area of the Shire. Urunga serves the seaboard, although the nearby centre of Coffs Harbour, which provides a most significant range of retail functions and services, is within sufficient proximity to act as a major attraction for those residents of the Shire with access to transport.

Table 11.5: Floor Space Survey - Bellingen Central Area

Area	Floor Space
<u>Retail</u>	
Department and general stores	1,530
Clothing fabric and furniture	1,000
Household appliance and hardware	450
Motor vehicle dealers, petrol and tyre retailers, heavy machinery	2,977
Food Stores (liquor outlets)	1,911
Other retailers	926
Vacant	475
(Under Construction)	(142)
<b>Total Retail Floor Space</b>	<b>9,269</b>
<u>Commercial</u>	
Personal services	510
Professional services	416
Offices	1,448
Vacant	-
<b>Total Commercial Floor Space</b>	<b>2,372</b>
<b>TOTAL RETAIL AND COMMERCIAL</b>	<b>11,641</b>

There are 59 retail and commercial businesses presently operating within the Bellingen central area. Whilst these businesses cover a wide range of activities, providing most convenience items, the centre cannot compete with the department stores and discount supermarkets of Coffs Harbour. The range of retail and commercial functions currently operative within the Bellingen central area are as follows:

**Convenience Goods Shops:** Health food shop, butcher, chemist, supermarket, grocery, cake shop, delicatessen, department store, bottle shop, fish and chip shop.

**Other Shops:** Cafe/restaurant, home furnishings, clothing shops, garden centre, shoe shop, hardware store, bookshop, art and craft shop, opportunity shop, stationers, furniture shop, second hand store, sports shop.

**Personal Services:** Shoe repairs, dry cleaners, hairdresser.

**Professional Services:** Solicitors, accountants, real estate agent, banks, optometrist, dentist, veterinary surgeon, doctors.

**Automotive Services:** Service stations, auto-electrician, mechanical engineer, motor bike sales, panel beater, car dealers, engineering workshop.

**Other Services:** Funeral director, printing, TAB.

**Other Central Area Uses:** Fire Station, Library, Information Centre, Council Chambers, Ambulance Station, CWA Rooms, Newspaper Office, RSL Club, Hotel.

It is an indication of Bellingen's continuing role as a rural service centre that the largest single component of its retail centre comprises enterprises concerned with heavy machinery and motor vehicles.

Whilst the increasing urban and rural population of Bellingen and its rural hinterland are likely to stimulate demand for goods and services, it is not likely that the Bellingen urban centre will experience significant expansion in the next decade. The largest concentration of population within the Shire is at Urunga, and it can be expected that this will become a preferred location for retailers and service providers. Furthermore, increasing accessibility may lead to a growing proportion of Shire residents undertaking a major shopping trip to the large and comprehensive centre of nearby Coffs Harbour. It is therefore anticipated that the existing trade area of the Bellingen shopping centre may diminish as a result of the growth of Urunga and increased accessibility to Coffs Harbour. However, population growth within the trade area, most notably in the rural hinterland, will stimulate demand to the extent where a supermarket (Franklins, for example) may well be an appropriate and necessary development within the next decade.

The major likely source of increased demand within the Bellingen centre is from tourists and travellers. Already, several businesses operate primarily to cater for this market and as outlined in the tourism section of the study, this market is almost certain to expand.

#### **11.5 Transport, Community Facilities, Heritage, Tourism, Employment**

Those matters mentioned above are each the subject of an individual section of this study. Within each of these sections is a reference to the town of Bellingen. Given below are the relevant sections of the study in which each of these issues, insofar as they affect the town of Bellingen, are discussed.

Transport	Section 8
Community Facilities	Section 6
Heritage	Section 12
Tourism	Section 7
Employment	Section 5

#### **11.6 Provision of Additional Land for Residential Expansion**

The land use survey revealed that approximately 33 per cent of existing residential blocks within the town are presently vacant. There are no significant parcels of land within the town boundaries which have yet to be subdivided. Approximately 296 lots are envisaged to be produced from the rezoning and subsequent subdivision of land to the east of the Connell estate. This will result in a total availability of 546 residential blocks in the town of Bellingen. At the time of the 1981 Census, there were 533 dwellings in the town.

Notwithstanding that medium density development may occur on certain blocks, there has already been identified adequate lands to accommodate a doubling of the dwelling stock in the town.

Assuming that the 1976 to 1981 marginal occupancy rate of 2.5 is representative of future ratios of persons to dwellings, then the number of blocks identified (i.e. existing zoned vacant blocks and the rezoned land to the east of the town) would accommodate an additional population of 1,365 (assuming that only one dwelling is erected on each individual block). This represents an 85.7 per cent increase to the June 1981 population total, resulting in a total population capacity of 2,858. Only the medium and high population projections for the year 2001 exceed this capacity. Thus, it is considered that the rezoning of the land to the east of the Connell estate will satisfy residential land demand until at least 1996.

If one considers building activity within the town between 1976 and 1981, it might be assumed that the existing availability of vacant blocks will be more than adequate to accommodate growth for the next 8 to 10 years. Whilst access was not gained to building completion figures, information was derived for building approvals, for both houses and flats.

Table 11.6: Building Activity within Bellingen Township

Type	1976	1977	1978	1979	1980	1981
Houses	6	9	12	10	19	25
Flats	-	-	5	2	-	4
Total	6	9	17	12	19	29

In terms of the Shire as a whole it should be noted that building approvals within the town of Bellingen represented only 13.6 per cent (in the case of houses) and 12.2 per cent (in the case of flats) of Shire approvals. The majority of perceived building activity took place in Urunga (27.9 per cent house approvals and 80 per cent of flat approvals) and the Bellinger Valley rural lands (27.5 per cent of house approvals). If one assumes that the above rate of dwelling approvals increases at the 1976-1981 rate, and one also assumes that each building approval results in the prompt erection of the building to which it relates, the vacant stocks which presently exist within the village boundaries would be sufficient to accommodate growth until beyond 1985. However, as there is a time lag between approval and completion, and as flat development will result in more than one dwelling per residential lot, it is likely that, on this basis, the supply of land will be adequate for the next 5 to 6 years. Most importantly there is little reason to believe that there will be any reversal in the short term of the downturn in the building industry (available figures for building approvals in the town for 1982 indicate that building activity may actually be decreasing, undoubtedly as a result of the present economic recession).

It is clear from an assessment of the existing village structure that an adequate supply of residential land has already been zoned and subdivided to accommodate anticipated growth for at least the next 5 to 6 years. All the lands which have been recently subdivided for residential usage with the exception of 4 to 6 lots at the northern extent of Connell Place, are free from risk associated with flooding (see Map 22).

The recently zoned Valley Rose estate will cater for expected demand until the mid 1990's.

### 11.7 Open Space Needs

There is a total supply of open space in the town of Bellingen of approximately 17 hectares (excluding the recently rezoned open space areas of the Valley Rose estate, the undeveloped foreshore areas of the Bellinger River and the golf course). This represents a supply of about 10 hectares per 1,000 people living in the town which can be compared with a theoretical standard requirement of 2.83 hectares per 1,000 people. While this supply would appear adequate, there is a need for a more detailed assessment of community recreational land needs. As the town develops, there will be a need for additional open space associated with and serving new release areas.

### 11.8 Industrial Development

Industrial development within the township of Bellingen is limited. The major industrial estate for the valley areas is located at Raleigh. This has an area of approximately 28 hectares and is well located both to serve existing population centres and in relation to the State Highway and rail system. On a standards basis, it is commonly accepted that industrial land needs approximate 4 hectares per 1,000 people. Smaller coastal and rural communities generally have less industrial land than this because of a logical dependence on larger manufacturing centres such as Newcastle and Sydney.

In spatial terms, the industrial estate at Raleigh, together with other industrial uses in the coastal and valleys area, would appear sufficient based on the above standard. There is also potential for further expansion of the Raleigh estate should the need arise.

The question of an industrial estate some distance to the west of town in the vicinity of a quarry site has been raised. However, this location also has problems, for example:

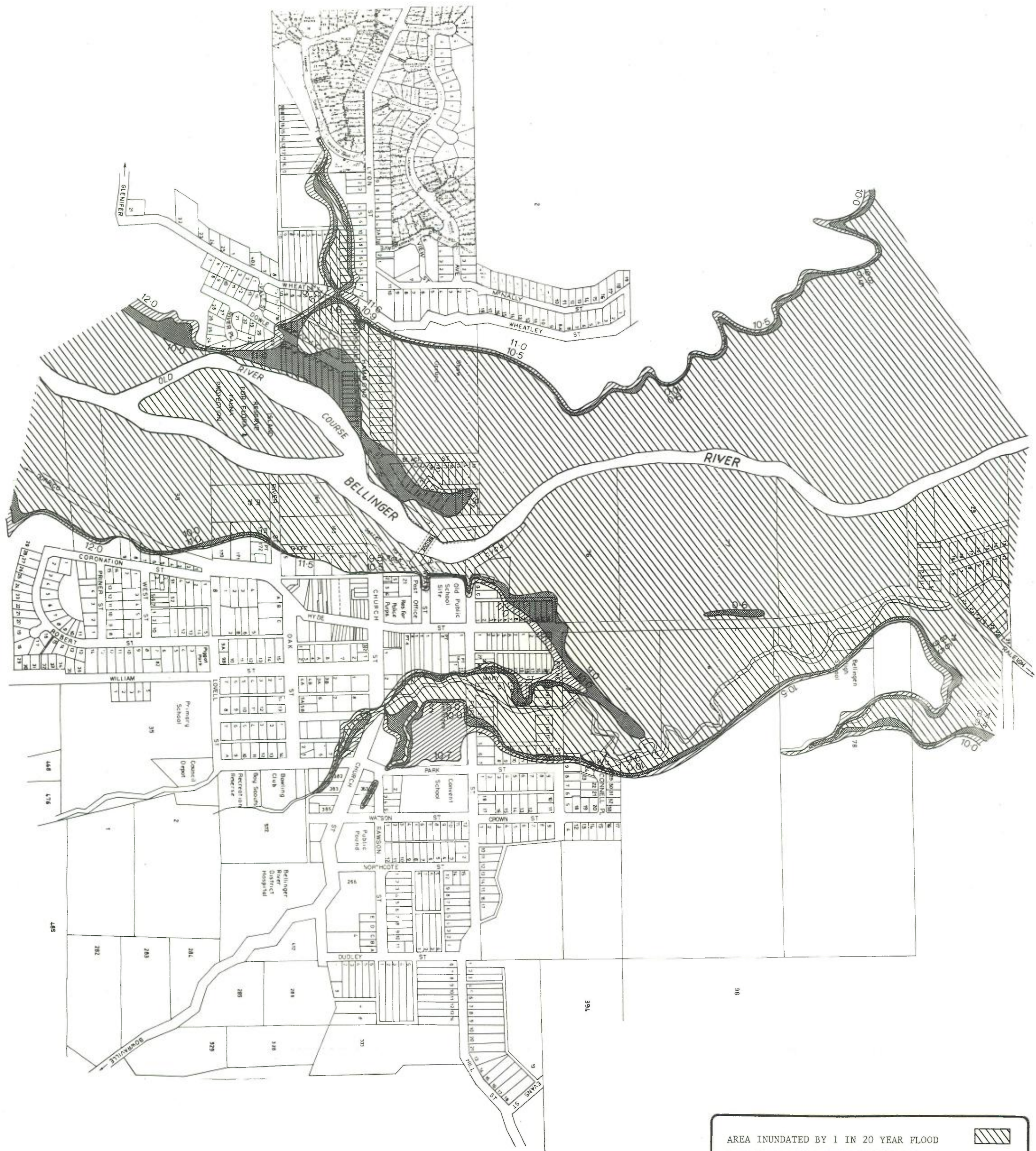
- \* Industrial traffic flow would be encouraged through the town of Bellingen as most traffic will relate to the Pacific Highway.
- \* This area would also have to be sewered in order to make it an acceptable and viable industrial estate. Council is currently faced with the need to sewer the existing Raleigh estate and it would seem to be a waste of resources to have to eventually duplicate this service.
- \* The proposed site is upstream of Bellingen's water supply and thus would require stringent controls on river pollution, including sewage.




### 11.9 Bellingen Structure Plan

An assessment of the overall, longer term development of Bellingen is important to provide a framework for the urban expansion of the town and for redevelopment and improvement of the centre. This assessment is provided in the Structure Plan Map 23.

#### 11.9.1 Constraints and Opportunities for Development

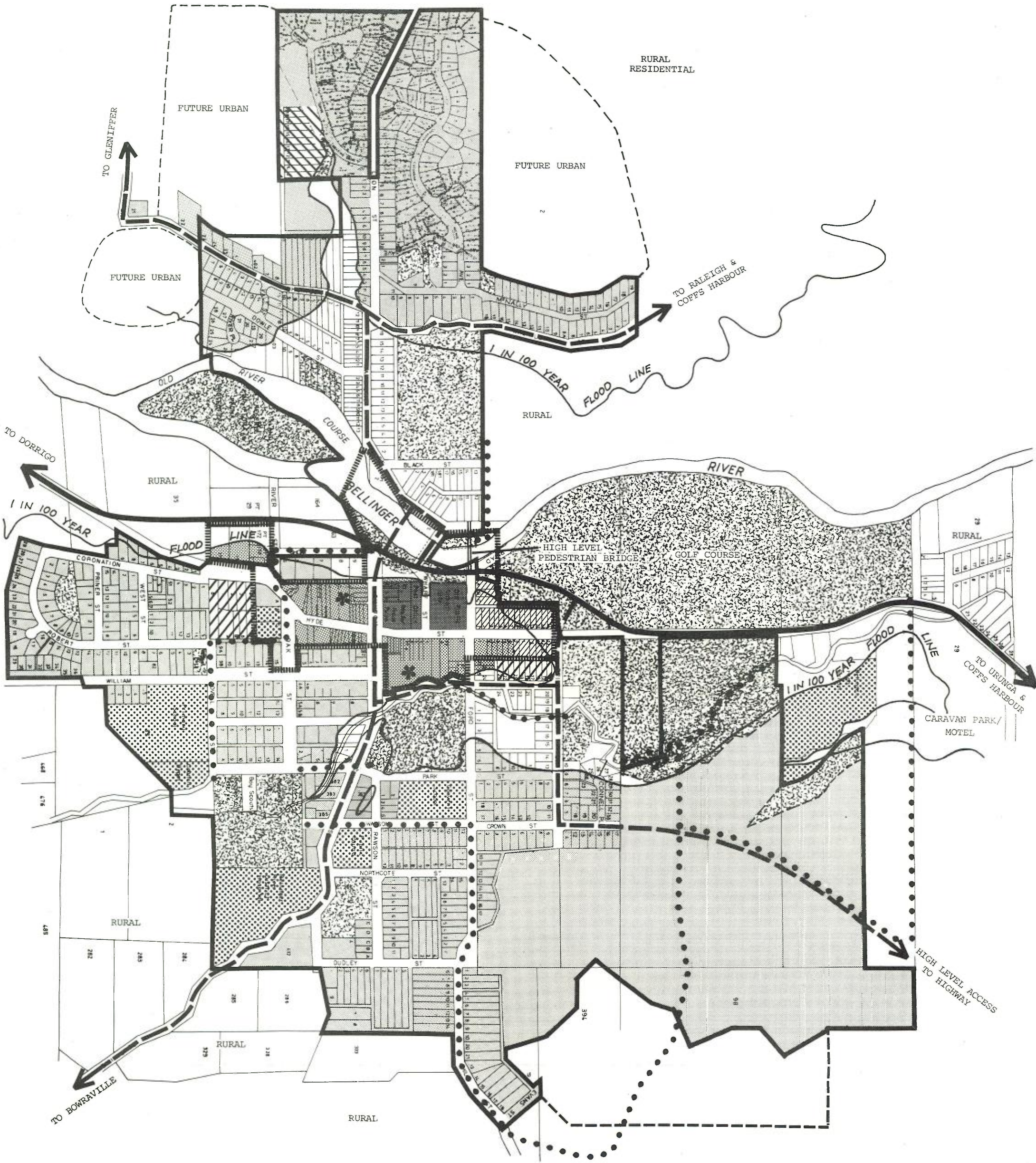
The development possibilities for Bellingen are limited by a range of natural growth constraints. These include:



AREA INUNDATED BY 1 IN 20 YEAR FLOOD   
 ADDITIONAL AREA INUNDATED BY 1 IN 50 YEAR FLOOD   
 ADDITIONAL AREA INUNDATED BY 1 IN 100 YEAR FLOOD   
 FIGURES AT BOUNDARIES OF INUNDATEION AREAS INDICATE LEVELS OF FLOODING

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**FLOOD MAP - BELLINGEN 22**  
 0 200m 400m 

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EXISTING VILLAGE BOUNDARY		INDUSTRY	
RESIDENTIAL		CIVIC PRECINCT	
OPEN SPACE		RETAIL CORE	
SPECIAL USES		HISTORIC PRECINCT	
PROPOSED FLAT ZONES		BICYCLE/RECREATION TRAILS	
POSSIBLE CAR PARK LOCATION		INTERNAL ARTERIAL ROAD SYSTEM	
SERVICE COMMERCIAL 3(b)		FUTURE HIGHWAY DEVIATION	

**SHIRE OF BELLINGEN ENVIRONMENTAL STUDY**  
**STRUCTURE PLAN – 23**  
**BELLINGEN**

0 200m 400m

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- \* Steep, heavily vegetated land to the south which provides an attractive, immediate backdrop to the town. This land forms part of the Scotchman Range. Its steep terrain and visual significance render it a significant constraint to development to the south and south-west. Steep lands also limit urban expansion to the north past the existing Planet subdivision.
- \* The Bellinger River flood plain consumes a large expanse of land (Map 22). This limits urban development east and west of the centre of town and restricts the potential for redevelopment in areas of the existing centre subject to inundation. The flood plain also separates the expanding northern areas of the town from the city centre.

The provision of water and sewerage do not appear to act as a major constraint to the development of the town in the medium term provided such development takes place in an orderly and economic manner. The town's water supply gravity feeds from a service reservoir to the west of the town on Scotchmans Road. Water is pumped to this reservoir from an infiltration well located to the west of the town. The reservoir has a top water level of 93.7 metres. Substantial areas on the perimeter of the town can be gravity fed from this reservoir. Augmentation of existing works will be necessary to cater for expected growth in Bellingen and the urban centres downstream.

The sewage treatment plant is situated adjacent to the Bellinger River to the east of the Showground. This plant has a capacity of 2,000 EP. As the town grows these works will require upgrading and possible relocation.

### 11.9.2 Structure Plan

Based on the existing urban form, estimates of future land needs and the natural and settlement support constraints around Bellingen, a Structure Plan of the township was prepared. The basic components of this structure are discussed below.

#### Movement Patterns

As a result of traffic investigations within the township it is recommended that a future town centre by-pass be considered in the longer term. The most appropriate location for this by-pass is between the centre and the river. An indicative alignment of this by-pass is shown on Map 23, although it should be pointed out that a feasible alignment of this by-pass would be difficult to identify given the nature of the terrain. The construction of this by-pass could be accompanied by the construction of a new river crossing. Attention should be given to locating this crossing to Church Street to form a more structured traffic system through the town.

A proposed commercial centre ring road has been identified. This will not only assist in diverting traffic from the main street but will also facilitate parking in areas immediately behind main street buildings.

The ring road would follow the alignment of the proposed by-pass and would then consist of Church Street, Mary Street (between Church and Prince) and Prince Street. The Mary Street section of the circulation road would need upgrading which could be incorporated into the provision of off-street parking behind the main street buildings between Church and Ford Streets.

A link road through the proposed east Bellingen residential release area is recommended. This will connect with the proposed rural residential areas and provide flood-free access into Bellingen from the Marx Hill area.

Provision has been made on the plan for pedestrian and bicycle track linkages, predominantly using the open space system. This system should be extended into the Valley Rose release area.

#### Residential Growth Areas

As mentioned above, there is limited potential for further residential land release on the southern side of the Bellinger River. The Valley Rose estate, however, has a potential for an estimated 300 lots (approximately) which, together with the supply of land in the remaining zoned area (particularly in the Planet subdivision to the north of the town), means that there is a sufficient supply of land to cater for population growth until the mid 1990's.

Because of the lead time required for the rezoning and development of land however, consideration will have to be given to the rezoning of land before that time and probably in the late 1980's to early 1990's. The exact timing of further urban land release will be dependent upon the rate of sale and development in the Valley Rose estate and the Planet subdivision.

Demand predictions based on a relatively low population base such as in Bellingen are susceptible to a substantial margin of error due to the fact that even small releases of land could alter growth trends. Consequently the land supply situation will have to be closely monitored to ensure that an undersupply situation does not occur.

It is felt that there is no justification at present for immediate, additional residential land rezoning at the present time. Land that would appear suitable for release when required, but probably not likely before 1988-90 would include:

- \* Land to the west of the Planet subdivision. Access from this land would have to be from Wheatley Street, as no provision has been made for east/west linkages from the Planet subdivision. This area would also include land to the south of Wheatley Street which forms a logical extension of the subdivision along Dowle Street. The western boundary of this release area would logically be formed by a ridge line running north/south adjacent to the steep fall toward the Bellinger River flood plain. This land would drain naturally into the existing stormwater and sewerage system of the town making it relatively economical to service. In considering the long term development of this area, consideration should be given to a by-pass road following a ridge alignment forming the western boundary of the proposed release and running through to Glenifer Road.
- \* Land to the east of the Planet subdivision. This land has a more difficult topography with a major part of the land draining away from the existing sewerage system necessitating pumping into the existing sewerage system and thus is likely to be less economical to service. The north-eastern boundary of this future growth area would lie just below the ridge system running south-east from the cemetery hill. The area is drained by Frenchmans Creek. To the north-east of this ridge system lies land identified as suitable for rural residential development.

Proposed rural residential development areas also abut the existing village area to the south-east. It is suggested that rural subdivision in these areas be such that future subdivision into standard residential lots be possible so that long term future pressure for redevelopment can be accommodated.

Land to the south of Wheatley Street in the vicinity of the Showground and the sewage treatment plant is recommended to remain in a non-urban zoning. This is because of the elongated nature of the developable land and the proximity to the sewage treatment plant. The Department of Public Works recommends a general 400 metre buffer surrounding sewage treatment plants. Whenever the sewage treatment plant is relocated the land use of this area can be re-assessed.

#### Retail/Commercial Area

It is proposed that the existing retail core be reinforced along Hyde Street between Oak and Ford Streets. The eventual diversion of through-traffic and the use of the ring road will improve the efficiency of operation of the centre. Redevelopment within this core (which includes the civic precinct) will have to be sensitively designed to maintain the heritage value of the commercial area. In the longer term, also, consideration could be given to the feasibility of creating a precinct mall along Hyde Street preferably between Oak Street and Church Street.

A commercial services area has also been identified to the east of the commercial core located close to the proposed by-pass and the entrance to the town centre.

#### Industrial Land

The supply of industrial land in Bellingen is limited. Also, however, the availability of land suitable for industrial uses is limited. Land to the north of the river is, in general, poorly accessed for industrial purposes with the majority of residents living on the southern side of the river. Also, industrial traffic would have to pass through the centre of town. Such areas would also be close to a possible Bellingen-Coffs Harbour tourist route and would detract from the amenity of that route.

Given the existing and future distribution of population in the Valley and coastal areas it would appear more appropriate to locate industrial zones more toward the coast. The existing industrial estate at Raleigh is ideally located in this respect. It is close to the Pacific Highway and to the more rapidly growing coastal areas while still being close enough to serve Bellingen and draw on its labour pool.

In order to reinforce the existing character of Bellingen and in view of the above factors, no industrial zone has been identified in Bellingen. Individual needs for industrial land that cannot be satisfied on the Raleigh industrial estate should be addressed on individual merits basis.

#### Open Space

The provision of open space within the town does not alter dramatically under the proposed Structure Plan, although an attempt has been made to integrate the open space system. Provision has been made for an open space area within the proposed residential release area on a knoll. It is proposed that the open space areas within the town be linked by the stream systems, schools and other community buildings, such as the civic centre.

#### Caravan Parks

A suitable location for a caravan park has been included on the Structure Plan - this being on land to the east of the high school. Part of this land is flood prone with the back sections being suitable for permanent structures. Caravans in low-lying areas can be moved during floods. This location would be visible from the main road into Bellingen and would be ideally situated to attract passing trade.

Another location for a caravan park has been referred to the consultants. This is situated on TR 76 to the west of town on a small ridge opposite the existing motel. This site is considered a good location for a caravan park to reinforce the motel as a tourist accommodation location. Signposting would be desirable on the eastern approach to town to direct passing tourists to the site. It is emphasised also that caravan parks are uses permissible generally in non-urban 1(a) zones. There is ample potential therefore for private industry development of caravan parks.

#### Residential Flat Zones

It is desirable to locate medium density development (townhouses/flats) in areas accessible to the city centre and other community facilities. There is limited potential for this in Bellinghen due to flooding, and the location of streetscapes of conservation value. Two areas in close proximity of the town have been identified. Also it may be appropriate to include some townhouse development in the Valley Rose estate and in any further land releases to the north.

#### Car Parking

The longer term development of a circulation ring road around the commercial centre of Bellinghen suggests a strategy of locating parking on this proposed ring road. The opportunities for this however are limited. Potential locations of off-street car parks are shown on the Structure Plan and consist primarily of the vacant lands behind the main street shops such as off Mary Street between Ford and Church Streets and in the area already used for car parking behind the hotel off Church Street. Attention could be given to increasing the provision of angle parking in the wide road reserves on the local road network immediately surrounding the centre. At this stage in the town's development, it is important that car parks be located close to the main shopping facilities with good pedestrian linkages to Hyde Street.

**12. HERITAGE EVALUATION OF BELLINGEN SHIRE**

**12.1 Introduction**

This section of the report is in four parts which are as follows:

- \* Buildings of heritage worth in the Hyde Street precinct of Bellingen.
- \* An identification of buildings of heritage worth in the Bellingen township excluding the central commercial area and including recommendations on their preservation.
- \* An identification of buildings of heritage worth in rural areas of the Shire.
- \* An evaluation of the effectiveness of present heritage controls on the central area of the Bellingen Township.

**12.2 Bellingen Central Area**

The central area of the town, in the vicinity of Hyde, Oak, Church, Hammond, Wharf and Ford Streets, was the subject of an Interim Conservation Order (No. 74) which was gazetted on May 25th 1979 (see Map 24). Since that date the Heritage Council of NSW has had a continued involvement with the central area of the town. Pursuant to Section 82 of the Heritage Act 1977, the Heritage Council requested Bellingen Shire Council to prepare a draft environmental planning instrument in accordance with proposals submitted by the Heritage Council.

The Heritage Council have classified buildings within the Hyde Street Precinct into three groups:

- \* principal buildings and sites;
- \* contributory buildings and sites;
- \* intrusive buildings and sites.

The buildings within each group are listed below:

**12.2.1 Principal Buildings and Sites**

- \* Masonic Hall, Hyde Street.
- \* St. Margarets Anglican Church, Oak Street.
- \* Council Chambers, Oak Street.
- \* CBC Bank, Hyde Street.
- \* Halpin's Store, corner Hyde and Church Streets (corner section only).
- \* Rampling's Newsagency, Hyde Street.
- \* Shops and residences 87/89 Hyde Street.
- \* Hammond and Wheatleys Emporium (1909 section), Hyde Street.

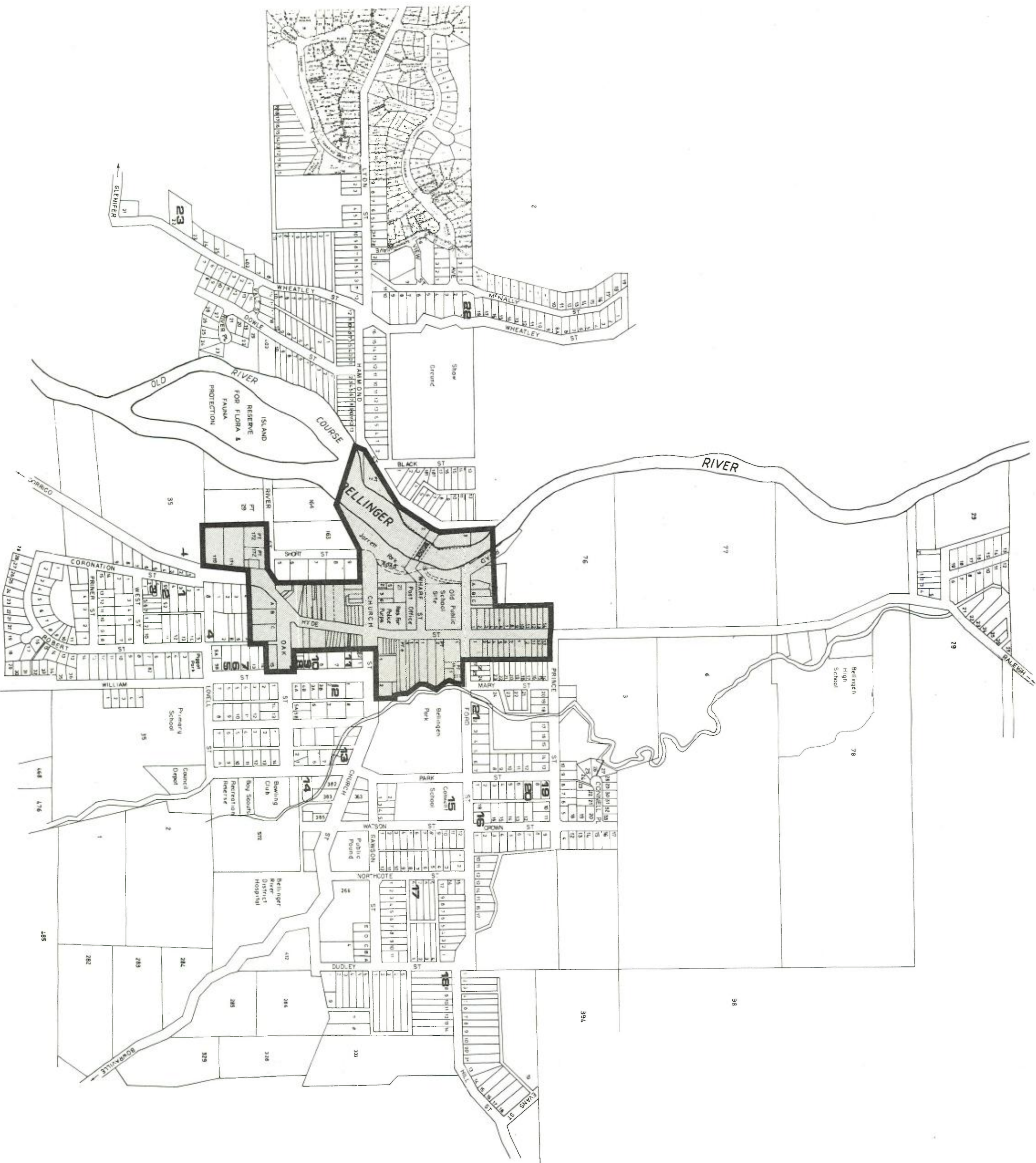
- \* Federal Hotel, Hyde Street.
- \* Site bordered by Bellingen River, Wharf, Ford and Hyde Streets, including: school buildings, school master's residence, new Council Chambers and Wharf/Bridge site on riverbank.
- \* Courthouse, Hyde Street.
- \* Police Station and residence, Hyde Street.
- \* Site and buildings of St. Andrew's Church, rectory and hall, corner Hyde and Ford Streets.
- \* Bank of NSW and attached residence, corner Hyde and Church Streets.
- \* House, 23 Hyde Street.
- \* Fire Station, Hyde Street.

#### **12.2.2 Contributory Buildings and Sites**

- \* House, 25 William Street.
- \* The Good Food Shop, Hyde Street.
- \* House, 1 Hyde Street.
- \* House, 3 Hyde Street.
- \* Raymond's Store, Hyde Street.
- \* Somerville's Garage, Hyde Street.
- \* Memorial Hall, Hyde Street.
- \* Commonwealth Bank, Hyde Street.
- \* Methodist Fellowship Hall and rectory, Church Street.
- \* Post Office, corner Hyde and Wharf Streets.
- \* Rural Bank, Hyde Street.
- \* House, 2 Ford Street.

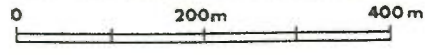
#### **12.2.3 Intrusive Buildings and Sites**

- \* St. Margaret's Church Hall, Oak Street.
- \* BP Garage, Hyde Street.
- \* Total Garage and car sales yard, Hyde Street.
- \* Esso Garage, Hyde Street.
- \* Storage Area, rear Raymond's Store, Prince Street.



SHIRE OF BELLINGEN ENVIRONMENTAL STUDY

**HERITAGE – BOUNDARY OF INTERIM CONSERVATION AREA**



**24** ↑

Prepared by PLANNING WORKSHOP PTY. LTD. 346 KENT ST. SYDNEY 2000  
For BELLINGEN SHIRE COUNCIL

The Heritage Council recommended that Council adopt the following strategies to implement an effective means of conserving the environmental heritage of the central area of the Bellingen township:

#### **Existing Buildings and New Development**

- "\* Establish schedules of principal, contributory and intrusive buildings and sites in the precinct, having regard to the thematic development of Bellingen, and examining the historic, scientific, cultural, social, archaeological, architectural or aesthetic significance of each building and site in its precinctual context. Proposed schedules are attached for consideration of Bellingen Council.
- \* Control the demolition, alteration or extension of **principal** buildings in the precinct, taking into account the effects of the proposed change on the heritage significance of the building or site and its context.
- \* Control the demolition of **contributory** buildings, taking into account the effects of their removal on the heritage significance of their contexts.
- \* Establish and implement measures to reduce the impact of intrusive buildings, e.g. by tree planting, control of signage.
- \* Control the construction of new buildings, works and structures in the precinct having regard to a series of criteria such as height, bulk, massing, roof pitch and form, materials, landscaping, fenestration, set-back, siting and general compatibility of the construction with the character of the precinct.
- \* Render particular attention to development and change on corner sites. Bellingen contains several well designed corner buildings, e.g. the CBC Bank, Bank of NSW and Halpins. Sensitive design is especially important on all corner sites.
- \* Establish guidelines regarding the siting and facade design for any future major large scale development in the precinct."

#### **Architectural Detail**

"Devise and implement a development control plan incorporating matters relating to:

**Materials:** Regulate the type, colours and textures of materials used in new construction.

**Verandahs:** Support the retention and reinstatement of verandahs as climatically appropriate and convenient living space extensions. In the shopping area, support the reinstatement of non-structural timber posts and brackets to support awnings.

Limit the enclosure of verandahs and upper floor balconies to traditional lattice work or blinds.

**Awnings:** Continue awning levels in new developments in the shopping area.

**Parapets:** Retain or reinstate, above awning parapets in the shopping area. Parapets make an important contribution to the skyline and should be incorporated in new construction adjacent to other parapets.

**Fences and Walls:** Retain and reinstate early fence types and walls.

Walls and fences in the village area make an important contribution to the sense of continuity of streetscape. Traditional materials and designs should be used.

Prepare guidelines for the construction of new fencing based on early examples. Appropriate examples of timber pickets, picket and rail, paling, post and rail, brick, and brick and iron railing are found in the village area. (Such guidelines could potentially begin as a high school study project.)

**Sunshades:** Retain or reinstate where appropriate, sunshades above windows which are distinctive traditional features on local buildings.

**New Development:** New development should harmonise with existing buildings and elements, and not overwhelm or detract from its context in terms of its scale, bulk, height, siting, setback, form or materials. Scale and bulk is assessed by comparing the relationship of units of construction to the human scale.

**Height:** The height of new buildings should not exceed plus or minus ten per cent of the height of adjacent buildings. Dwelling houses should not exceed one storey in height in the precinct, and may incorporate rooms in the roof lit by dormer windows of appropriate proportions.

**Level:** All buildings fronting Hyde Street should be constructed to natural ground level at the footpath.

**Setbacks:** Aim to continue the relationship of adjacent buildings.

**Roof Forms:** Roof pitch requires special consideration. Flat roofs are not appropriate unless behind a parapet. Mansard and Cape Cod roofs are also inappropriate. Pitches of between 25 and 35 degrees are generally appropriate.

**Fenestration:** The ordered symmetry or the 'rhythm' of wall area to window and door openings is important. Large areas of glass are generally inappropriate as well as being climatically unsound, and should be broken into groups of traditionally-sized windows.

**Public Works:** Necessary repairs, replacement or upgrading of public utilities by local authorities should retain and be compatible with the established qualities of Bellinghen."

**Street Pattern**

- "\* All new parking and servicing facilities should be located to the rear of existing buildings. Hyde Street is particularly well served by rear access lanes to facilitate this policy. Tree planting should be used to screen parking and service facilities.
- \* Examine alternative routes for through traffic and the alleviation of traffic flow problems.
- \* Identify, retain and enhance vistas and views through and into the village and to the river.
- \* Give particular attention in considering any future construction of bridges or river bank facilities to their effect on the heritage significance and amenity of their site.
- \* Develop a heritage and nature trail through the village and riverside. Trail routes require detailed consideration of route path signage, visitor facilities, etc. (potentially a service club project).

**Landscaping of Village Approaches**

- "\* Retain and enhance avenues of trees in the village. Examine surgery needs and the programme replacements.
- \* Maintain the avenue of Oleanders and Bottlebrush which line the Coffs Harbour approach to the village.
- \* Upgrade the line of She-oaks and Poplars beside the Dorrigo approach by additional planting.
- \* Maintain open ground adjacent to the village approaches by means of appropriate zoning controls. A rural environmental protection zone flanking the main road, taking into account flood liability should be defined and suitable guidelines regarding the location of buildings and structures within these zones established.
- \* Develop passive recreation facilities by landscaping the riverbank area between Church Street and Ford Streets. The northern bank of the river below Hammond Street offers similar opportunities. (Potentially a service club project.)
- \* Link the Island reserve and village, possibly through the heritage and nature trail. (Potentially a service club project.)"

**Advertising and Signage**

- "\* Examine old photographs and drawings of Bellingen to establish the appropriate range of sign locations, sizes and styles of signs. (Potentially a high school study project.)
- \* Retain and reinstate blue and white enamel street signs used in Bellingen."

**Street Furniture**

- "\* To develop and maintain a consistent design standard for street furniture - litter bins, seats, public lighting, shelters etc., using low maintenance local materials. Progressively replace existing inappropriate furniture. (Potentially a service group or co-operative project.)
- \* Relate the location of furniture to pedestrian movement patterns, particularly in relation to the proposed heritage and nature trail."

**NOTE:** The following three elements of this section, 12.3, 12.4 and 12.5 were prepared by Mr. Tim Shellshear ARAIA, B Arch, on the recommendation of the Heritage Council of NSW.

### **12.3 Identification of Buildings of Heritage Worth in the Bellingen Township Outside the Central Commercial Area**

#### **12.3.1 General**

Bellingen, like many other north coast towns, has as the principal basis of its existence the logging of timber scrubwoods and northern rivers hardwoods together with a strong secondary industry in dairying.

Permanent settlement in the township of Bellingen dates from the mid-1860's. There is no evidence of any structures from this period surviving and it can safely be assumed that redevelopment, the primitiveness of the original structures and the ravages of white ants are the reason for this.

Virtually all of the very early houses in the town and valley are constructed of timber reflecting the availability of certain species of timber, simple technologies and the purposefulness of society at the time. Historical records of simple cottages are always extremely difficult to determine and therefore assumptions must be made as to the age of certain buildings.

A number of small cottages of simple almost primitive construction survive although in poor and often very much altered condition. These may date from the late 1870's to the early 1880's and are identified by having detached kitchens, simple single skin timber construction and a noticeable lack of ornamentation.

The majority of the surviving 19th Century buildings relate to the period when Bellingen was becoming a commercial service centre leading to the establishment of permanent and successful retail businesses. This growing confidence in Bellingen's future was reflected in much more substantial houses on bigger grounds with a much greater attention to detail finishes and decoration.

The third period of growth representing a time up to the first quarter of the 20th Century when commercial trade was prosperous and a number of professionals and large retailers were in residence. Several fine houses from this period remain on large grounds with well established landscaping. There is evidence of a much greater architectural awareness in the design and detailing of the houses and external design influences such as the American bungalow style can be seen. Examples such as on the corner of Park and Prince Streets (reference No. 19) are worthy of National Trust recognition.

### 12.3.2 National Trust

The National Trust of Australia (NSW) has no records of any buildings in Bellingen other than the Hyde Street group. There are therefore no buildings currently classified or listed with the National Trust.

National Trust records are compiled by voluntary research and the absence of classified material for an area may very often mean a lack of research rather than an absence of material.

Submission of this report to the National Trust would undoubtedly lead to the recognition of the individual worth of several buildings.

### 12.3.3 Method of Assessment

Using Shire Council maps showing land subdivision every single house in the town was examined externally and buildings of interest were marked on the map for detailed assessment.

Published historical records of Bellingen were examined and any information found relevant was marked for inclusion in the individual records.

Several authoritative Bellingen citizens were interviewed in relation to the history of certain structures and in this respect, Mr. Braithwaite and Mr. Hammond were most helpful.

A detailed assessment using the check cards accompanying this report was then completed to provide a record of the buildings' current condition and an assessment made about their heritage value.

Where buildings of significant merit were identified, the adjoining buildings or vacant sites were also assessed in relation to their possible redevelopment and the effects this may have on the subject building. In some instances recommendations for the adjoining sites have been made which will assist in the long term preservation and enhancement of the subject building. These recommendations are shown on the individual cards.

Photographs of each building were taken and these are included.

Where a number of buildings were found in close proximity to each other then the spaces between these and all other adjoining buildings were assessed in relation to a precinct recommendation being given.

### 12.3.4 Description

A strong unifying character was found to be common to most early buildings, the details of which are not being reproduced in new residential work. The principal characteristics are:

#### Materials

- \* All buildings with the exception of the two matching brick houses in Northcote Street and the Roman Catholic Church are timber framed with weatherboard and/or asbestos cement lining and all have galvanised iron roofs. All doors and windows are in timber joinery.

- \* Most residences are simply decorated externally or have a complete absence of decoration. Those that are decorated are divided roughly equally between cast iron such as on buildings 2 and 7 and timber as on buildings 17. Timber is the dominant material for decorative work such as balustrading, verandah post brackets and lattice work.

### **Roofs**

The use of galvanised iron roof sheeting is used almost exclusively in the established part of Bellingen and is laid over roof pitches much steeper than current fashion dictates. Roof pitches vary between an approximate range of 25 to 45 degrees. The use of ventilated gambrels such as on 1, 11 and 20 are common although most early roofs are simple hips. Large gabled roofs commonly associated with the bungalow style of the 20th Century are well illustrated in buildings 8, 16, 19 and 21 and are commonly found in the remainder of the town.

### **Verandahs**

All the buildings identified make use of verandahs and many variations of these are found. The resulting interplay of verandah shadow and light coloured roof (for example building No. 1) are important elements in all the early buildings.

### **Colour**

Virtually all the buildings inspected are painted a light colour with the exception of buildings 9, 15 and 17 and have silver galvanised iron roofs. This is in sharp contrast to the new residences in Bellingen which are invariably in dark brick and tile.

### **Fences**

Few residences have retained their early form of fencing, most having been replaced with wire fencing or removed altogether. The brick and cast iron fence on building No. 3 is important in the streetscape and the timber picket fences on buildings 4, 16 and 19 add significantly to the architectural merit of the related house.

## **12.3.5 Results**

Twenty-four structures have been identified as having strong contributory elements to the established character of Bellingen. The majority of early buildings, even up to the 1950's almost invariably are constructed of weatherboard or asbestos cladding with galvanised iron roofing and whilst not having individual merit for inclusion in this list contribute to a very harmonious blend of architectural styles. A high level view over Bellingen reveals a predominant use of galvanised iron for roofing and buildings of light coloured walls.

Buildings such as those in No. 8 and 11 have been included not so much for their individual merit as for their contribution to the overall streetscape. Buildings such as No. 8 are very representative of their period and would be greatly enhanced with an appropriate colour scheme and good landscaping.

Several early buildings have not been included here because of unsympathetic alterations made to them; or are in such poor condition that restoration is unlikely.

All the buildings shown except Nos. 1, 14, 15, 17 and 19 have been altered in small ways or require varying degrees of maintenance. Most of these will be preserved by a natural process of regeneration.

Buildings such as 9, 10, 12 and 13 are included because of their age and are good examples from their particular period. These buildings are in a poor condition and their preservation must be seen as normally doubtful. Particular encouragement should be given to the preservation of these as there are so few of them left and they form an important link with Bellinghen's early days. Restoration would require sensitive handling or much of their charm will be lost.

A small site plan is shown with each 'building card' and an area shaded indicating where Mr. Shellshear considers alterations and additions should not take place. This is a personal recommendation only, and may be of assistance to owners and Council alike.

Following Section 12.3.6 there are a series of 23 'building cards' each of which relates to a building within the town having notable heritage value. Each property is marked on Map 23.

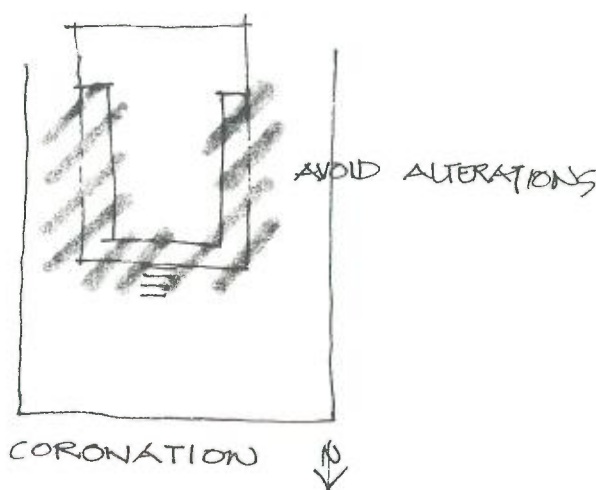
#### 12.3.6 Conclusion

Seen in relation to the rest of Bellinghen's built environment, the buildings illustrated should be regarded as the best of their type, however, on a State-wide comparison they are not outstanding. Mr. Shellshear considers that none of the buildings shown has sufficient merit to warrant individual protection under the Bellinghen Planning Scheme. The possible recognition of some by the National Trust and local awareness and pride in others should be sufficient to ensure their survival.

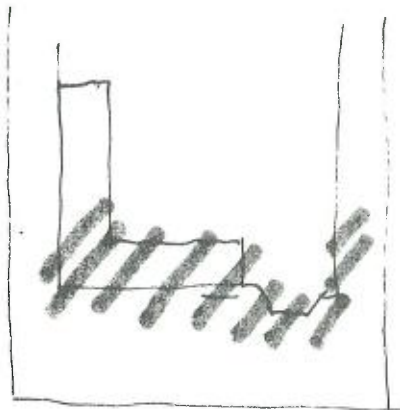
The value of many of the buildings is as an historical reference within the town illustrating past building techniques and social aspirations. Insensitive alterations and additions to these buildings could destroy this reference and therefore work associated with them should be carefully considered.

William Street between Lovell and Church Streets and Coronation Street between Dorrigo Road and West Street deserves special consideration in that both areas are comprised of sympathetically related houses having a common use of materials and scale. It is suggested in these two areas that new infill buildings be single storey with galvanised iron roofing on roof pitches matching their adjoining neighbours. Increased setbacks could be considered so that new buildings cannot dominate the existing streetscape.

- |  |  |   |
|--|--|---|
| <p><b>Area</b></p> <p><b>Location</b></p> <p><b>General Description</b></p><br><p><b>Fencing</b></p> <p><b>Car Parking</b></p> <p><b>Landscaping</b></p> <p><b>Street Trees</b></p> <p><b>Evaluation</b></p><br><p><b>Recommendation</b></p> <p><b>Site Plan</b></p> | <p>: Bellinghen Town</p> <p>: Coronation Street</p> <p>: Weatherborad/a.c. with large galvanised iron hipped roof.</p> <p>: Ventilated gambrels at each end capped with finials. Continuous roof over verandah. Verandahs to three sides with timber posts, brackets and vertical balusters to handrail.</p> <p>: Rendered brick with twin pipe rails.</p> <p>: At rear.</p> <p>: Simple lawns with several shrubs. Pride of India tree at front.</p> <p>: None</p> <p>: Nice unaltered example showing good use of verandahs and fenestration for cooling. Colours good. Simplicity of design and clean detailing.</p> <p>: Conserve. Avoid additions to front or sides.</p> <p>:</p> | <p><b>Reference</b> : No. 1</p> <p><b>Age</b> : c. 1925</p> |
|--|--|---|



- Area** : Bellingin Township
- Location** : 14 Coronation St. 'Arcadia'
- General Description** : Weatherboard and galvanised iron house with strong Gothic influence in steep roof pitch and projecting bay. Half octagonal bay window with iron roof. Cast iron pilasters and valance decoration with carved timber infill above. Nice timber joinery.
- Reference** : No. 2
- Age** : c. 1900
- Fencing** : None.
- Car Parking** : At side.
- Landscaping** : Negligible.
- Street Trees** : Callistemon.
- Evaluation** : The only house of its type in Bellingin, it is elaborately detailed, and set in a commanding position overlooking the valley.
- Recommendation** : Restore externally removing yellow sun hood. Provide appropriate fencing and landscaping.
- Site Plan** :

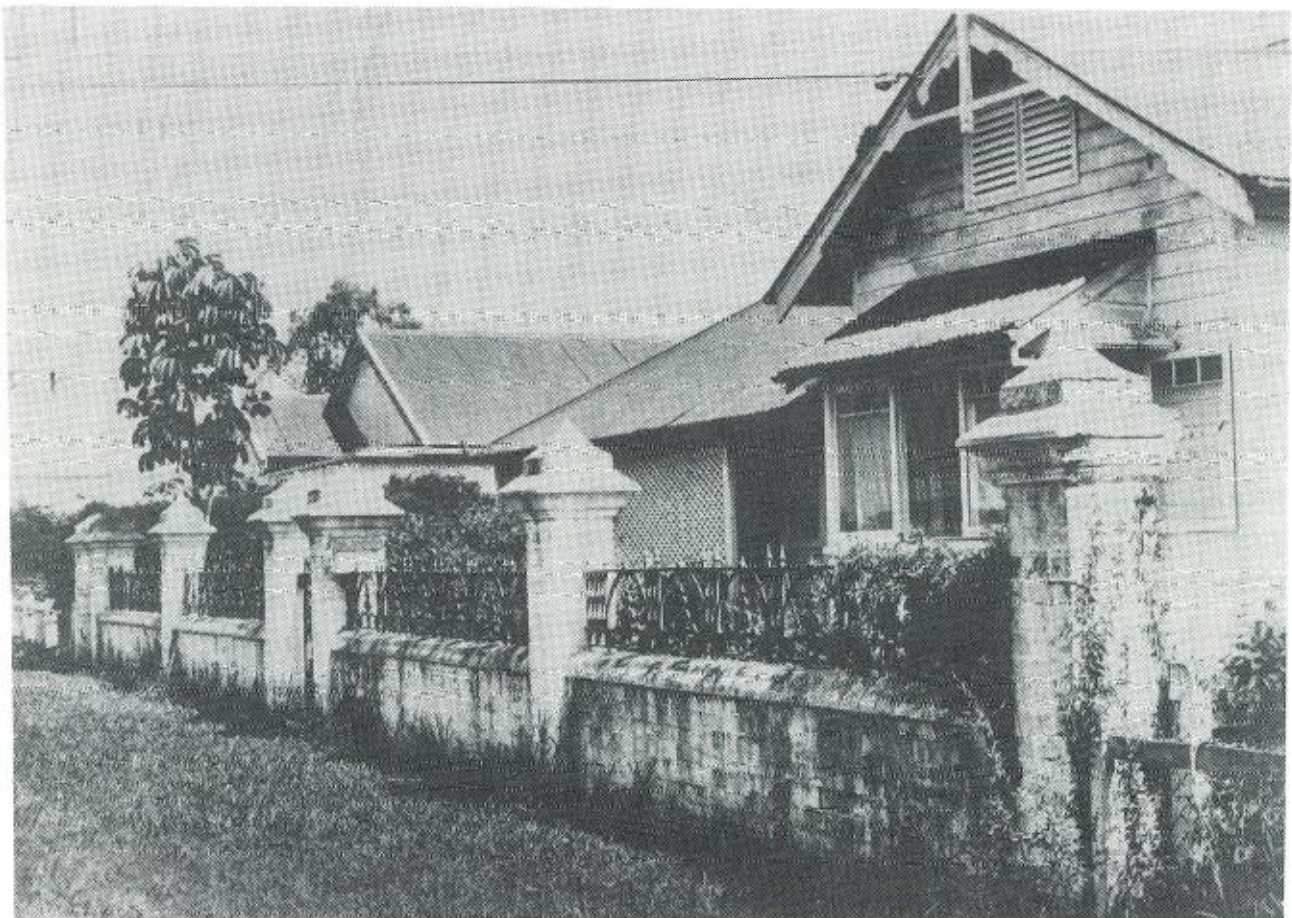
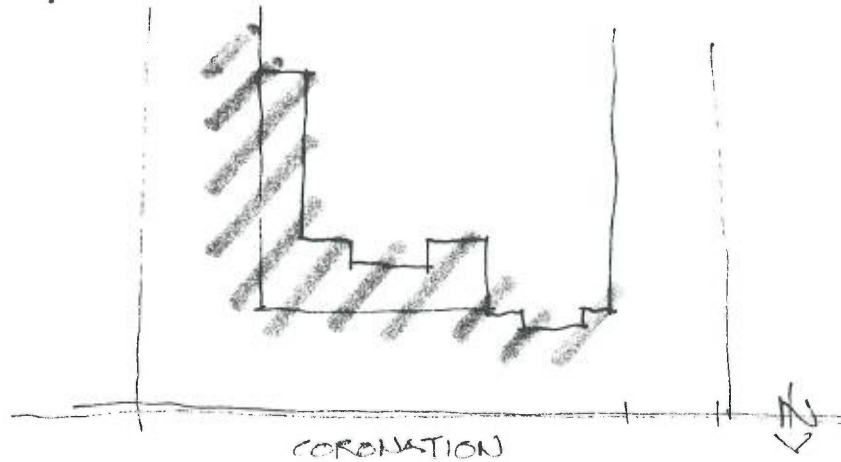


CORONATION

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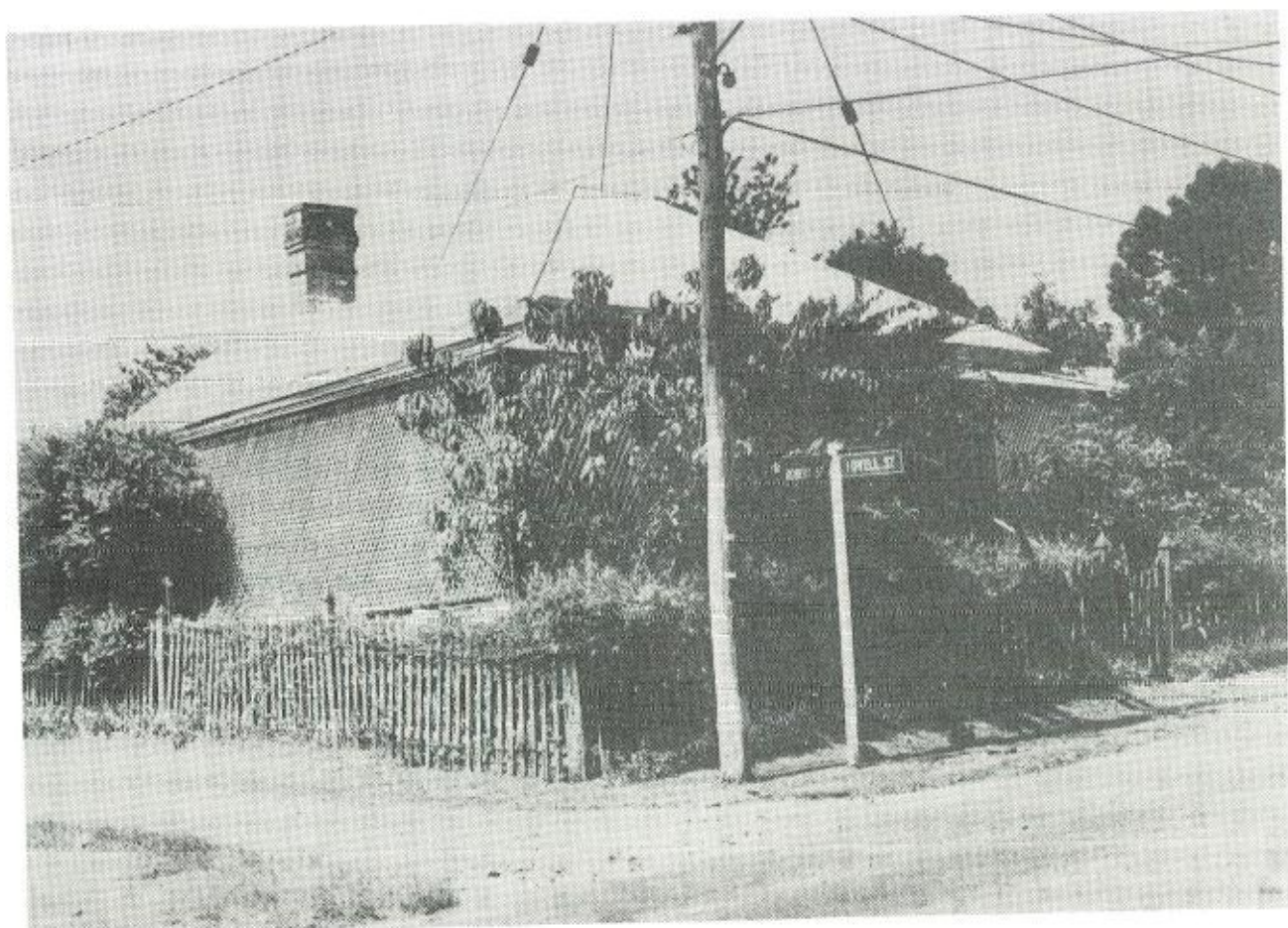
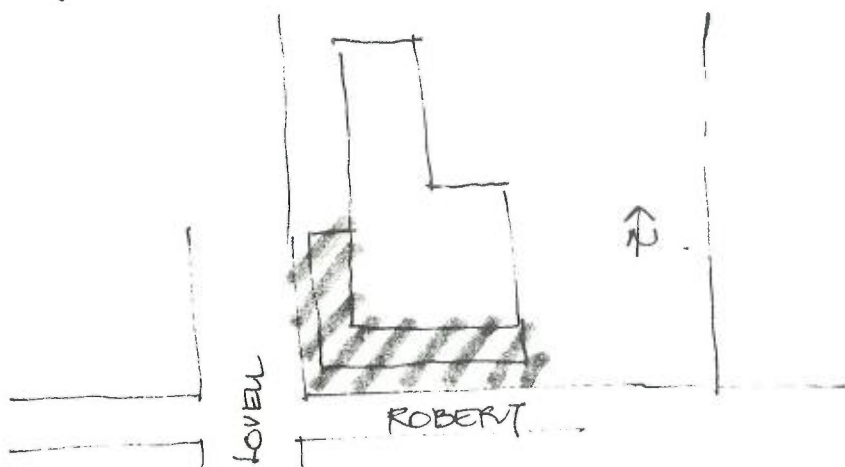


- Area** : Bellingden Township **Reference** : No. 3  
**Location** : 20 Coronation Street **Age** : c. 1910  
**General Description** : Weatherboard and galvanised roof with projecting rectangular bay windows to front and on verandah. Extensive use of lattice. Bay windows in multi-coloured glass. Substantial chimney with terracotta pots. Main roof continuous over verandah.  
**Fencing** : Impressive fence in rendered brick with elaborate cappings. Cast iron railings above.  
**Car Parking** : At rear.  
**Landscaping** : Good traditional garden with roses and fine lawns.  
**Street Trees** : None.  
**Evaluation** : Very important in the streetscape for its magnificent fence and for its unusual bay windows and extensive verandahs. One of a group of reasonably sophisticated houses.  
**Recommendation** : Restore externally. Adjoining houses particularly No. 20 Coronation (c.1890) should also be restored.  
**Site Plan** :

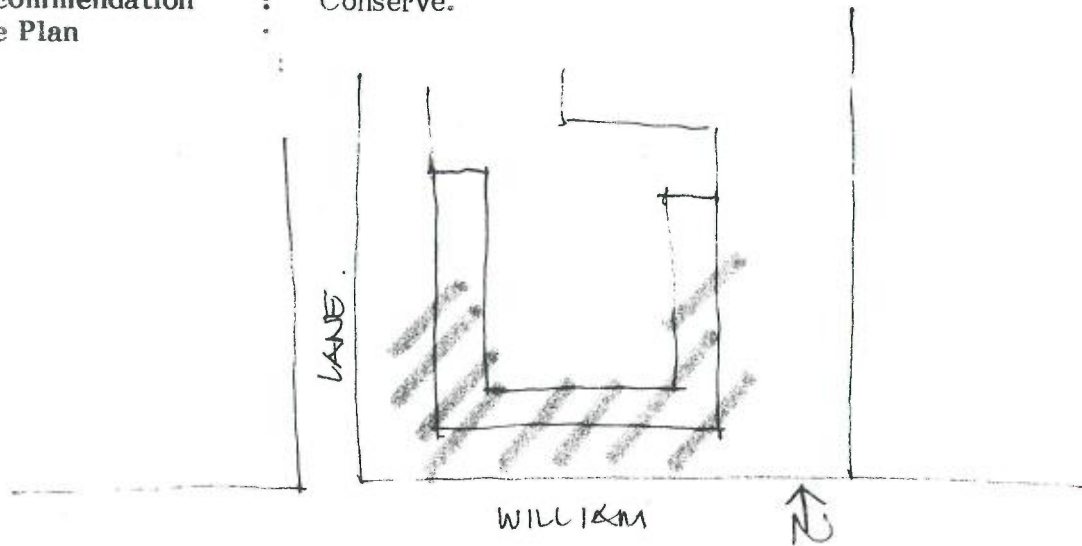


- Area** : Bellingen Township
- Location** : 11 Roberts Street
- General Description** : Weatherboard cottage with galvanised iron roof and large panels of lattice work unpainted. Simple brick chimney with flat top. Lack of ornamentation.
- Fencing** : Timber picket in decayed condition with capped gate posts.
- Car Parking** : At rear.
- Landscaping** : Climbing roses, wisteria and bougainvillea and many other flowering shrub.
- Street Trees** : None.
- Evaluation** : A house of simple form and detailing with exceptionally good use of large panels of timber lattice. House, fence and landscaping have strong affinity and evoke strong feelings of yesteryear.
- Recommendation** : Preserve externally with great care in relation to colours. Retain enamelled street sign externally.
- Site Plan** :

**Reference** : No. 4  
**Age** : c. 1890

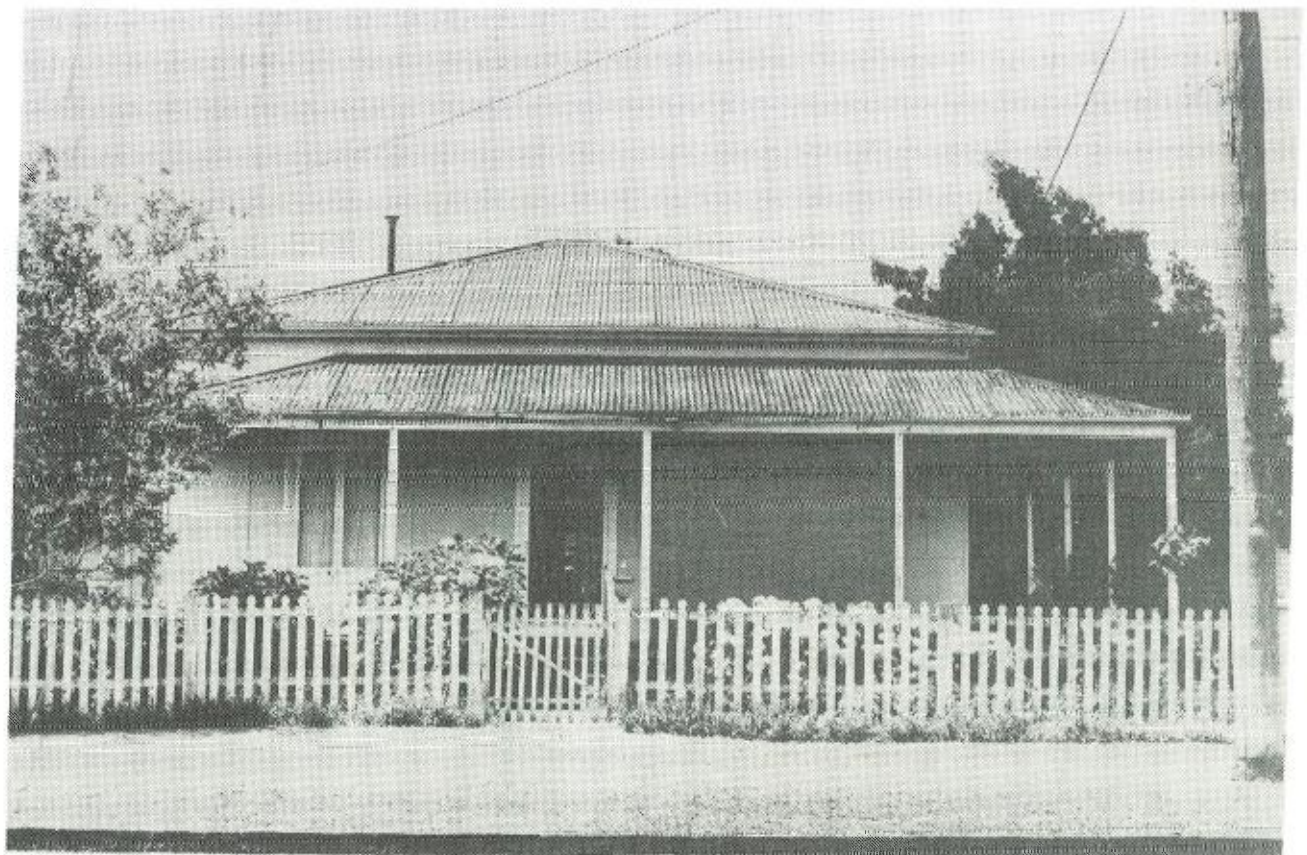
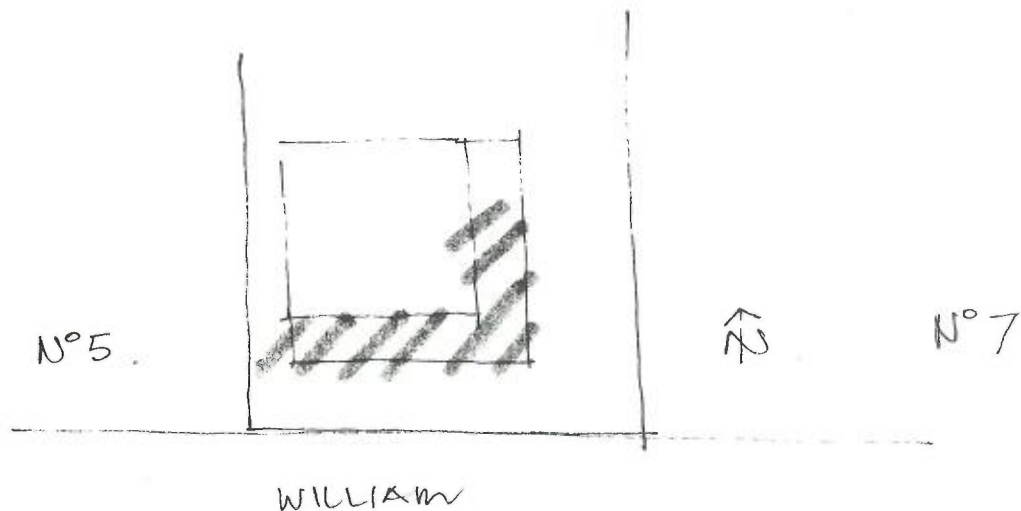


- Area** : Bellingen Township **Reference** : No. 5  
**Location** : 33 William Street 'St. Elmo' **Age** : c. 1900  
**General Description** : Substantial house with surrounding verandahs. House has been a.c. sheeted and sprayed with ochre coloured bondcrete and roof covered with decramastic sheeting. Verandah has nice double battened lattice. Wooden blinds to verandahs.  
**Fencing** : Post and double rail with chain wire. Nice entry gate.  
**Car Parking** : At rear.  
**Landscaping** : Very good traditional garden with hydrangea and roses.  
**Street Trees** : Jacaranda.  
**Evaluation** : A valuable house in the streetscape for its scale and colouring, despite several attempts to modernise it, is still retains much of its period feel.  
**Recommendation** : Conserve.  
**Site Plan** :



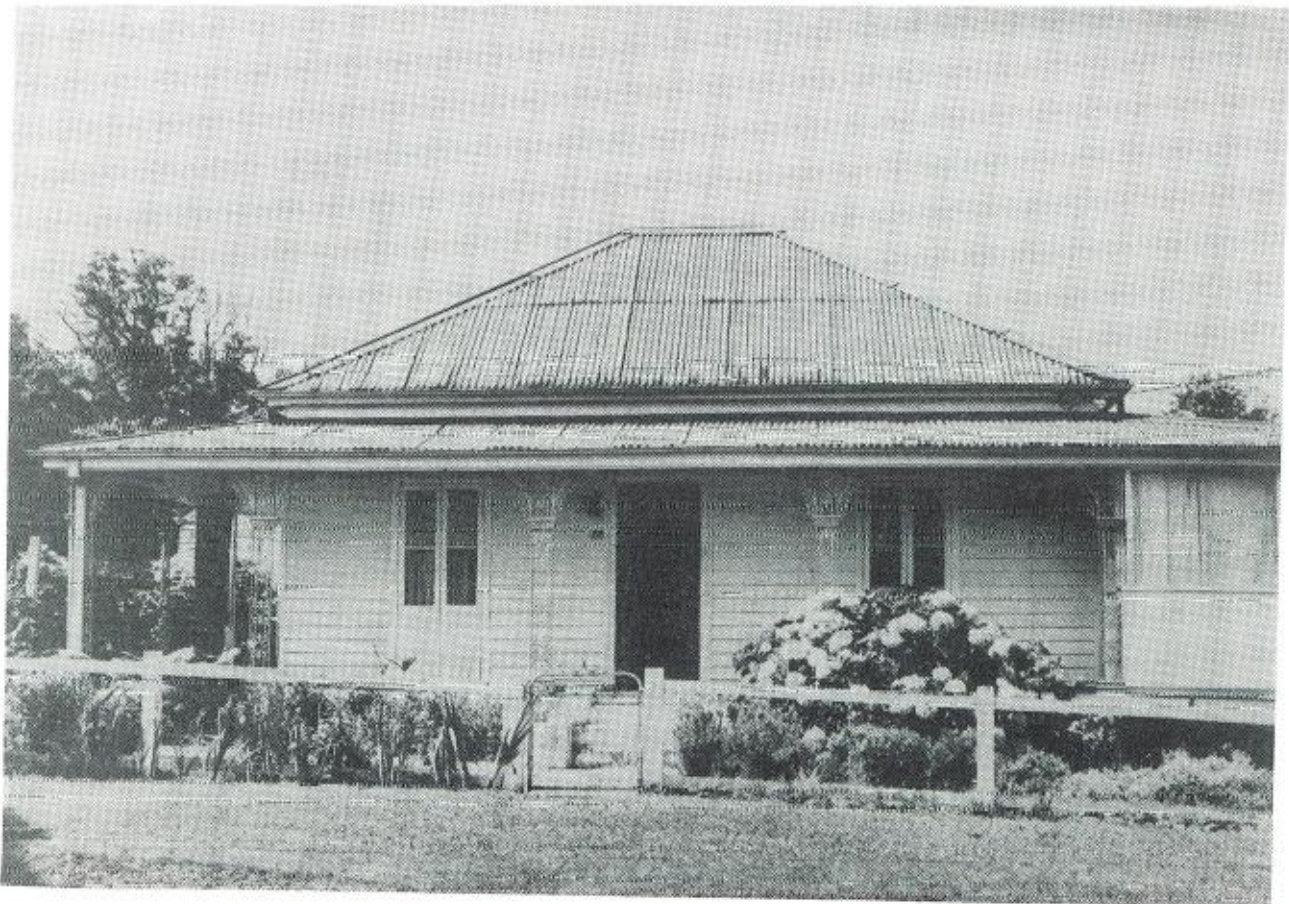
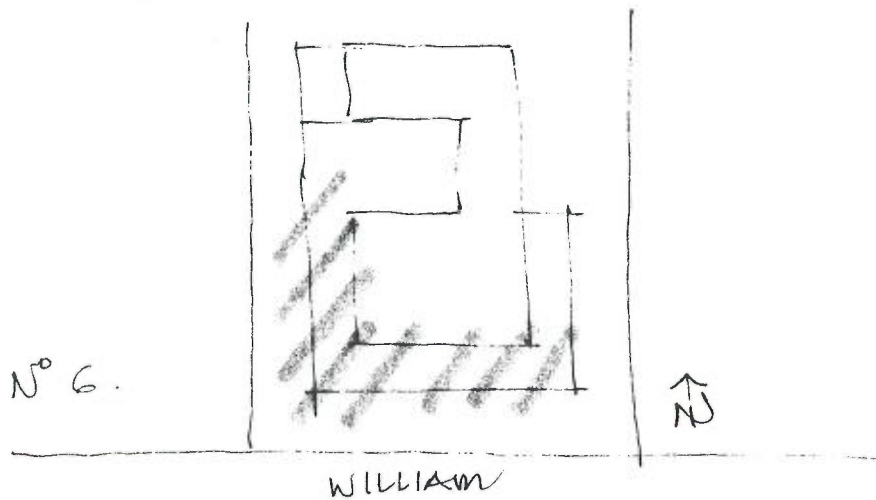
- Area : Bellingen Township
- Location : 31 William Street
- General Description : Simple small cottage with verandah to two sides and walls sheeted in asbestos. Roof pitch low for this era.
- Fencing : Picket with round tops.
- Car Parking : At rear.
- Landscaping : Traditional garden planting.
- Street Trees : Jacaranda.
- Evaluation : House makes good contribution to the streetscape for its picket fence, low scale and verandahs.
- Recommendation : Conserve externally.
- Site Plan :

Reference : No. 6  
Age : c. 1890



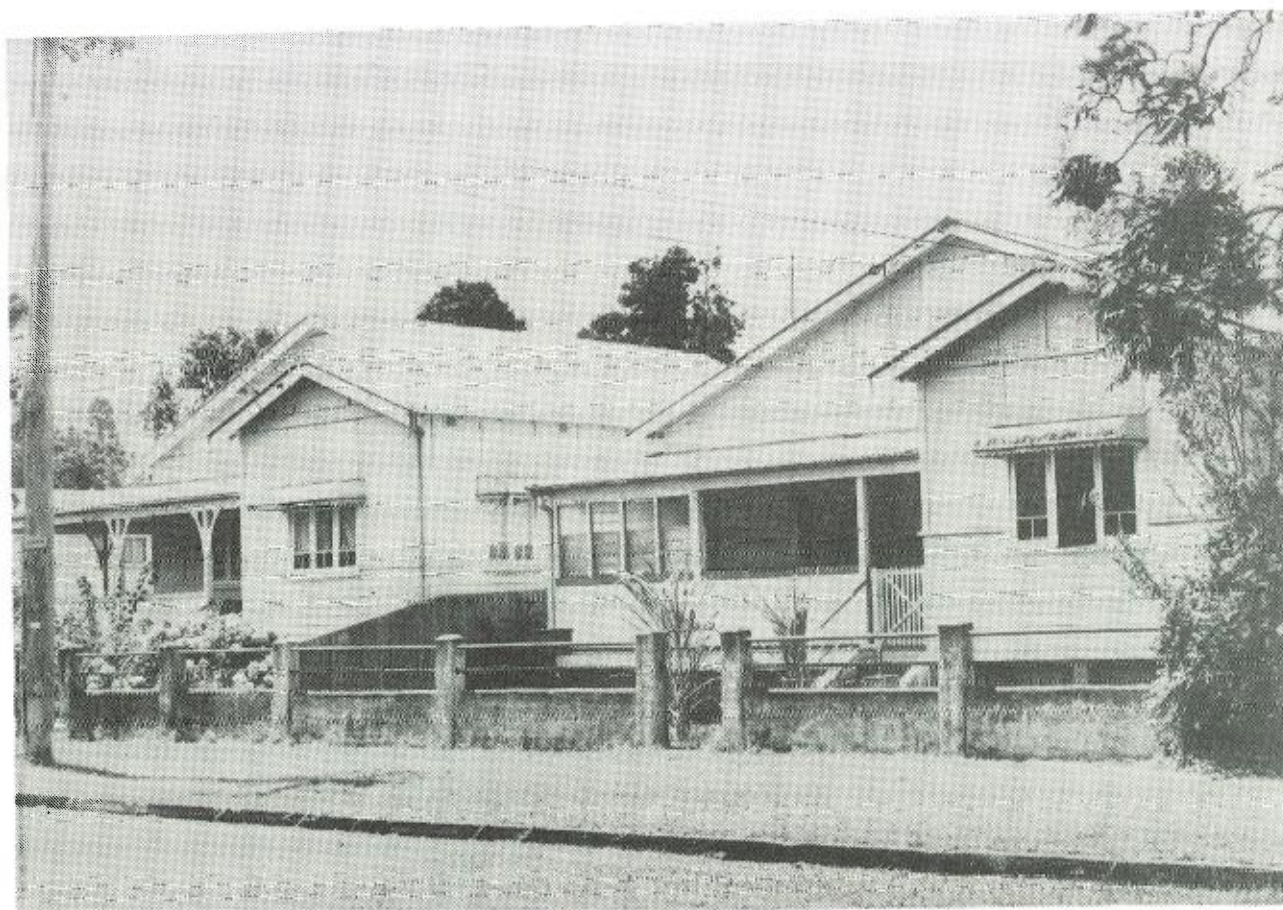
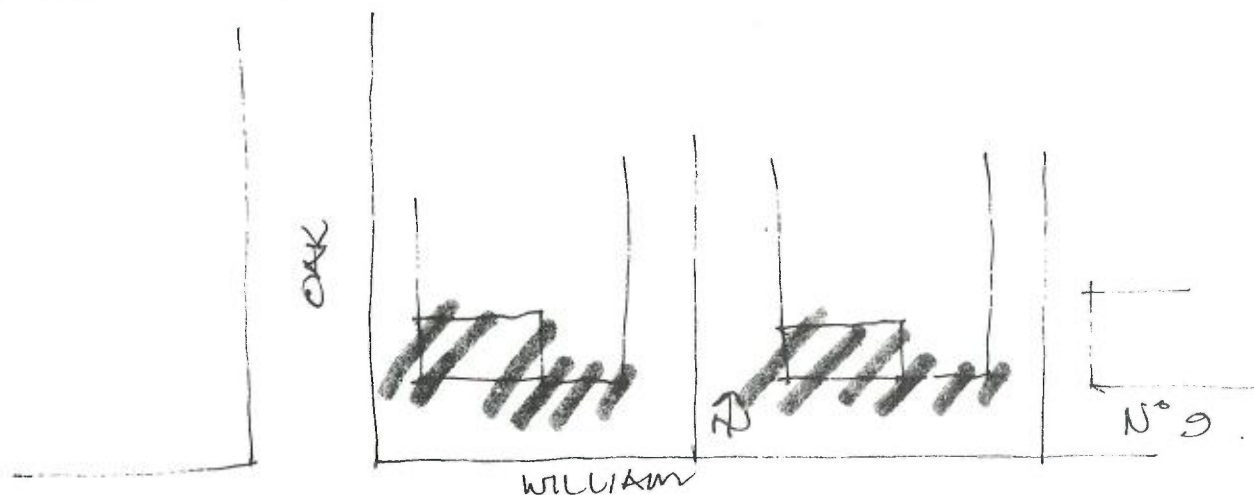
## PLANNING WORKSHOP

- Area** : Bellinghen Township **Reference** : No. 7  
**Location** : 29 William Street **Age** : c. 1895  
**General Description** : Rectangular main house with L-shaped additions to rear. Weatherboard with galvanised iron roof painted grey. Very fine cast iron pilasters to verandahs and frieze. Timber blinds to verandahs.  
**Fencing** : Post and rail with chain mesh.  
**Car Parking** : At rear.  
**Landscaping** : Well established lawns and shrubs.  
**Street Trees** : Jacaranda.  
**Evaluation** : House in excellent condition with good proportions and fine detailing in cast iron.  
**Recommendation** : Conserve generally. Possibly remove verandah enclosure on right side of verandah and provide earlier form of fencing.  
**Site Plan** :

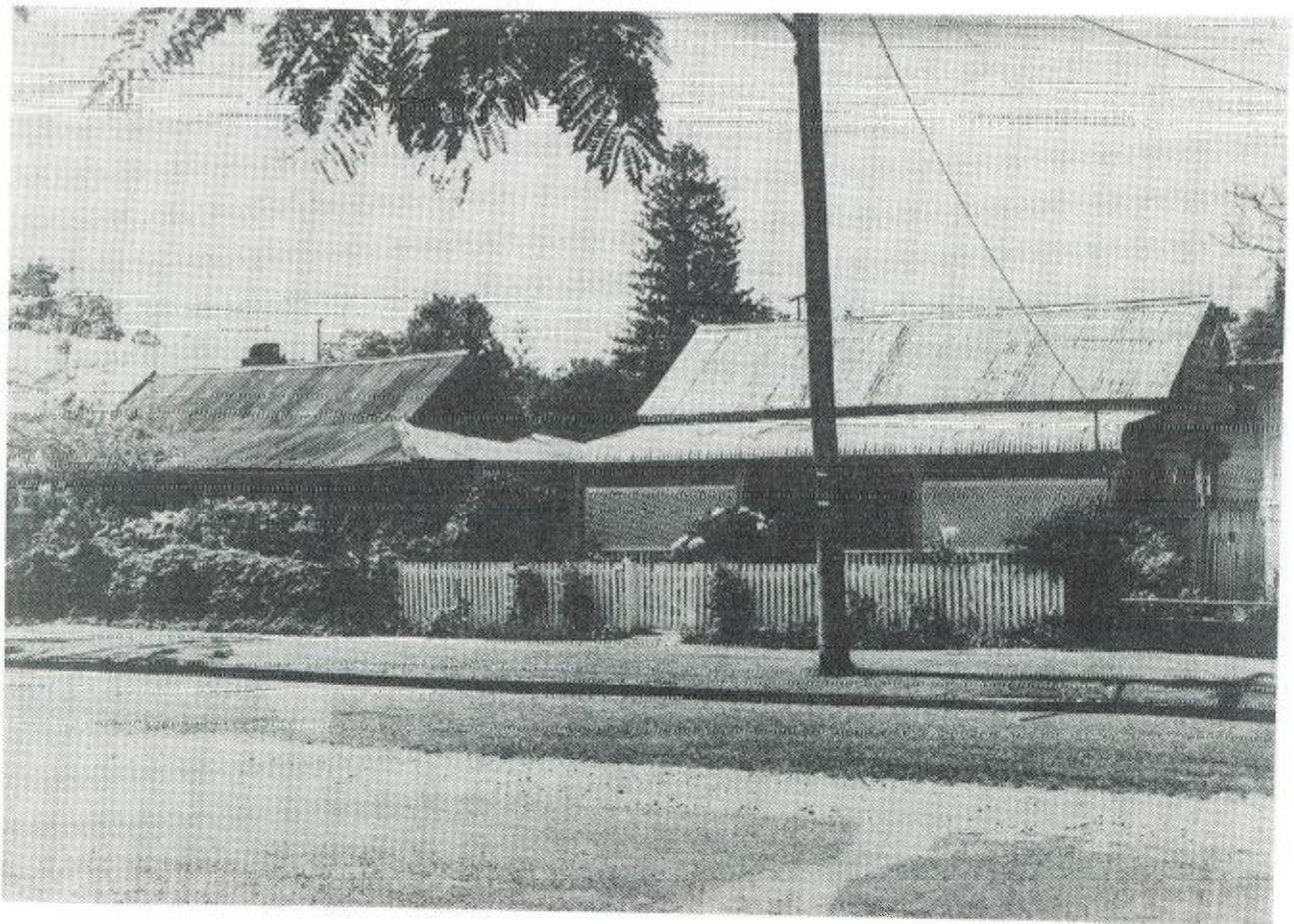
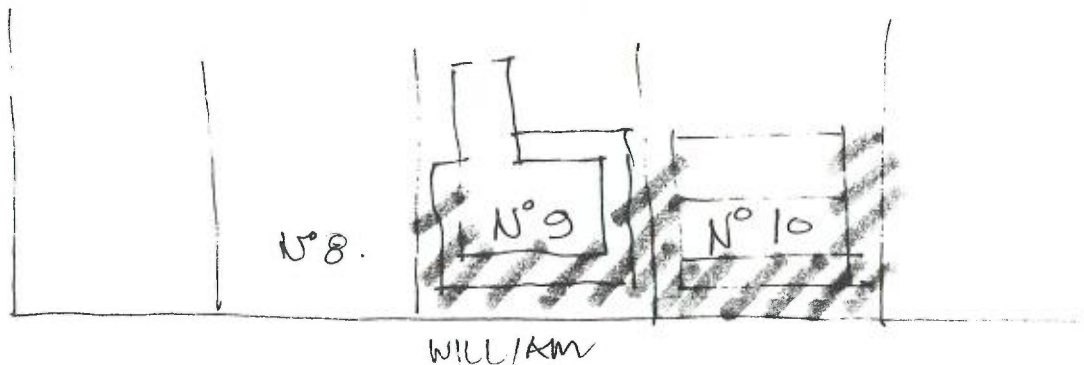


- Area** : Bellinghen Township
- Location** : Nos. 23 and 21 William St.
- General Description** : Double fronted timber and a.c. sheeted residences with galvanised iron roofing. Houses in average condition. Small paned windows with sun hoods.
- Fencing** : Rendered brick with pipe rails.
- Car Parking** : At rear.
- Landscaping** : Very simple.
- Street Trees** : Jacaranda.
- Evaluation** : Including in this listing for their contribution to the streetscape and for being reasonably good examples of this style of housing.
- Recommendation** : Restore facades and paint with colours appropriate to their period.
- Site Plan** :

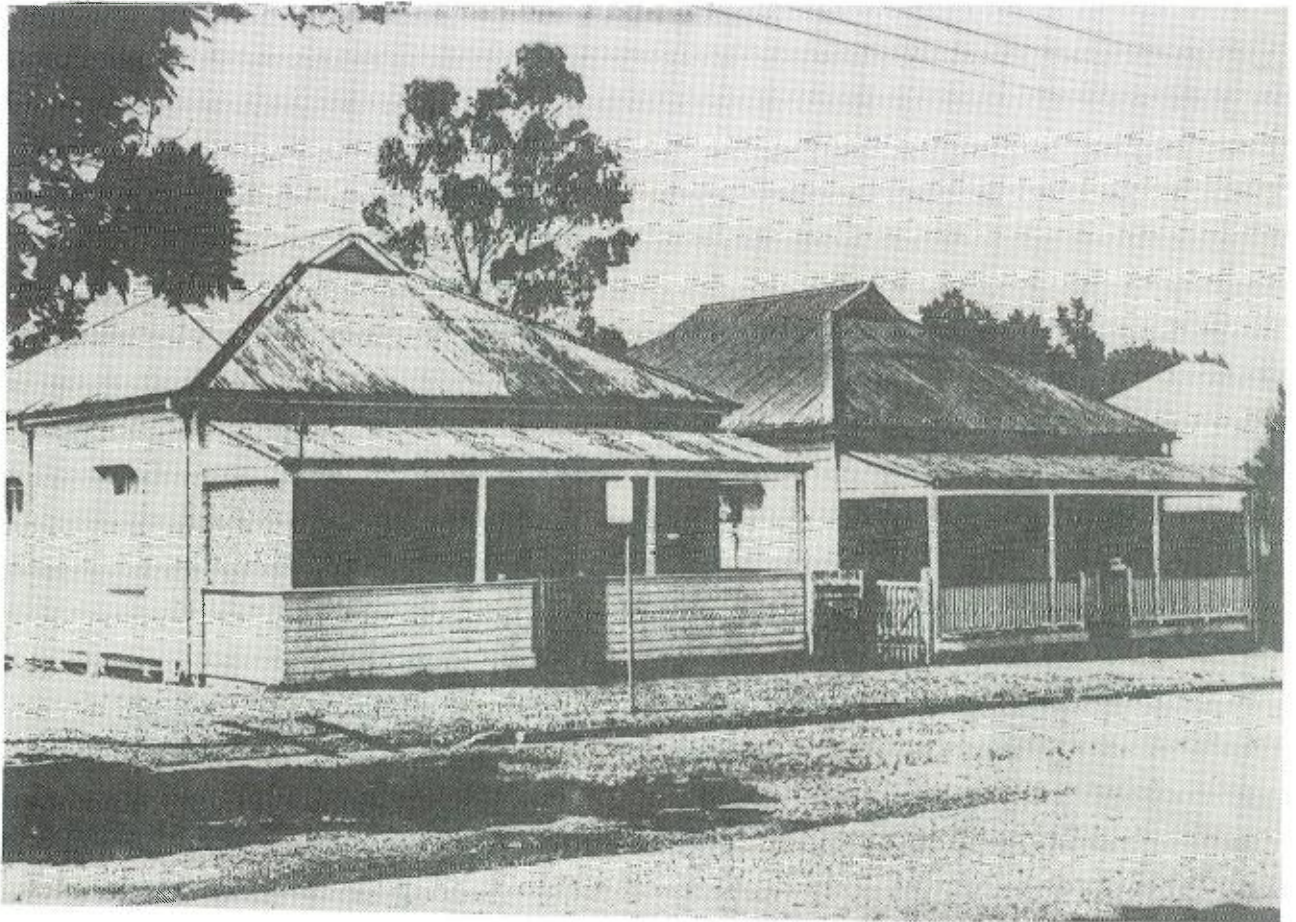
**Reference** : No. 8  
**Age** : c. 1925



- Area** : Bellinghen Township **Reference** : Nos. 9 & 10
- Location** : Nos. 19 & 17 William St. **Age** : c. 1875
- General Description** : No. 19: Simple cottage in very original condition. Vertical boarded walls with galvanised iron roof. Simple verandah posts and french windows to verandah.  
No. 17: Simple cottage with double gabled roof and ornate barge boards. Bull nosed iron to verandah with chamfered columns and lattice screens.
- Fencing** : No. 19 has wire fence profusely covered with ivy and No. 17 has low picket fence painted.
- Car Parking** : At rear.
- Landscaping** : No. 19 has dense growth of hydrangea and vines, No. 17 has shrubs.
- Street Trees** : Jacaranda.
- Evaluation** : Houses would be regarded as a pair because of similarities in scale, age and materials. Probably the earliest houses remaining in Bellinghen they are one of the last links with this simple early style of house.
- Recommendation** : Restore externally with great attention to detail and colours.
- Site Plan** :

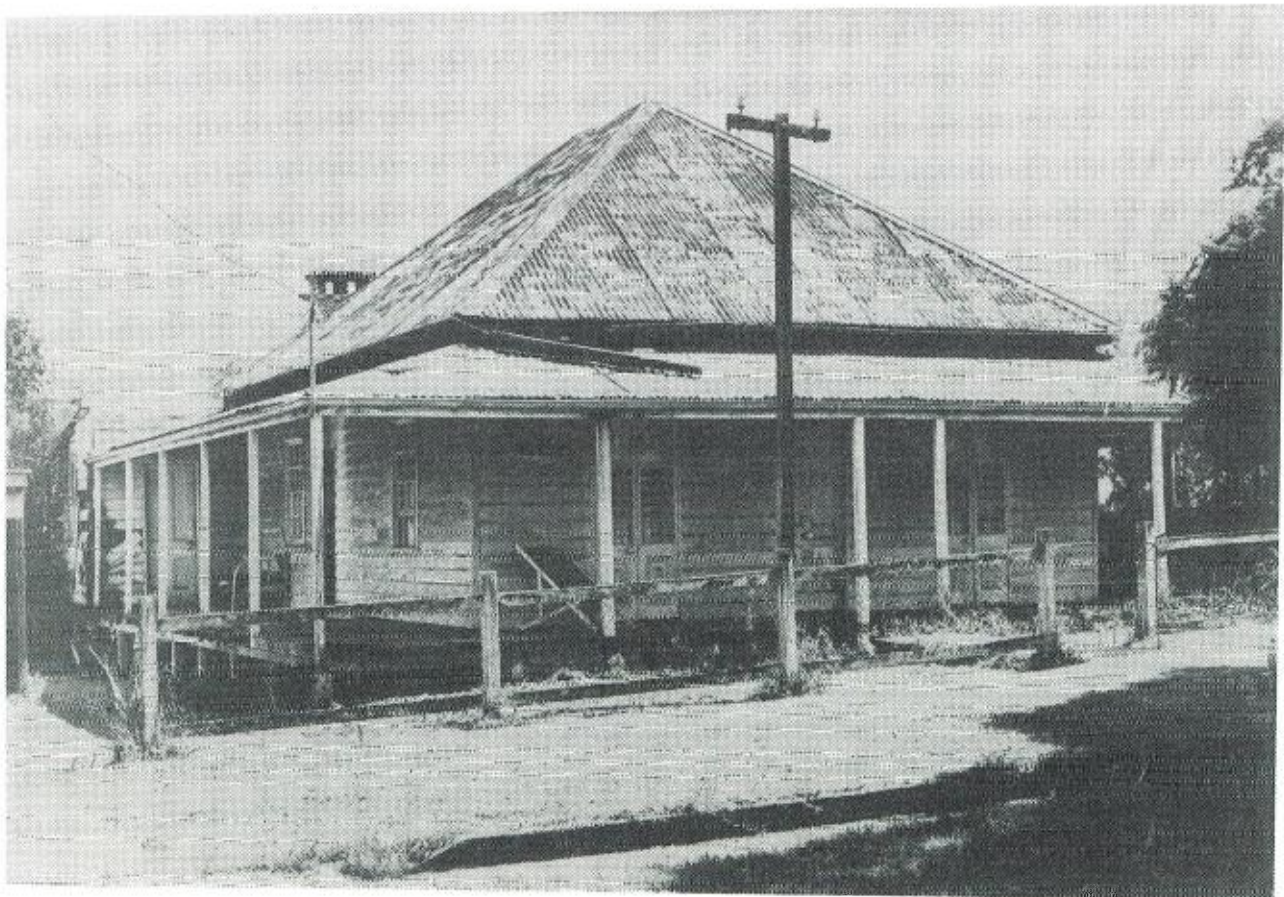
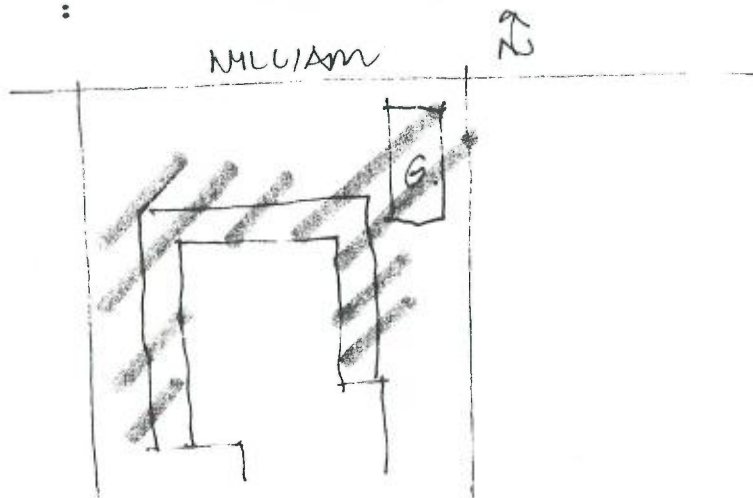


- |                            |   |                  |           |
|----------------------------|---|------------------|-----------|
| <b>Area</b>                | : Bellingen Township  | <b>Reference</b> | : No. 11  |
| <b>Location</b>            | : Nos. 9 and 7 William Street   | <b>Age</b>       | : c. 1900 |
| <b>General Description</b> | : Matching pair of weatherboard and galvanised iron cottages. Simple form with front verandahs and ventilated gambrel roofs. Symmetrical elevations. Houses built right on the footpath boundary. |                  |           |
| <b>Fencing</b>             | : Front railing to verandah.  |                  |           |
| <b>Car Parking</b>         | : At rear.  |                  |           |
| <b>Landscaping</b>         | : None.   |                  |           |
| <b>Street Trees</b>        | : Jacaranda.  |                  |           |
| <b>Evaluation</b>          | : Nice simple unpretentious cottages making a positive contribution to the common scale of William Street.  |                  |           |
| <b>Recommendation</b>      | : Preserve externally.  |                  |           |
| <b>Site Plan</b>           | :   |                  |           |



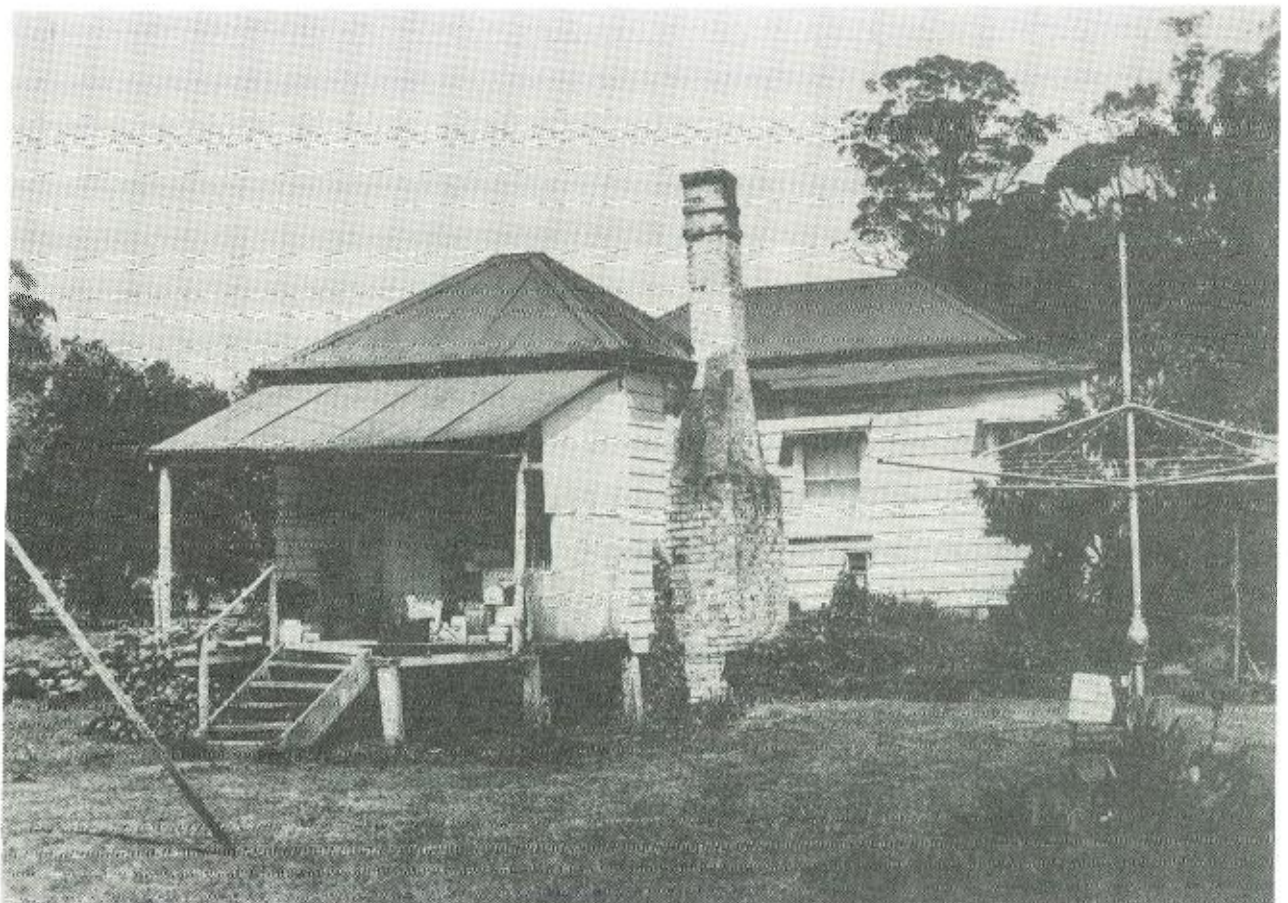
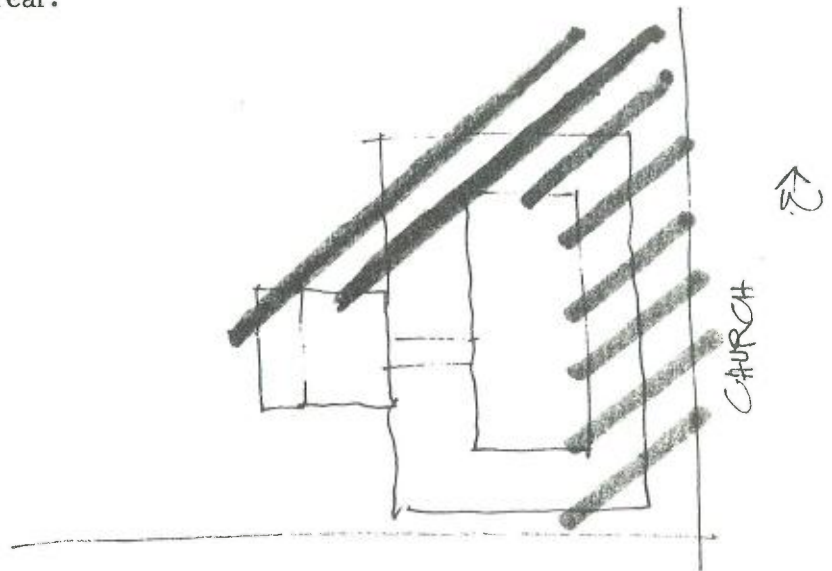
- Area** : Bellingen Township
- Location** : 4 William Street
- General Description** : Weatherboard house with steep hipped roof and surrounding verandahs. Twelve pane windows at sides. House in very poor condition although restoration would be possible.
- Fencing** : Parallel rail with chain wire.
- Car Parking** : Garage at side.
- Landscaping** : None.
- Street Trees** : Jacaranda in front.
- Evaluation** : An original house unspoiled except for deteriorated condition and unsympathetic garage at side. Nice simplicity of form with a significantly large steep roof.
- Recommendation** : Restore exterior. Provide more sympathetic car accommodation, landscaping and fencing.
- Site Plan** :

**Reference** : No. 12  
**Age** : c. 1880

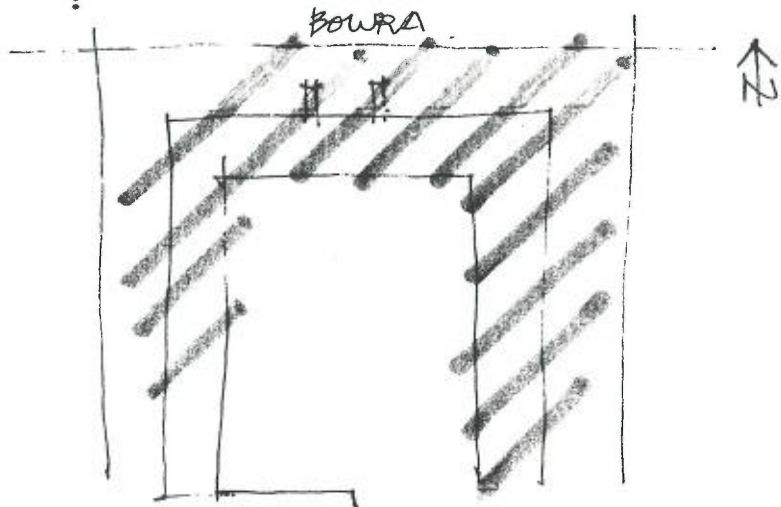


- Area** : Bellinghen Township
- Location** : 21 Church Street
- General Description** : Small four roomed cottage with central hall and enclosing verandahs. High ceilings with simple detailing.
- Fencing** : Post and rail with chain wire.
- Car Parking** : At rear.
- Landscaping** : Grass, fruit trees and vines.
- Street Trees** : None.
- Evaluation** : One of only a very small number of houses having a detached kitchen it appears to be in original form. It is one of the earliest cottages remaining.
- Recommendation** : Conserve. Provide picket fencing. Restore separate kitchen at rear.
- Site Plan** :

**Reference** : No. 13  
**Age** : c. 1875-1880

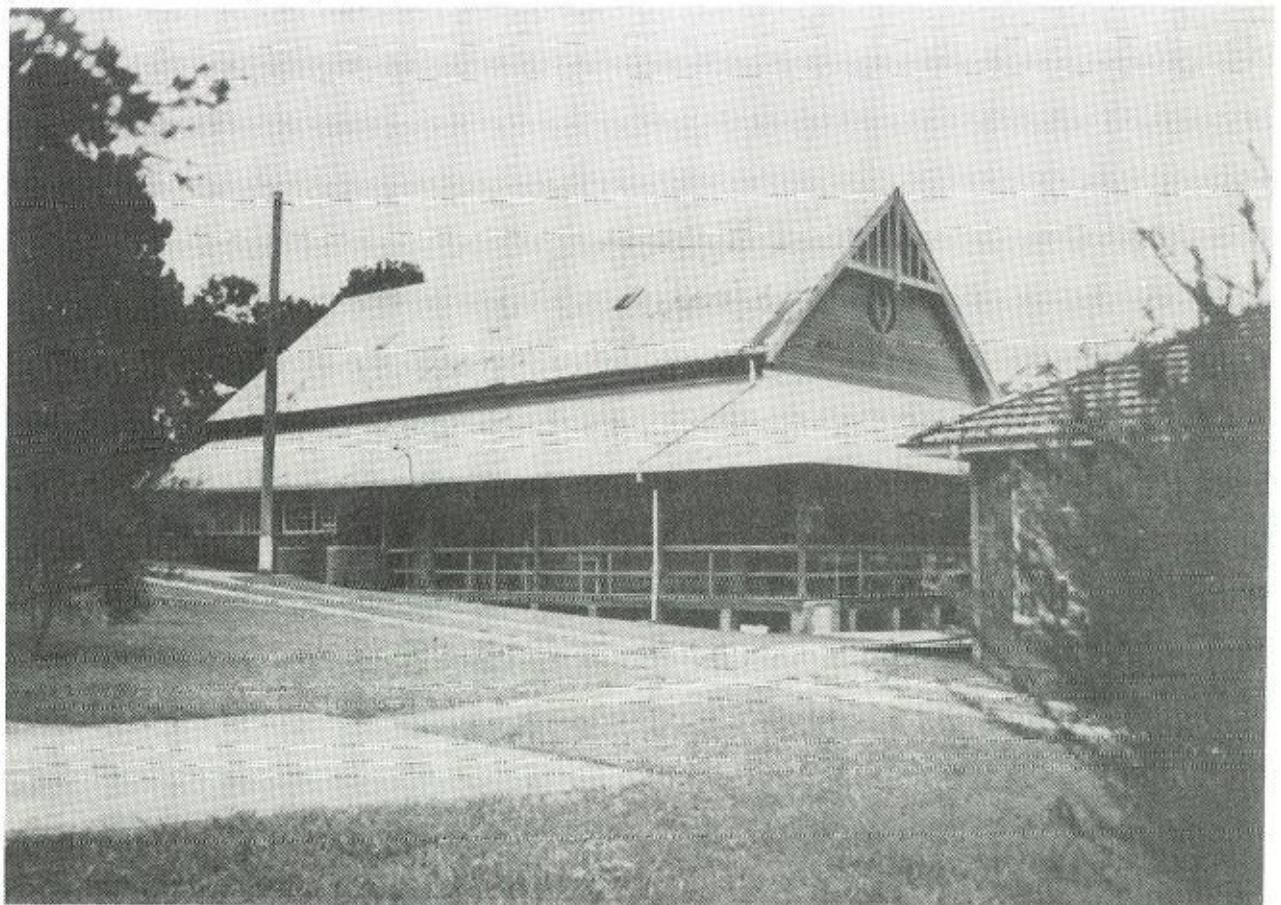
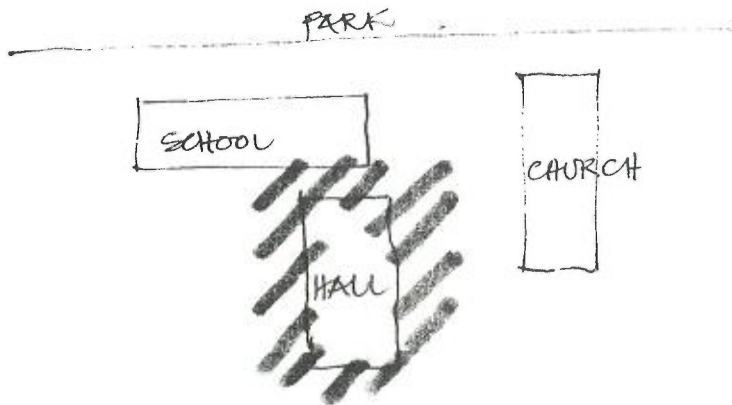


<b>Area</b>	: Bellingen Township	<b>Reference</b>	: No. 14
<b>Location</b>	: Bowra Street	<b>Age</b>	: c. 1890
<b>General Description</b>	Substantial cottage with double gabled roof. Elaborate gable infills and chimney. Bull nosed verandahs around three sides with arched verandah entry pediment. Entry door and sidelights and external joinery well detailed.		
<b>Fencing</b>	: Post and wire.		
<b>Car Parking</b>	: At rear.		
<b>Landscaping</b>	: Simple lawns etc.		
<b>Street Trees</b>	: African tulip.		
<b>Evaluation</b>	: A very well proportioned and detailed residence with an unusual roof form. The house is in excellent condition.		
<b>Recommendation</b>	: Conserve.		
<b>Site Plan</b>	:		



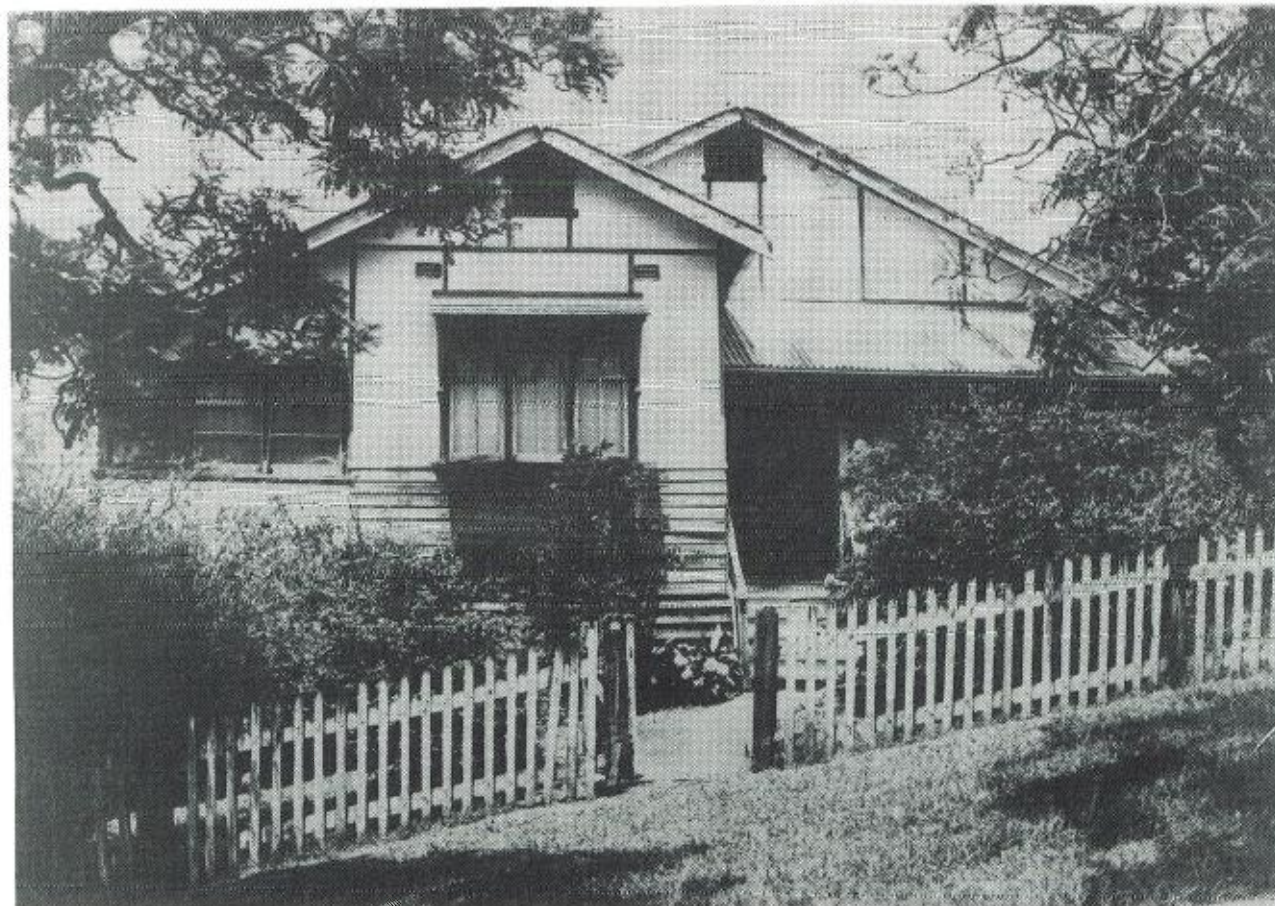
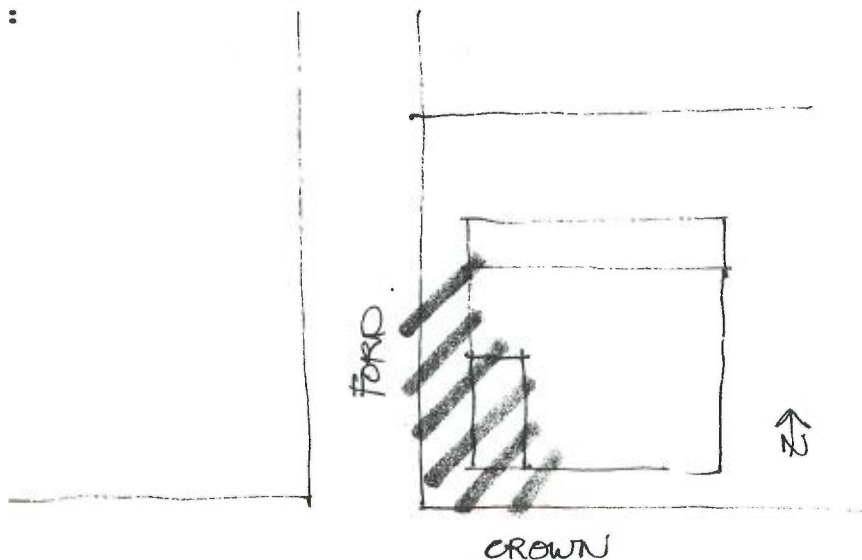
- Area : Bellingen Township
- Location : Park Street
- History : Refer History of Bellingen by Braithwaite.
- General Description : Large weatherboard hall with verandah to three sides and enclosure across rear. Very high and steeply pitched roof in galvanised iron. Quality of joinery very high with gothic window heads and coloured glass. Arched heads to verandah doors. Verandahs not part of original design but carefully added on later.
- Fencing : None - internal part of Church grounds.
- Car Parking : At rear.
- Landscaping : Lawn.
- Street Trees : Not applicable.
- Evaluation : Very important in Bellingen's history. Excellent use of timber for structural and joinery purposes. Excellent verandahs and colouring.
- Recommendation : Conserve. Repainting should be done with great care as to colours.
- Site Plan :

Reference : No. 15  
Age : c. 1911



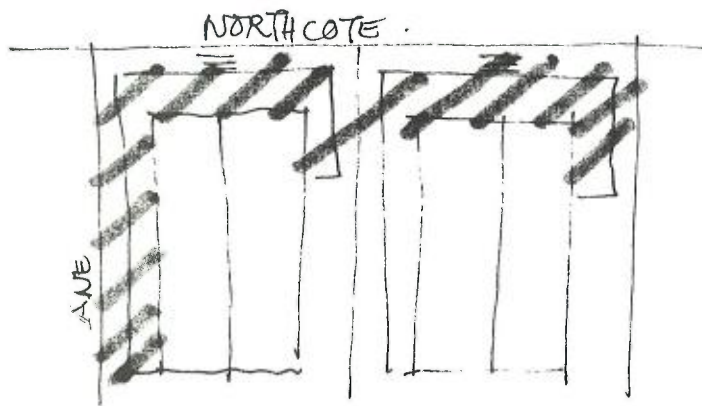
- Area** : Bellingen Township
- Location** : 32 Ford Street
- General Description** : Half weatherboard and a.c. with galvanised iron roofing. Good example of federation style with large gables and stained battens. All joinery appears original with square lattice under house.
- Fencing** : Picket with round tops on steep slope.
- Car Parking** : At side.
- Landscaping** : Very dense, largely native shrubs.
- Street Trees** : Jacaranda.
- Evaluation** : A very good example of this style of house in pleasantly nostalgic colours. House appears in sound condition although requiring a fair amount of maintenance. Roof geometry is very well resolved.
- Recommendation** : Restore.
- Site Plan** :

**Reference** : No. 16  
**Age** : c. 1915

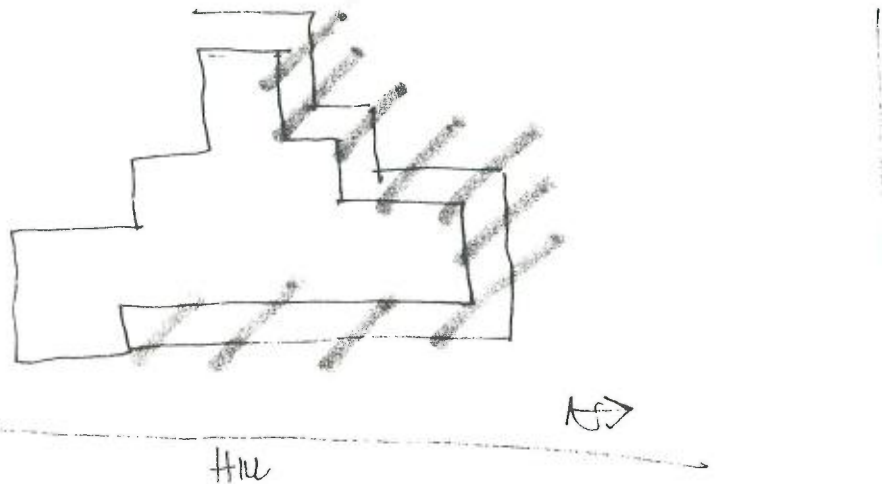


- Area : Bellingen Township
- Location : Northcote Street
- History : Built by George Moore (builder of Hammond and Wheatley) using surplus cement bricks from the Bellingen Courthouse.
- General Description : Simple rectangular buildings with double gables roofs and centre box gutters. Verandah to three sides with centre entry and gabled pediment. Elaborately mounded barges, column capitals, lattice to pediments and spaced boards for ventilation to main gables. Multi-coloured windows with three mullions to top and two to bottom. Rendered brickwork around base.
- Fencing : None.
- Car Parking : At rear of No. 16, garage built into side of verandah on No. 14.
- Landscaping : Minimal.
- Street Trees : None.
- Evaluation : An important part of local history being built by George Moore. Striking roof forms and elaborate detailing are unique.
- Recommendation : Conserve.
- Site Plan :

Reference : No. 17  
Age : 1910

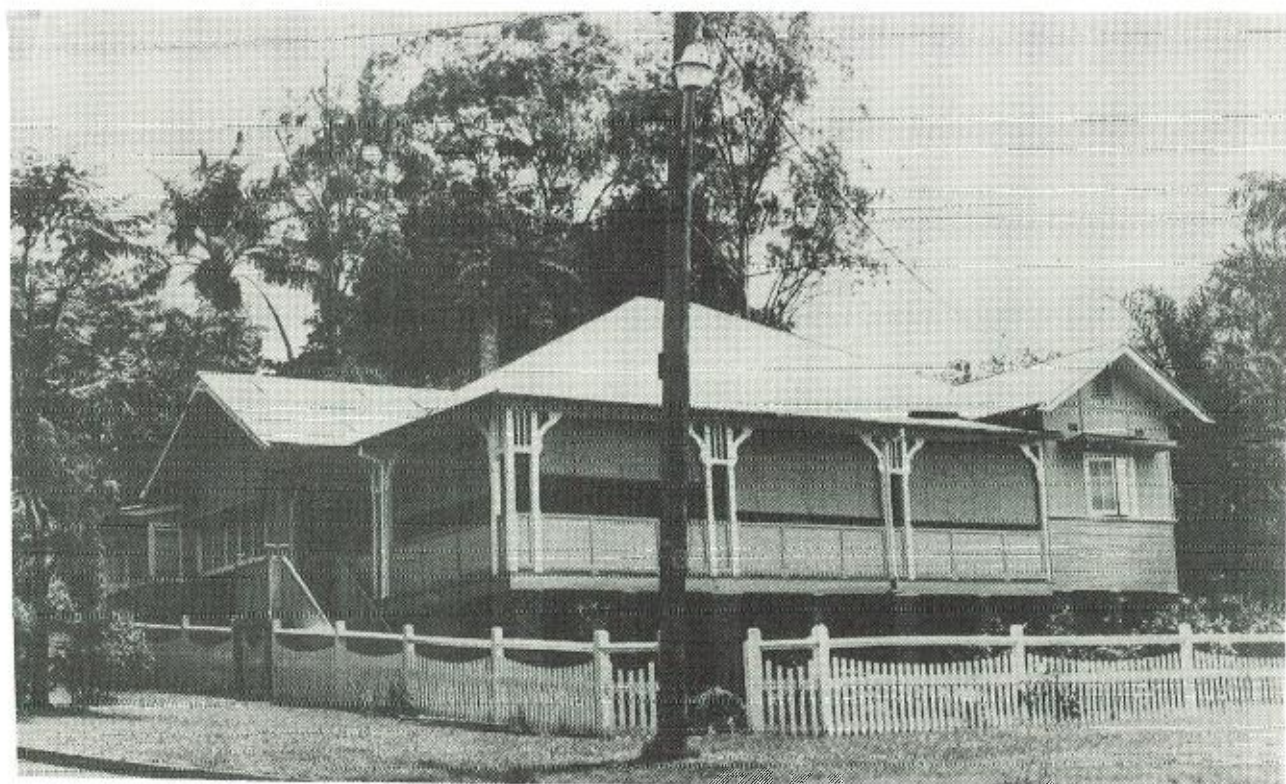
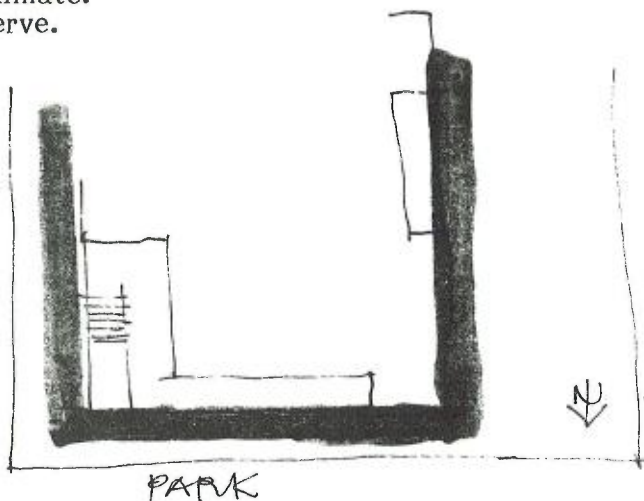


- |                            |   |                  |           |
|----------------------------|---|------------------|-----------|
| <b>Area</b>                | : Bellingen Township  | <b>Reference</b> | : No. 18  |
| <b>Location</b>            | : Hill Street   | <b>Age</b>       | : c. 1900 |
| <b>General Description</b> | : Large weatherboard and galvanised iron residence in prominent position located in very large grounds. Extensive verandahs in bull nosed iron and complete absence of decoration. House in poor condition although under repair. |                  |           |
| <b>Fencing</b>             | : Post and wire.  |                  |           |
| <b>Car Parking</b>         | : At rear.  |                  |           |
| <b>Landscaping</b>         | : Very open lawns with jacarandas.  |                  |           |
| <b>Street Trees</b>        | : None.   |                  |           |
| <b>Evaluation</b>          | : A house that at one time would have been very prominent it is a house very much larger than most with an interesting break-up of form.  |                  |           |
| <b>Recommendation</b>      | : Restore externally with careful attention to detail and decoration.   |                  |           |
| <b>Site Plan</b>           | :   |                  |           |

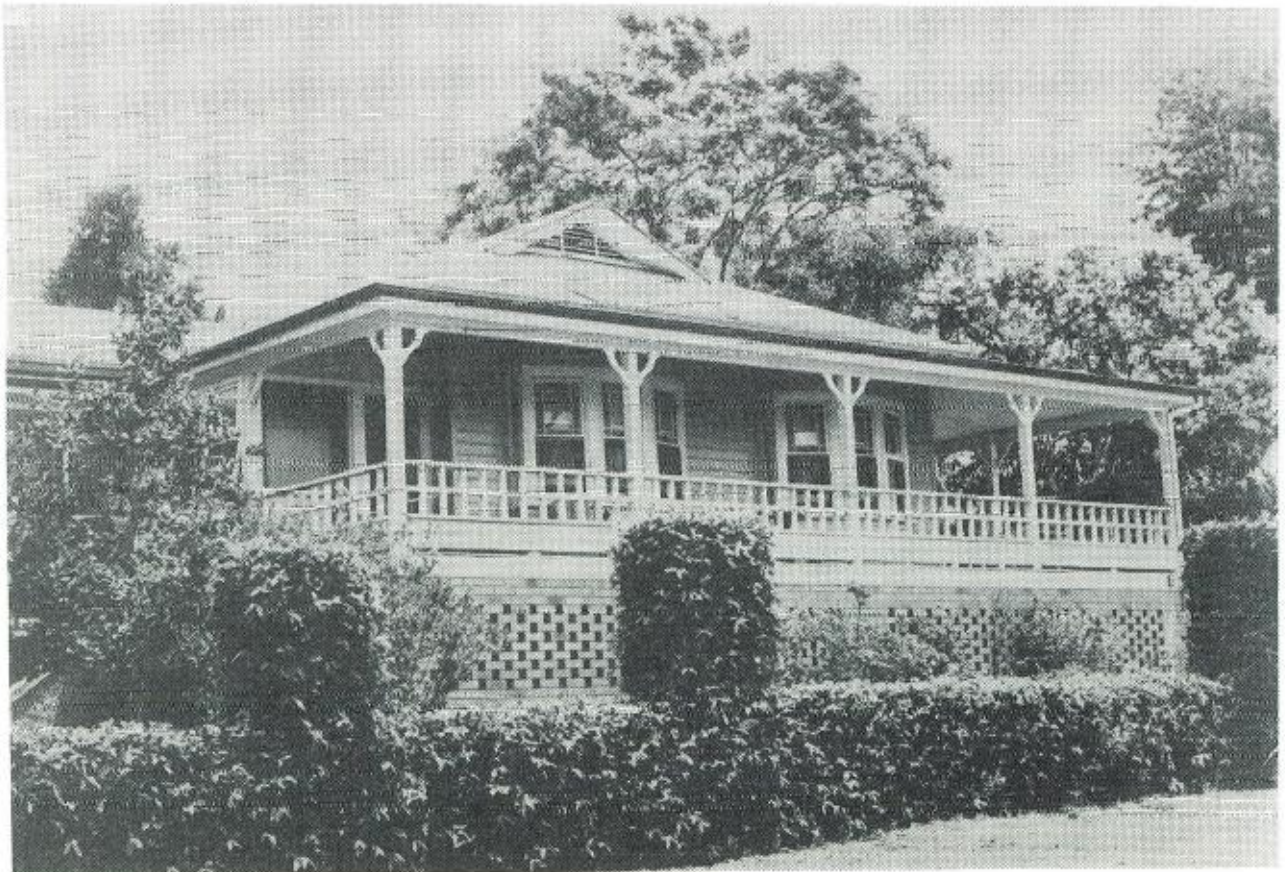
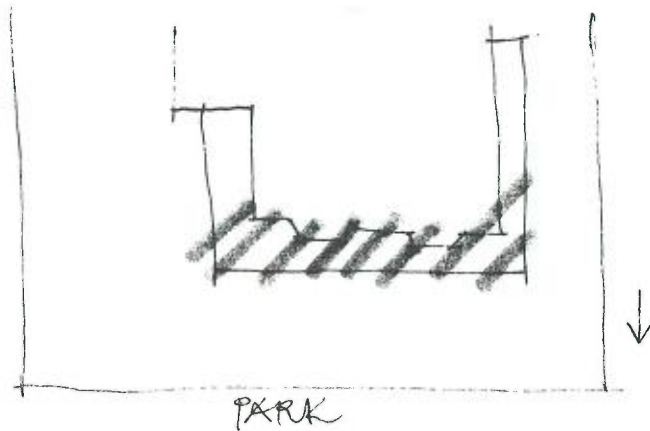


- Area** : Bellinghen Township
- Location** : Corner of Park & Prince St.
- History** : Owned by Dr. Hewitt since 1930. Has been a medical surgery and residence all that time.
- General Description** : Large timber house with surrounding verandahs on steep site. Considerable under-floor area. Large hipped roof with projecting gables in galvanised iron.
- Fencing** : Timber picket and rail well detailed and original.
- Car Parking** : Garage at rear.
- Landscaping** : Profuse garden of flowers. Flowering shrubs and trees.
- Street Trees** : Various flowering trees. Dr. Hewitt has been responsible for the planting of most of Bellinghen's street trees.
- Evaluation** : One of the most sophisticated houses, it makes excellent use of timber detailing in both the house and fencing. Internally the house is original. Combined with heavily landscaped block at rear and excellent landscaping around house it is an excellent example of a large gracious professional man's house designed to suit the hot climate.
- Recommendation** : Conserve.
- Site Plan** :

**Reference** : No. 19  
**Age** : 1927

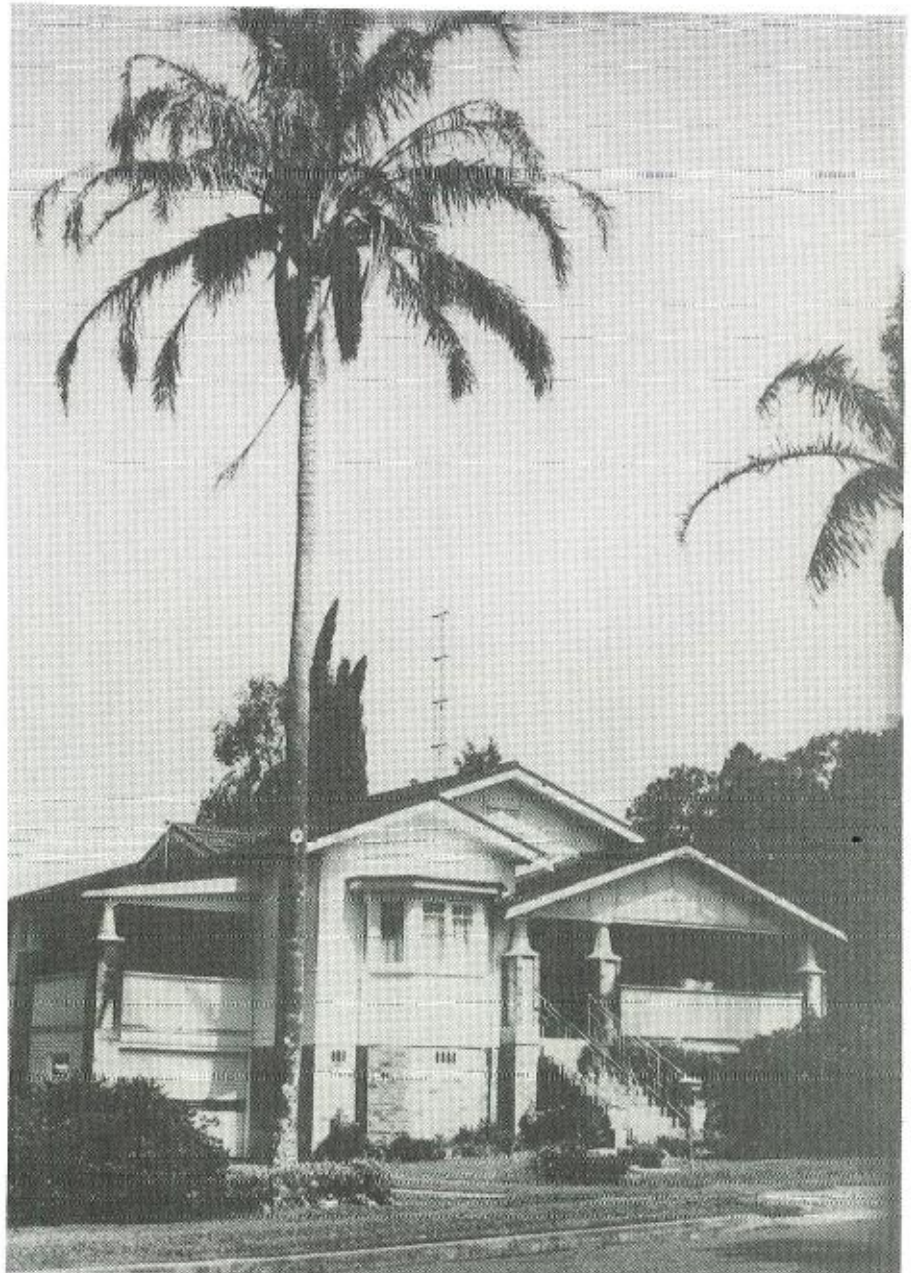
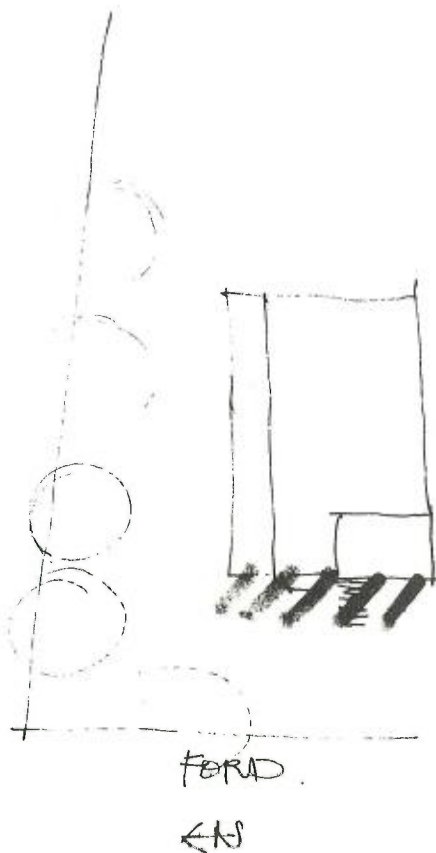


<b>Area</b>	: Bellinghen Township	<b>Reference</b>	: No. 20
<b>Location</b>	: Park Street	<b>Age</b>	: c. 1928
<b>General Description</b>	: Large weatherboard and galvanised iron residence with large verandahs and well detailed bay windows. Ventilated gambrel roof with moulded barge.		
<b>Fencing</b>	: Brick completely covered in vine.		
<b>Car Parking</b>	: At rear.		
<b>Landscaping</b>	: Well cultivated with flowering trees.		
<b>Street Trees</b>	: None.		
<b>Evaluation</b>	: A well cared for residence with imposing wide frontage. As for its adjoining neighbour (reference No. 19) it represents the best of quality houses from the 1920's with spacious landscaped grounds.		
<b>Recommendation</b>	: Conserve.		
<b>Site Plan</b>	:		



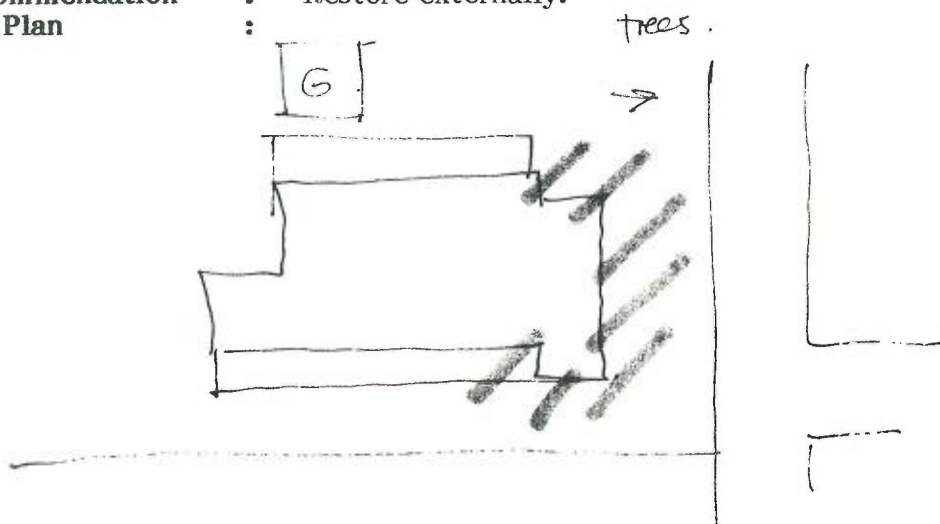
- Area** : Bellinghen Township
- Location** : 18 Ford Street
- General Description** : Large bungalow style house with complex roof form nicely resolved with intersecting gables. Dominant verandah gable over heavy brick columns with moulded capitals. Projecting bay window with chunky timber detailing.
- Fencing** : None.
- Car Parking** : At rear.
- Landscaping** : Large double block with extensive planting. Row of mature palms along boundary that are visually important for some distance around.
- Street Trees** : Fig.
- Evaluation** : Principal value is in the mature gardens. The house is well maintained and is a good example of its style. The semi-enclosed verandahs offer a depth of shade not found on many other houses.
- Recommendation** : Conserve.
- Site Plan** :

**Reference** : No. 21  
**Age** : c. 1925



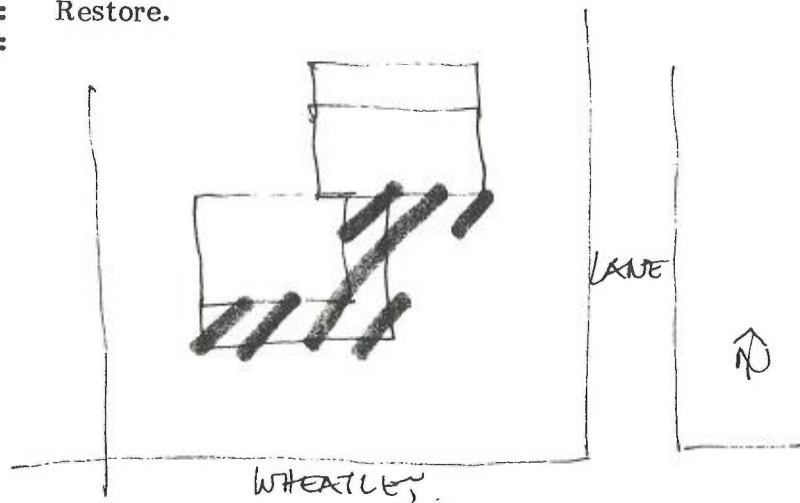
- Area** : North Bellingen
- Location** : 37 Wheatley St. 'Windy Hill'
- History** : Originally CBC bank in Bellingen it was moved in 1912 to become hospital. Later home of Wolfe family.
- General Description** : Large weatherboard house with hipped galvanised iron roof. Full length verandah along east and most of west sides - no ornamentation. Original joinery largely altered. Some unsympathetic additions to north end.
- Fencing** : Some picket fencing, mainly post and wire.
- Car Parking** : At rear.
- Landscaping** : Liquid amber in front, large pines about 30 metres high to western side.
- Street Trees** : None.
- Evaluation** : A house with strong historical associations and pleasing appearance in a prominent location. Pine trees very important.
- Recommendation** : Restore externally.
- Site Plan** :

**Reference** : No. 22  
**Age** : c. 1880



- Area** : North Bellingren
- Location** : 6 Wheatley Street
- General Description** : Small scale weatherboard and galvanised iron complex made in two distinct blocks connected by verandahs. House has a rural feel because of its large grounds. Simply detailed and requiring considerable maintenance.
- Fencing** : Post and pipe rail.
- Car Parking** : At rear.
- Landscaping** : Mature garden thick with flowering plants, would probably be original planting.
- Street Trees** : Fig.
- Evaluation** : Listed principally because of its age it has only small architectural merit. At its time of construction it would probably have been on a small farm and it retains much of this feel. It could easily be restored.
- Recommendation** : Restore.
- Site Plan** :

**Reference** : No. 23  
**Age** : c. 1890



## 12.4 Identification of Buildings of Heritage Worth in the Rural Areas of the Shire, Including the Villages of Fernmount and North Dorrigo

### 12.4.1 National Trust

The National Trust has no existing records of any buildings or sites in the Bellingen Shire.

### 12.4.2 Method of Assessment

Using National Mapping Authority maps to a scale of 1:100,000 all the major secondary roads were travelled over and a visual assessment made of any structures found.

Several roads were not covered as the areas concerned were remote and the possibility of finding buildings of heritage value were minimal. These roads are:

- \* past Orama on the North Arm of the Bellinger River;
- \* past Glenifer on the Tallowood Road;
- \* Breakwell Road;
- \* Argents Hill Road;
- \* Clarks Road, Deer Vale Road and associated minor roads west of Dorrigo;
- \* Paddy's Plain Road.

Local knowledge was drawn upon and a number of persons familiar with the area consulted.

### 12.4.3 Results

Individual record cards as for the Township of Bellingen were completed.

Considering the mileage travelled, the results are disappointing although not surprising. The history of the settlement in the Shire is that of small holdings, principally dairy farms and small logging villages. The Bellingen Shire never had the large station properties that the Hunter and Clarence Rivers had with up to 100,000 acres. Consequently it never had the grand station buildings that these valleys have. The architectural heritage of the Bellinger Valley is much more humble.

Almost without exception, the buildings examined are small to moderate sized weatherboard buildings with steeply pitched galvanised iron roofs. These cottages were not originally built for a long life and many in out of the way areas are in extremely delapidated condition and must only have a limited life remaining.

Many of the small settlements were associated with sawmills and, as these were worked out, the settlements were abandoned and only ruins remain. An excellent example of a sawmill village is that at Kalang south of Bellingen where some fine industrial ruins remain of the old steam powered sawmill and adjoining small cottages.

A moderate number, probably two or three dozen, early buildings dating from the turn of the century survive in good condition and these are to be found principally on the main roads on either side of the river downstream from Bellingen. The houses generally are unremarkable in design and detail and do not warrant special planning consideration.

Over the last decade the Shire has witnessed a considerable boom in the settlement of the less populated areas. The enthusiasm of these new settlers to live close to nature is reflected in an architectural parallel with the early buildings. Materials commonly being used for new cottage work are timber and galvanised iron. This resurgence in the construction of simple cottages provides a direct visual link with the earlier buildings so that while many original buildings continue to decay and disappear, their architectural forms live on.

Only six buildings have been identified as having architectural or heritage interest. These are illustrated on the attached cards.

One of the most important heritage items in the Shire is the Glenreagh to Dorrigo railway line, the history of which has been recorded in detail over recent years. Associated with the railway line are a number of small buildings and bridges. The railway line is now cared for by the Dorrigo Steam Preservation Society and does not come under Council jurisdiction. The railway line is destined to become a major tourist attraction and is not considered to be under any threat.

#### **12.4.4 Recommendations**

The buildings illustrated are generally to be found in rural settings and should not be subject to redevelopment pressure of adjoining land. None of the buildings shown is of sufficient architectural merit to warrant special protection under the planning scheme.

The future activities of the National Trust, Heritage Council of NSW and local historical groups should be sufficient to ensure the survival of these buildings.

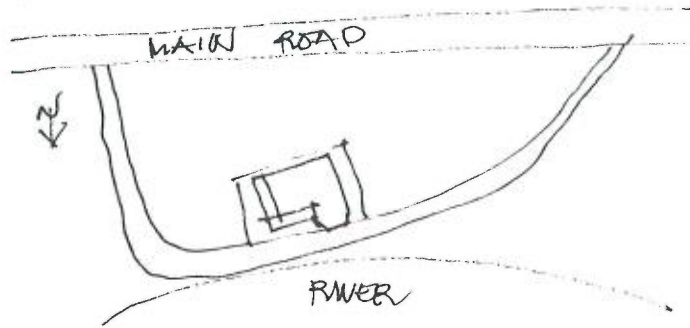
#### **12.5 Assessment of Effectiveness of Present Heritage Controls**

Bellingen's central commercial area is currently subject to the controls laid down by the Heritage Council of NSW. These controls have been in force now for over two years and the results are beginning to be seen.

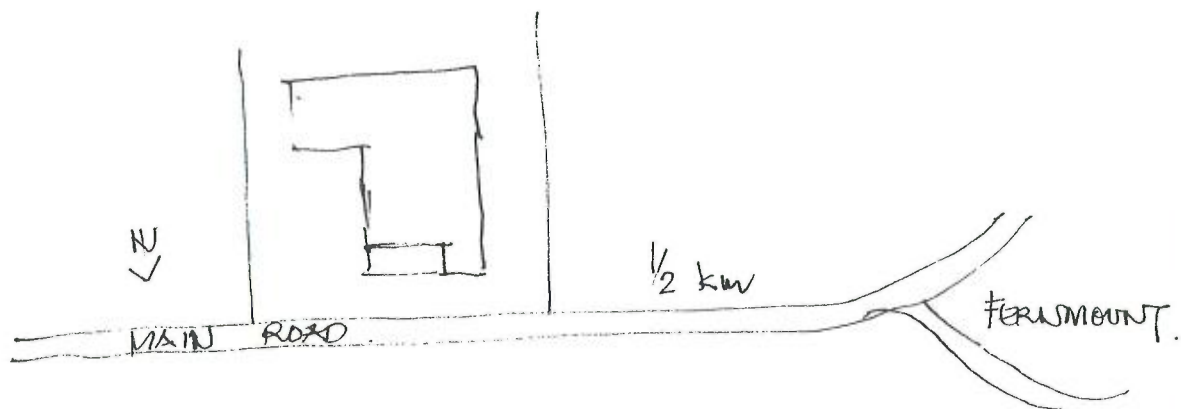
The Heritage controls have, of course, as their objective the retention and enhancement of the historic buildings and streetscape that make up Bellingen. The basis of the guidelines is the assumption that the worst possible new building will always be erected and that therefore strict controls on new work and an overprotective policy on existing heritage material results. The guidelines presented by the Heritage Council have been based on expert professional advice and are based on extensive experience.

Correctly applied, these guidelines would have a very beneficial effect on Bellingen's architecture and yet incorrectly applied they could have a very damaging effect. New work often becomes a mockery of adjoining historic work and the integrity of the high quality historic environment being protected is lost. A further effect of this is that the public will become confused as to what is historic and what is new.

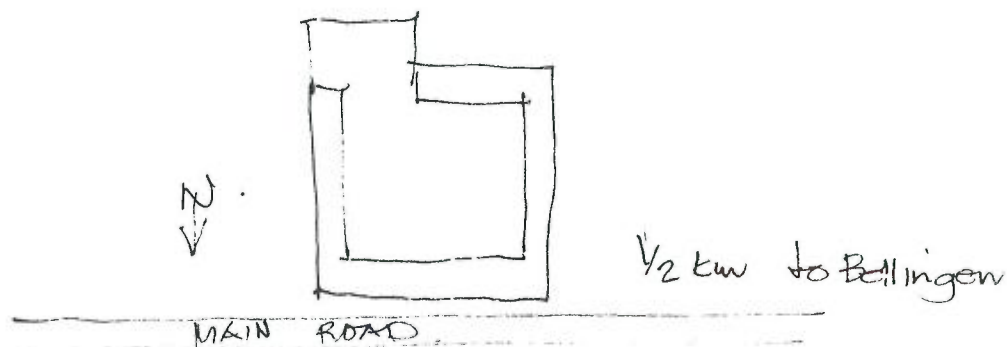
- |                            |   |                  |           |
|----------------------------|---|------------------|-----------|
| <b>Area</b>                | : Fernmount Bellingen Shire   | <b>Reference</b> | : No. 24  |
| <b>Location</b>            | : Behind store, street not numbered.  | <b>Age</b>       | : c. 1880 |
| <b>History</b>             | : Apparently used as a bank in its early life.  |                  |           |
| <b>General Description</b> | : Weatherboard and galvanised iron house with steeply pitched roof and elaborate barge boards. Verandah on two sides with much use of lattice work. Additions on front at right hand side of a later date perhaps 1910 with half octagonal bay. Very early 12 pane windows and evidence of shingle roof. Signs of earlier verandah along front only turned in upon itself at ends. Some well meaning but incorrectly detailed work carried out. |                  |           |
| <b>Fencing</b>             | : Short paling at front.  |                  |           |
| <b>Car Parking</b>         | : Garage at side.   |                  |           |
| <b>Landscaping</b>         | : Pleasant garden with tropical feel with ferns, monsterio, etc.  |                  |           |
| <b>Street Trees</b>        | : Nil.  |                  |           |
| <b>Evaluation</b>          | : A house with enormous potential for restoration despite its alterations. The photo does not convey the historic feel that this house has. It is undoubtedly an important house in local historical terms and its roofline is important in Fernmount.  |                  |           |
| <b>Recommendation</b>      | : Restore to original form.   |                  |           |
| <b>Site Plan</b>           | :   |                  |           |



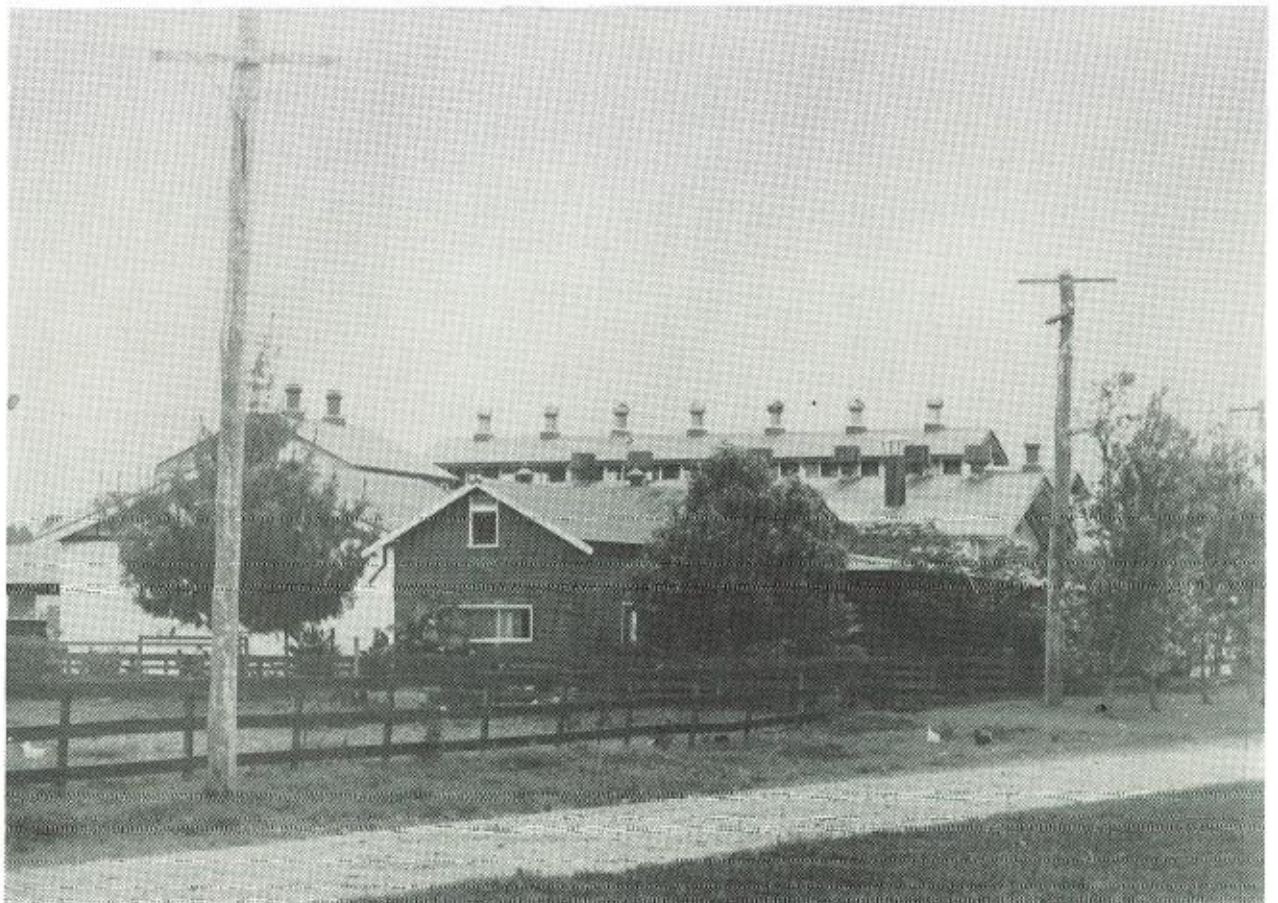
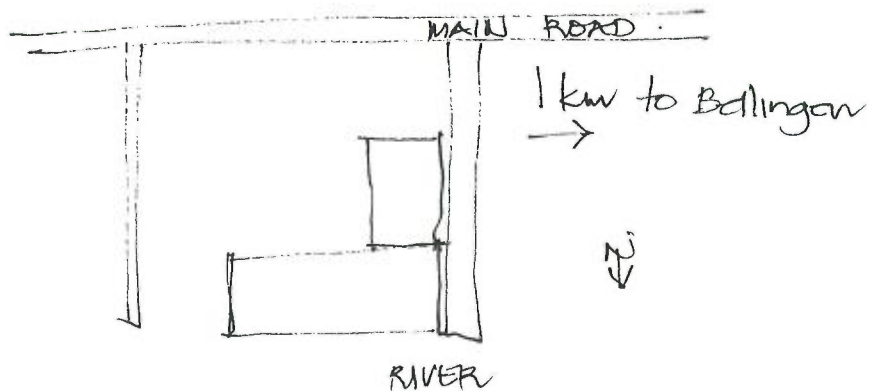
- Area** : Fernmount Bellingen Shire
- Location** : Approximately ½ km east of Fernmount on south.
- Reference** : No. 25
- Age** : c. 1910
- General Description** : Substantial house in brickwork with galvanised iron roofing. High standard of detailing particularly chimneys of which there are four. House painted white including joinery.
- Fencing** : Post, rail and wire.
- Car Parking** : Garage at side.
- Landscaping** : Simple with trees.
- Street Trees** : Nil.
- Evaluation** : A distinctive house because of its very substantial appearance many chimneys and clean appearance. House appears to have Government origins. No other houses like this in Shire.
- Recommendation** : Conserve.
- Site Plan** :



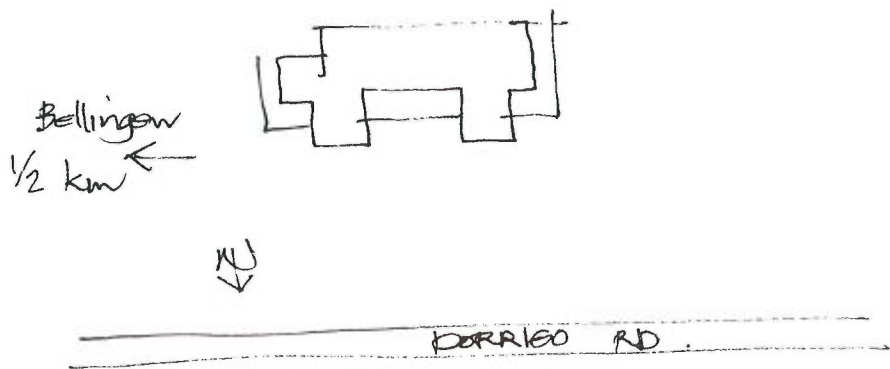
<b>Area</b>	:	Bellingen Shire	<b>Reference</b>	:	No. 26
<b>Location</b>	:	Main road $\frac{1}{2}$ km east of Bellingen on south.	<b>Age</b>	:	c. 1895-1900
<b>General Description</b>	:	Weatherboard and galvanised iron roofing. Interesting roof with double hip and box gutter full length. Tall chimneys from each ridge. Bull nosed verandah around four sides with separate out-building at rear. Very good joinery particularly french windows with coloured glass and off-set mullions and entry door and sidelights. Interesting arch in lattice at front. Some inappropriate alterations such as front windows between columns.			
<b>Fencing</b>	:	Post and wire.			
<b>Car Parking</b>	:	At rear.			
<b>Landscaping</b>	:	Very overgrown with rich shrubs and creepers.			
<b>Street Trees</b>	:	Nil.			
<b>Evaluation</b>	:	The only house like it in the Shire, the very distinctive roof form and symmetrical layout make it outstanding. The house is in reasonable condition and retains much of its historic feel.			
<b>Recommendation</b>	:	Restore.			
<b>Site Plan</b>	:				



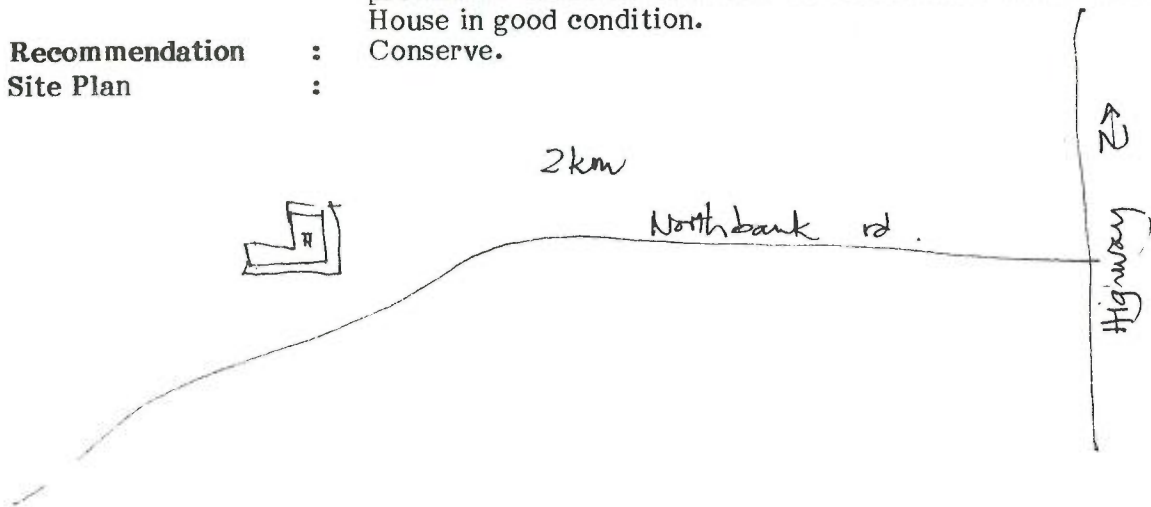
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|----------------------------|--|------------------|-----------|
| <b>Area</b>                | : Bellinghen Shire   | <b>Reference</b> | : No. 27  |
| <b>Location</b>            | : 1 km east of Bellinghen on north side main road.   | <b>Age</b>       | : c. 1935 |
| <b>General Description</b> | Large industrial building in painted brickwork with large galvanised iron roof, clerestory lighting and prominent roof vents. Wide gable overhangs.  |                  |           |
| <b>Fencing</b>             | : Timber post and rails.   |                  |           |
| <b>Car Parking</b>         | : Considerable open space.   |                  |           |
| <b>Landscaping</b>         | : Rural setting with many trees.   |                  |           |
| <b>Street Trees</b>        | : Nil.   |                  |           |
| <b>Evaluation</b>          | : A dominant building in the landscape because of its roof massing and vents. Important role in local commercial history. No longer used as a dairy co-op, is being recycled into residential use. |                  |           |
| <b>Recommendation</b>      | : Conserve externally.   |                  |           |
| <b>Site Plan</b>           | :  |                  |           |



- |                            |   |                  |                |
|----------------------------|---|------------------|----------------|
| <b>Area</b>                | : Bellingen Shire   | <b>Reference</b> | : No. 28       |
| <b>Location</b>            | : 1 km west of Bellingen<br>on south side main Dorrigo Road   | <b>Age</b>       | : c. 1890-1920 |
| <b>General Description</b> | : Double fronted weatherboard house. Galvanised iron hip and gable roof with bull nosed iron to verandahs. Elaborate barge boards and bracketing. House appears to have a long history of additions and minor alterations. Origins of house are probably small four room cottage under high hipped roof with chimney. |                  |                |
| <b>Fencing</b>             | : Post and rail.  |                  |                |
| <b>Car Parking</b>         | : Not applicable.   |                  |                |
| <b>Landscaping</b>         | : Outstanding palms and mature trees.   |                  |                |
| <b>Street Trees</b>        | : Not applicable.   |                  |                |
| <b>Evaluation</b>          | : Attractive and highly decorated house with prominent trees. House nicely sited at base of hill.   |                  |                |
| <b>Recommendation</b>      | : Conserve.   |                  |                |
| <b>Site Plan</b>           | :   |                  |                |



- Area** : Bellinghen Shire
- Location** : Northbank Road, 2 km west of Pacific Highway
- Reference** : No. 29
- Age** : c. 1910
- History** : Construction attributed to George Moore.
- General Description** : Large weatherboard house, galvanised iron hipped roof with projecting gable and encircling bull nosed verandahs. Lattice work infill to verandahs. Tall chimney and prominent and unusual roof vent. House located on top of hill with extensive views over rural land. Property outbuildings located nearby.
- Fencing** : Paling fence surrounding house.
- Car Parking** : Not applicable.
- Landscaping** : Mature trees with dense backdrop of trees to south and west.
- Street Trees** : Not applicable.
- Evaluation** : Historically important as one of George Moore's works, house is in prominent location and can be seen from some distance away. House in good condition.
- Recommendation** : Conserve.
- Site Plan** :



The history of development in these towns is one of continual development with many different architectural styles being shown. An early photo shows Hammond and Wheatley Store to have a strong art deco influence about the single storey store on the right. It seems a logical continuation of this process to allow for high quality modern architecture to also be encouraged. However, the planning controls in Bellingen to date have not had this effect.

The heritage guidelines establish a list of objectives in relation to the preservation of the historic environment that are desirable and based on substantial experience. They are, however, presented in a manner best understood by experienced professionals and not by laymen.

Mr. Shellshear recommends that:

- \* The existing heritage guidelines be adhered to.
- \* That all building work in the precinct area be under the control of suitably selected architects with relevant experience.
- \* That advice in relation to new building work be sought from the Heritage Council or the Historic Buildings Committee of the National Trust of NSW before work is commenced. From experience, this can be obtained quickly and without complication.
- \* That the National Trust pamphlets on infill architecture and alterations and additions which are written in illustrated layman's terms should be provided to prospective developers.

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## BIBLIOGRAPHY

- ADRIAN, P. and LUNNON, P. Discussion Paper on Rural Subdivisions. 1979.
- ARCHER, R.W. Policy and Research Issues in Subdivisions for Rural Residences, Hobby-Farms and Rural Retreats. 1977.
- ATKINSON, S. Multiple Occupancy: The Customers Viewpoint. 1981.
- AUSTRALIAN BUREAU OF STATISTICS. Survey of Tourist Accommodation Establishments: Hotels, Motels, Guest Houses and Caravan Parks with Facilities in Local Government Areas of NSW.
- ATKINSON, G. and VENESS, R. Land Resources Study of the Coffs Harbour Region: Soil Conservation Service of NSW. 1980.
- BEASLEY, G. Rural Planning: A Review of Its Role in Preserving Agricultural Land and Resolving Rural Urban Conflict.
- BELLINGEN LOCAL MANAGEMENT COMMITTEE. Application for Funding. (For the Bellingen Community Youth Support Scheme). 1982.
- BELLINGEN SHIRE COUNCIL. Regional Development Report on Resources and Future Development of the Bellingen Shire Area. 1956.
- BELLINGEN VALLEY HISTORICAL SOCIETY. Pioneering in the Bellingen Valley. 1962.
- CATT, C.B.J. A Survey of Part-Time Farmers in the Lower Hunter Valley NSW. 1978.
- CAMPBELLTOWN CITY COUNCIL. Provision of Open Space. 1976.
- CHURCH, P.B. Rural Forum: Effect of Farm Size on Values. 1976.
- CLEARY, M. Financial Review. NSW North Coast September 6th 1982 Supplement. (More Funds for Tourism).
- COCK, P. Alternative Australia - Communities of the Future. 1979.
- COFFS HARBOUR SHIRE COUNCIL. Organisation and Operational Manual. (Part 1, Organisation and Administration).
- COUNCIL FOR SOCIAL SERVICE OF NSW. Scarce for Kids. 1981.
- CROMPTON, S.A. A Benefit-Cost Analysis of Hobby-Farm Development - A Case Study. 1981.
- DAVIDSON, B.R. The Effect of Changes in Land Use on the Contribution of Different Types of Agriculture in Different Regions of New South Wales to the Economy of the State. 1980.
- DAVIS, J.R. and IVE, J.R. Dungog Shire Planning Policies. 1981.

## PLANNING WORKSHOP

- DAY, R., CLARK R., SORENSEN, COOPER M., PIGRAM J. The Dorrigo Steam Railway and Museum: Tourist Potential, Marketing and Management, UNE. 1982.
- DEPARTMENT OF AGRICULTURE NEW SOUTH WALES. Cudgen-Duranbah Agricultural Land Suitability Study. 1982.
- DEPARTMENT OF DECENTRALISATION AND DEVELOPMENT. Regional Development and Employment Prospects. Part One and Part Two. September, 1978.
- DEPARTMENT OF ENVIRONMENT AND PLANNING. A Rural Small-Holdings Policy Study. 1977.
- DEPARTMENT OF ENVIRONMENT AND PLANNING NSW. Environmental Planning and Assessment Act. 1979.
- DEPARTMENT OF ENVIRONMENT AND PLANNING. Overview - The North Coast Region of NSW. 1981.
- DEPARTMENT OF ENVIRONMENT AND PLANNING. Low Cost Country Home Building. 1981.
- DEPARTMENT OF ENVIRONMENT AND PLANNING NSW. Local Planning Manual: Guide to Rural Zoning. (Draft). 1981.
- DEPARTMENT OF ENVIRONMENT AND PLANNING. Rural Land Evaluation Manual. 1981.
- DEPARTMENT OF MINES. Dorrigo - Coffs Harbour 1:250,000 Geological Series Sheet (SH 56-10 and 11).
- DEPARTMENT OF PUBLIC WORKS, NSW. Bellingen River Flood History 1843-1979. 1979.
- DEPARTMENT OF PUBLIC WORKS, NSW. Coastal Engineers Advice on Proposed Subdivision at Mylestom. 1980.
- DEPARTMENT OF TOURISM AND RECREATION. Implications of Community Centre Development. 1974.
- DEVERY, J. The North Coast of NSW. 1962.
- ELVIDGE, N. An Evaluation of the Market for Small Area Rural Subdivisions in the Lower Hunter Sub-region of NSW. 1982
- FLOYD, A.G. Vegetation of the Upper Bellingen Valley 1979.
- FORESTRY COMMISSION OF NSW. Plan for Bellingen Management Area. 1977.
- FORESTRY COMMISSION OF NSW. Management Plan for Pine Creek State Forest No. 537. 1975.
- FORESTRY COMMISSION OF NSW. Coffs Harbour Softwood Plantation Management Plan. 1982.

## PLANNING WORKSHOP

- FORESTRY COMMISSION OF NSW. Management Plan for Pine Creek State Forest. 1975.
- FORESTRY COMMISSION OF NSW. Management Plan for Newry Management Area. 1975.
- FRANCIS, W.D. Australian Rain-forest Trees. Australian Government Public Service. 3rd Edition. 1970
- GARDNER, B.D. The Economics of Agricultural Land Preservation. 1977.
- GIBBERD, R., JARVIE, W. and MUNRO, R. Population Trends and Projections. (Volume 4). 1978.
- GITZ, P.L. The Market for Small-Area Rural Holdings in Mulwaree Shire: Land Demand and Land Values. 1976.
- HEALTH COMMISSION OF NSW. The North Coast Region - Discussion Document: Organisation of Hospital Roles; Development Needs and Priorities for the Next 5 Years. May 1982.
- HUME, D. NSW Policies on Rural Subdivision and Hamlet Development: A Personal View. 1981.
- IMRIE, M. An Approach to Developing Rural Land Use Plans: A Case Study - the Bellinger Valley. February, 1982.
- JACKETT, I. A Biophysical Land Evaluation for the Dorrigo Region, Northern NSW. BA Thesis University of New England. 1977
- KING, G.W. and FERGUSON, L.A. Agricultural Land Values. 1978.
- LATONA, K. Rural Residence Hobby Farm Rural Retreat Study. 1978.
- LATONA, MASTERMAN AND ASSOCIATES. The Growth Centre and Beyond: Changes in the Bathurst/Orange Sub/Region 1970/80/90. 1980.
- LATONA, MASTERMAN AND ASSOCIATES. Community Facilities and Services in Land Commission Estates. 1981.
- LIBRARY ASSOCIATION OF AUSTRALIA. Interim Minimum Standards for Public Libraries. 1972.
- LOCAL GOVERNMENT LIAISON COMMITTEES. Report No. 11/81. 1981.
- McARTHUR, W.M. Soils and Landuse in the Dorrigo - Ebor - Tyringham Area, NSW, CSIRO Soils and Landuse Series No. 46. 1964.
- McQUIN, P. Rural Retreats, Hobby Farms and Part-Time Farms in the Armidale District: Assessing the Legitimate Market Demand. 1978.
- MOHR, R. Maryland Estate: Project 115 Maryland Social Analysis Planning Implications. (Draft prepared by Jackson Teece Chesterman Willis and Partners Pty Ltd). 1982.

## PLANNING WORKSHOP

- MSJ KEYS YOUNG, PLANNERS, AND BLACKTOWN COUNCIL. Community Facilities Study. 1981.
- MUNRO, R.G., JELLIFFE, P.A., Den EXTER, P., MACKAY, N.J. and HEUGH, J.P. North Coast Region Resources Inventory and Landuse Planning Guidelines to the Year 2001, Research Unit, Northern Rivers College of Advanced Education. 1976.
- MUNRO-CLARK, M. and SIMMONS Alternative Lifestyles in Rural International Communities. 1981.
- MUNRO, Dr. R.G. and GIBBERD Dr. R. North Coast Region - Population Trends and Projections 1976-2001 Impact on the College for the Principals Committee of the Northern Rivers College of Advanced Education.
- MUNRO, R.G., GALLAGHER, J.E. and PARK, D.S. North Coast Region Transportation and Communication Study. 1977.
- MUNRO, R.G., GIBBERD, R.W. and JELLIFFE, P.A. North Coast Region Demographic Analysis and Projections 1921-2001. 1976.
- MURRAY, C. The Evaluation of Planning for Tourism. (Bachelor of Town Planning Thesis, UNSW). 1979.
- NATIONAL PARKS & WILDLIFE SERVICE OF NSW. Dorrigo National Park. (Draft plan of management).
- NORTH COAST DEVELOPMENT COMMITTEE. North Coast Region - Regional Development and Employment Prospects (2 Volumes). 1978.
- NSW COUNCIL ON THE AGEING. Services for the Aged in New South Wales. 1982.
- NSW DEPARTMENT OF LEISURE, SPORT AND TOURISM. Domestic Tourism Monitor.
- NSW NATIONAL PARKS & WILDLIFE SERVICE, NORTHERN REGION OFFICE, GRAFTON. New England National Park. (Preliminary draft, plan of management). 1982.
- NSW PLANNING & ENVIRONMENT COMMISSION. Hamlet Development in NSW. (Seminar Proceedings). 1980.
- NSW PLANNING AND ENVIRONMENT COMMISSION. Land Resources Study of the Coffs Harbour Region. 1980.
- NSW PLANNING AND ENVIRONMENT COMMISSION. Coffs Harbour Coastal Planning Study. 1980.
- O'GOWER AND LOVE. Biological Report on Urunga Lagoon.
- PACKMAN, G.H. (ed.) The Geology of New South Wales 1969.
- PLANNING WORKSHOP PTY LTD. Narellan Elderslie Infrastructure Assessment. 1981.
- POGSON, D.J. and THOMSON, J. The Geology of the Dorrigo State Park 1972.

## PLANNING WORKSHOP

- PRATER, B. and DAY, R. Planning on the North Coast. 1981.
- PRATT, C. Coastal Zone Management in the Regional Context, Urunga-Nambucca Pilot Study. (Thesis) 1982
- QUILTY, J.A., HUNT, J.S., and HICKS, R.W. Urban Erosion and Sediment Control, Technical Handbook No. 2. Soil Conservation Service of NSW. 1979.
- SOROS-LONGWORTH AND MCKENZIE. Flood Plain Management Studies: The Bellingen Valley. 1979.
- SEXTON, R.N. Review of Non-Urban Planning Policies. 1981.
- SHORT, R. Multiple Occupancy and Ordinance 70: A Pragmatic Perspective. 1981.
- STATE PLANNING AUTHORITY OF NEW SOUTH WALES. North Coast Tourist Development, Yamba to Red Rock. 1970.
- TAYLOR, A.L. Retreat or Advance: New Settlers and Alternative Lifestyles in the Rainbow Region. 1981.
- THE FAMILY AND CHILDREN'S SERVICES AGENCY. NSW Childrens Services Study. 1979.
- TRELOAR, J. Unemployment in Bellingen B.A. Thesis, University of New England. 1981.
- UNIVERSITY OF NEWCASTLE BOARD OF ENVIRONMENTAL STUDIES AND DEPARTMENT OF COMMUNITY PROGRAMMES. North Coast Research Review. (Papers presented). 1977.
- VALUER GENERAL'S DEPARTMENT. Property Maps (prepared by Central Mapping Authority). 1981, 1981.
- WAGNER, C. Rural Retreats. 1975.
- WATER CONSERVATION AND IRRIGATION COMMISSION. Water Resources of the Bellingen and Nambucca Valleys including Woogoodga Creek. 1970.
- WAUGH, J. Planning Policy on Rural Subdivision in NSW. 1978.
- WITTE, A.D. An Examination of Various Elasticities for Residential Sites.
- WYONG SHIRE COUNCIL AND WYONG DISTRICT LEISURE LEARNING CENTRE. Building with Natural Materials. 1982.
- YOUNG, A.R.M. The Influence on Debris Mantles and Local Climatic Variations on Slope Suitability Near Wollongong, Australia. (Catena, 5, pp. 95-107). 1978.