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Cooma-Monaro Shire : rural environmental study and draft local environmental plan

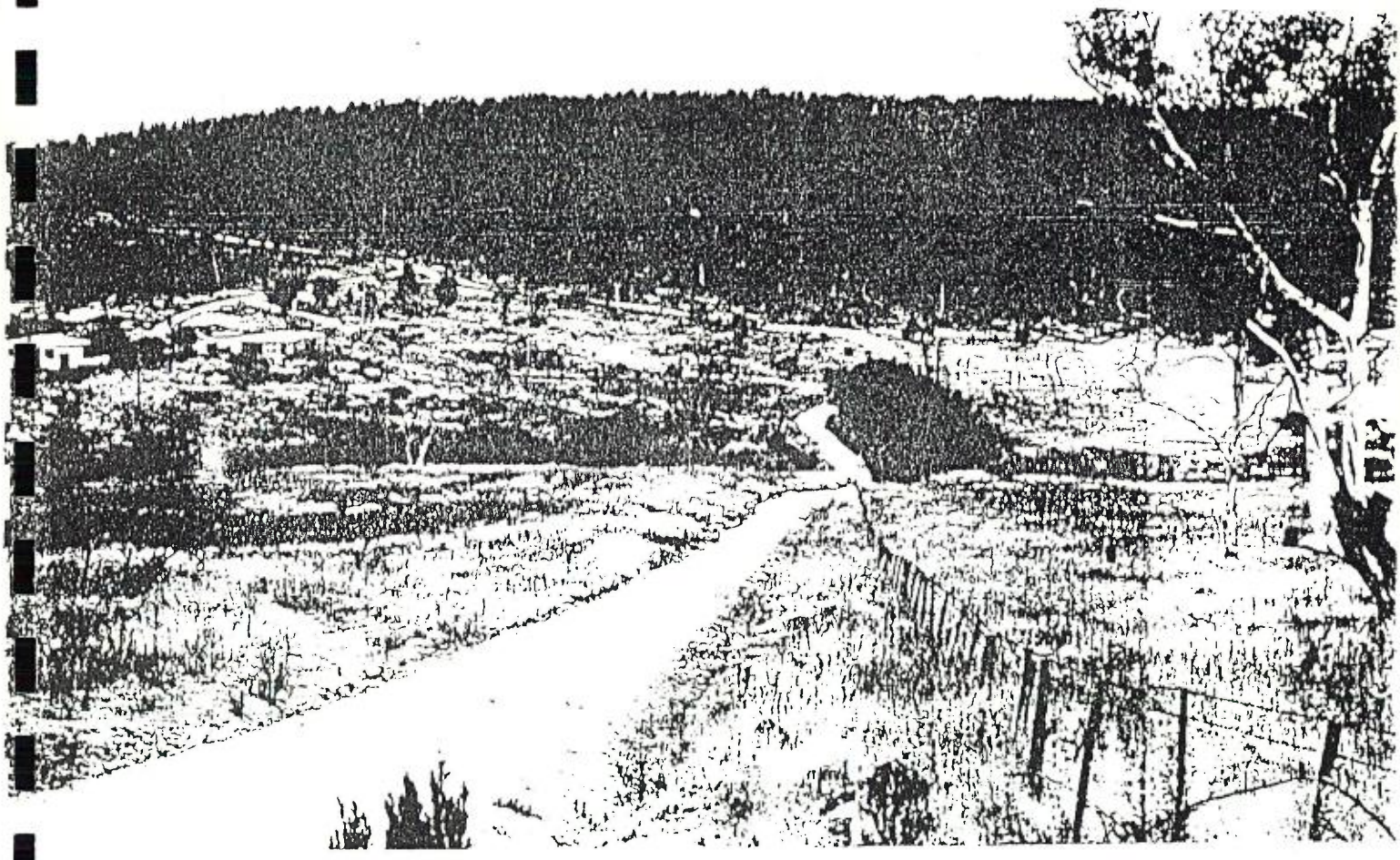
COOMA - MONARO SHIRE

PREPARED FOR
COOMA MONARO SHIRE COUNCIL
BY
MASTERPLAN CONSULTANTS PTY LTD
1 Lee St SYDNEY

Revised Nov 1988

RURAL ENVIRONMENTAL STUDY AND DRAFT LOCAL ENVIRONMENTAL PLAN

COOMA - MONARO SHIRE



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ACKNOWLEDGEMENTS

We would like to acknowledge the assistance given by the staff of Cooma-Monaro Shire Council, particularly by Ron Dakin, Council's Chief Town Planner.

The assistance given by groups and individuals in the Shire and by Government departments is also acknowledged.

PROJECT TEAM

Masterplan Consultants	Mike George
	David Dickinson
	Jonzun Lee
	Robert Stewart
	Kathleen Hastings
	Stuart Row

DISCLAIMER

The views and opinions expressed in this report and the recommendations which are made, are those of the consultants and do not necessarily reflect the views, opinions or policies of the Cooma-Monaro Shire Council. The exhibition of this report by the Council is intended to stimulate discussion and clarification of what the community wants.

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ORGANISATIONS CONSULTED

GOVERNMENT DEPARTMENTS

- Australian Bureau of Statistics
- Bushfire Council of NSW
- CSIRO, Division of Water and Land Resources, Canberra
- Cooma Pastures' Protection Board
- Department of Agriculture, (Sydney, Leeton, Orange and Cooma Offices)
- Department of Education
- Department of Environment and Planning
- Department of Main Roads
- Department of Mineral Resources
- Department of the Valuer General
- Electricity Commission of NSW
- Forestry Commission of NSW
- Land Board Office
- Monaro County Council
- National Parks and Wildlife Service
- National Trust of Australia
- Police Department, Traffic Branch
- Public Works Department
- Soil Conservation Service
- Southern Tablelands County Council
- State Pollution Control Commission
- State Rail Authority
- Telecom Australia
- Tourism Commission of New South Wales
- Traffic Authority of New South Wales
- Water Resources Commission

ADJOINING COUNCILS

- Bega Valley Shire Council
- Eurobodalla Shire Council
- Snowy River Shire Council

OTHERS

- Australian Freshwater Fishing Assembly
- Australian Recreational Fishing Confederation
- The Livestock and Grain Producers' Association of NSW

SUBMISSIONS RECEIVED FROM

- Kosciusko Regional Plan Action Group
- Numeralla and District Community Association

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COOMA MONARO SHIRE RURAL STUDY

ADDENDUM

Since the completion of the planning study and draft LEP for the rural areas of Cooma-Monaro Shire, there has been an ongoing process of negotiation with the Departments of Planning and Agriculture, as well as discussions with community representatives.

The net result has been some changes to the previous draft, primarily to enable the official certification of the draft LEP for formal public exhibition. In essence, these changes come down to:-

(a) Introduction of a basic 600 hectare minimum area for rural dwellings, associated with a more liberal formula for "concessional allotments" than currently applies;

(b) Additional criteria for consideration of development applications in areas of perceived environmental protection value (Murrumbidgee Gorge and existing Scenic Protection Zones around Cooma)

In terms of basic subdivision/dwelling entitlement provisions for the rural area (1(a) zone), it is acknowledged that 600 hectares is an arbitrary figure. While it might come closer to the size of a typical commercial farm in the Shire than the current 40 hectare standard, it should be recognised as no more than a general parameter to reflect general objectives to protect commercial farming and productive land from the consequences of inappropriate development. This includes the potential inappropriateness of 40 hectare allotments.

...../2.....

The arbitrariness is offset by the proposed provision to enable excision of up to 10 "concessional lots" (subject to holding size), without the current restrictions on users of dwellings on lots smaller than 40 hectares. This provision also goes some way to addressing the concerns of rural land owners that arbitrary increases in lot sizes would take away their existing rights. For example, a holding of 501 hectares could currently be theoretically subdivided into 12 x 40 hectare lots and 3 concessional lots (with restrictions on user), and possibly a residue lot. Under the draft LEP 10 small holdings of between 2 and 10 hectares could be created, plus the residue. While there is a reduction in theoretical yield, this is offset to a degree by the removal of restrictions on user; and considerations of the marketability of 40 hectare lots in the context of the proposed increased opportunities for small holdings in the Shire.

Subdivision for agricultural purposes without dwelling entitlements is unrestricted, while subdivision for other permitted development is possible on a similar basis as now exists, with additional criteria related to potential impact on agriculture.

These provisions, as with other aspects of the draft plan, are open for review, refinement or change in the light of submissions. Council's acceptance of this amendment was to enable the formal exhibition of the draft plan to allow such submissions.

The proposed inclusion of an additional clause requiring Council to consider questions of visual impact and the manner in which development fits into its context, relates to the Murrumbidgee Gorge area and to the existing scenic protection zones around Cooma.

...../3.....

The Department of Planning had indicated to the Council that the Murrumbidgee Gorge area was a natural and scenic resource it considered to be of regional significance. In discussions, it was agreed that rather than use a restrictive environment protection zone, the relevant environmental issues could be equally addressed by applying the additional criteria within the rural zone, related to the particular area hatched on the map.

In the light of this approach Council decided that for consistency, the existing scenic protection zones around Cooma should be treated in the same way.

It should be noted that simply because a rural zoning applies, it does not necessarily follow that the land will be developed or otherwise changed. The scenic value of the land is in part related to its steepness and ruggedness which would preclude most forms of development in any event.

Again this matter is open to review in the light of submissions

PART I INTRODUCTION

1.0 INTRODUCTION

Town Planning controls are only relevant where there is a need for people to lodge development applications. In other words, if there is no economic or other imperative for change, planning serves little purpose. Exceptions to this general principle include the definition of land for public acquisition where the planning process can ensure that the owner's interests are protected, and the generation of information which can assist bids for funds and the programming of public works expenditure.

Where change is possible, the planning process can serve the purpose of creating opportunities, and providing guidance to prospective "developers" which will assist them to present proposals that are likely to be approved.

These concepts are worth noting in the context of rural areas of Cooma-Monaro Shire. While parts of the Shire are likely to be subject to development pressures, it is probable that a significant proportion will not. At least, development proposals in much of the Shire will be infrequent and minor.

This perspective is important because town planning conventional wisdom and standard zoning practice adopt a restrictive, "just in case" approach which can preclude reasonable development solutions, impose unreasonable burdens on owners and create unnecessary local controversy. The classic rural example is where the **potential** to subdivide can be critical to a farmer's ability to raise loans to maintain primary production, even though there is little probability of subdivision occurring. The standard zoning approach, however, would restrict subdivision on the assumption that this would assist maintenance of primary production by reducing fragmentation of productive land and reducing cost pressures.

The **probability** of development applications being made, is therefore regarded as a key factor in considering a planning approach appropriate to Cooma-Monaro Shire. This requires emphasis on the market and economic influences, rather than the traditional planning emphasis on the physical environment.

The second key principle is that the planning process should be directed towards its real end - that is providing a framework for people who choose to make development applications, and for the council to deal with those applications. The planning system has tended to see zoning as an end in itself rather than a limited means to an end.

The simple fact is that most land is capable of some form of development, subject to the market and the ability to sustain development costs. In a relatively stable area such as the Cooma-Monaro Shire a lot of land will not be available for development simply because the owners do not wish to develop it, or see no need or profit in doing so. Other land that is potentially available will usually not fall into a pattern which lends itself to a regular zoning pattern.

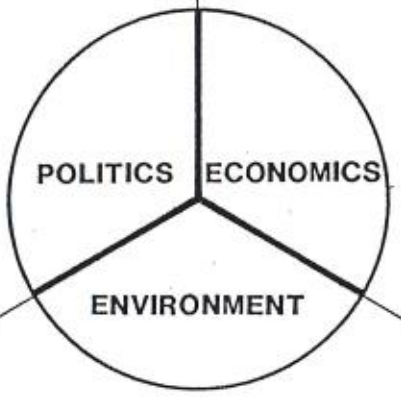
From the Council's perspective, there are a series of legal, civic and financial responsibilities it has to weigh up when it deals with development proposals. These include:

- minimising avoidable environmental damage,
- ensuring development does not impose a financial burden on rate payers, (including long term costs),
- ensuring that end users of the development are not unnecessarily exposed to avoidable risks,
- encouraging development and economic activity in the interests of local employment generation, and to offset the effects of rate pegging on increasing community demands for council services,
- ensuring that its decisions are reasonable and not liable to legal challenge.

Zonings based largely on physical environmental analysis will therefore fail to adequately serve local needs. A local planning approach is more likely to be the product of local evaluation of the physical, political and economic issues and attitudes that apply. This is summarised in Figure 1.1.

- Councils wish for local control
- Distrust of Councils by State Government
- Rate and funding restrictions
- Network of authorities, Acts
- Powers and policies (sometimes in conflict)
- Justification for planning controls/intervention (planning as "socialism")
- Distance of communities from State Government (image of lack of support) - interference/wish to be left alone
- Market forces
- Conflicts between landowners, environmental groups, multiple occupancy, ex-city residents
- Landowners expectations of freedom
- Shock of change to established rural communities
- Fragile town economies
- Changing housing preferences
- Local development/local developers - carpet baggers

- Employment
- Market forces
- Tourism pressure
- Rate/scale of development
- Development contributions
- Rate restrictions
- Roads (extractive resources, standards, existing conditions)
- Public utilities and services - especially water
- Economic use/reduce public subsidy
- Community expectation of services (ex-city, rising local standards)
- Protection of primary industry
- Ability to subdivide for farm adjustment, capital investment, and loan raising
- Fences, water, noxious weeds and animal control (land management)
- Compensation (reserved land, restrictions short of acquisition, e.g. wetlands)



- Climate and soil
- Vegetation (visual, habitat, clearing - fire safety, agriculture, incidental)
- Sensitive environments (wetlands, catchments, nature reserves, national parks and state forests, coastal systems, historic/nature conservation)
- Prime crop and pasture land
- Hazards (fire, flood, coastal erosion, slip, subsidence)
- Chemical and nutrient pollution
- Soil erosion control/siltation
- Mining and extractive industries
- Forestry
- Aboriginal relics
- Noxious weeds and feral animals
- Public utilities

FIG 1.1 : RURAL PLANNING ISSUES AND CONFLICTS

This report attempts to assess the current situation in rural parts of the Shire, potential changes and their implications, leading to a planning strategy which reflects the physical, political and economic context illustrated in Figure 1.1. The draft LEP which follows from the strategy seeks to provide broad guidance to developers, to provide council with a framework for dealing with applications, and to address those policies of Stage Government Departments the Council is required to work within. There are limitations with statutory documents such as LEP's, and recommendations are made for council policies and advice to supplement implementation measures.

Section 2 contains a summary of detailed issues and the major recommendations.

2.0 SUMMARY AND RECOMMENDATIONS

The planning strategy recommended for the rural areas of the Shire is the product of the physical environment, existing conditions, probable development pressures, community attitudes, consideration of policies of State Government agencies, and the Council's broad policy to promote sensible development which will avoid burdens on ratepayers.

The following summarises the key issues which have influenced the recommended strategy.

PHYSICAL ENVIRONMENT

- Climate and soils limit the opportunity for expansion and diversification of agriculture.

- Climate, particularly the rain shadow poses some constraints on more intensive residential use in rural areas.

- Much of the rural area is susceptible to soil erosion. Apart from the implications for land clearing and new building development, this is also a major problem for rural road construction and maintenance. This suggests that new rural development should minimise new public roads, and ensure existing roads are appropriately upgraded, associated with increased demand.

- There are a number of natural hazards (fire, flood, land slip), and introduced problems such as feral animals and noxious weeds, which will influence how new development should be located and managed.

- Naturally vegetated areas and wildlife corridors generally correspond to steeper, more inaccessible land which has proved to be unsuitable or unnecessary for farming. Much of this land is costly or unsuitable to develop, and conservation objectives are largely self achieving.

PROBABLE DEVELOPMENT

The main influence in the rural areas of the Shire is likely to be demand for small rural holdings (rural residential, rural retreats, hobby farms etc) associated with:

- overflow from the ACT market;
- growth of Cooma associated with tourism; and
- general lifestyle choices in the community.

Other potential influences include rural tourist developments, growth in the villages and extractive industries.

It should be stressed that projected levels of growth are not high, as there are intervening development opportunities outside the Shire associated with the ACT, the coast and the snowfields. The bulk of the Shire is likely to be unaffected by change.

COMMUNITY ATTITUDES

To the extent that the community was consulted in the preparation of this study, it would appear that the predominant attitudes are:

- Against arbitrary and unnecessary rules, provided people have some protection from the effects of development around them.
- Generally in favour of maintaining the existing character and use of the rural countryside, particularly on the Monaro.

STATE GOVERNMENT POLICIES

Policies of State Government agencies are generally directed at ensuring subdivision and building development does not prejudice agricultural or other resource development potential; preserving land considered to be of conservation

value; avoiding unnecessary risks and hazards; minimising pollution and other environmental damage; and preventing ribbon development on arterial roads.

There is usually little disagreement about the underlying principles. However, attempts to achieve objectives by arbitrary land use and subdivision restrictions are often controversial.

OPPORTUNITIES AND CONSTRAINTS

Figure 2.1 illustrates these key issues.

RECOMMENDED STRATEGY

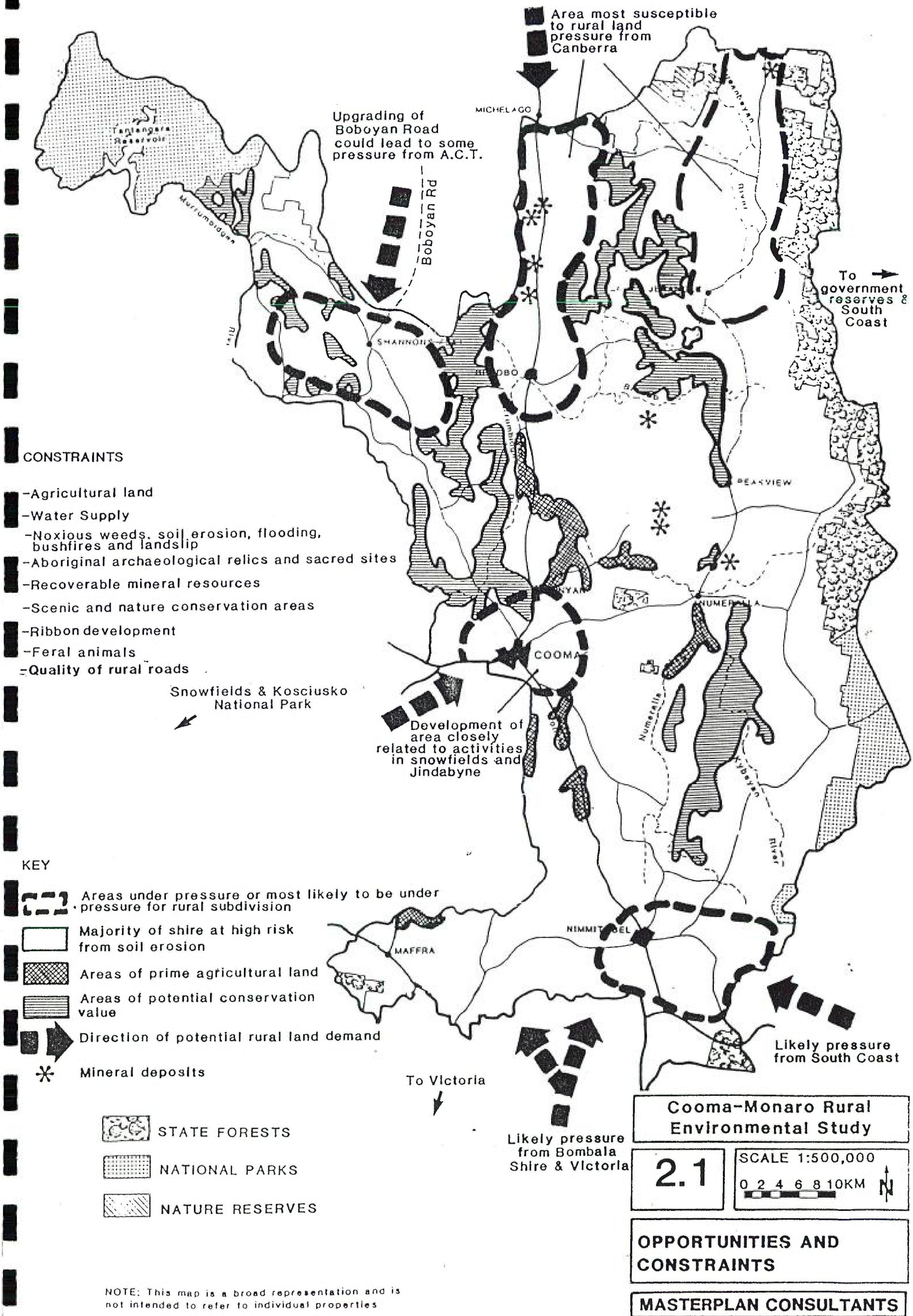
To a large degree, a strategy for the Shire falls into place, in that development pressures are likely to be greatest in the least constrained areas. The recommended strategy is illustrated in Figure 2.2.

IMPLEMENTATION

A draft local environmental plan has been prepared to enable Council to implement the recommended strategy. The LEP is broad and flexible and will rely on Council policy in the form of development control plans for detail.

Existing zonings which provide for rural small holdings are proposed to be retained. The existing 1(b) strip zone along arterial roads is proposed to be omitted, with a clause in the draft LEP dealing with access and traffic safety issues. The existing 4(b) zone covering existing and former Crown land holdings is proposed to be deleted, as much of this land is now in private ownership, and a normal rural zoning does not prejudice management of residual crown holding.

The LEP enables subdivision for rural residential type development subject to conditions intended to minimise any adverse effects on agriculture. Subject to market forces - particularly whether the costs associated with subdivision can be sustained - this approach should have the effect of discouraging the inefficient subdivision of land into 40 hectare (100 acre) allotments, as well as discouraging the sale of existing Crown Portions with the attendant problems on whether



Area most susceptible to rural land pressure from Canberra
Upgrading of Boboyan Road could lead to some pressure from A.C.T.
Boboyan Rd
MICHELAGO
Tantangara Reservoir
Murrumbidgee
SHANNONS FLAT
BREDBO
PEAKVIEW
To government reserves & South Coast
NUMERALLA
COOMA
Numeralla
Snowfields & Kosciusko National Park
Development of area closely related to activities in snowfields and Jindabyne
NIMMITABEL
MAFFRA
To Victoria
Likely pressure from Bombala Shire & Victoria
Likely pressure from South Coast
River
CONSTRAINTS
-Agricultural land
-Water Supply
-Noxious weeds, soil erosion, flooding, bushfires and landslip
-Aboriginal archaeological relics and sacred sites
-Recoverable mineral resources
-Scenic and nature conservation areas
-Ribbon development
-Feral animals
-Quality of rural roads
KEY
Areas under pressure or most likely to be under pressure for rural subdivision
Majority of shire at high risk from soil erosion
Areas of prime agricultural land
Areas of potential conservation value
Direction of potential rural land demand
Mineral deposits
STATE FORESTS
NATIONAL PARKS
NATURE RESERVES
NOTE: This map is a broad representation and is not intended to refer to individual properties
Cooma-Monaro Rural Environmental Study
2.1
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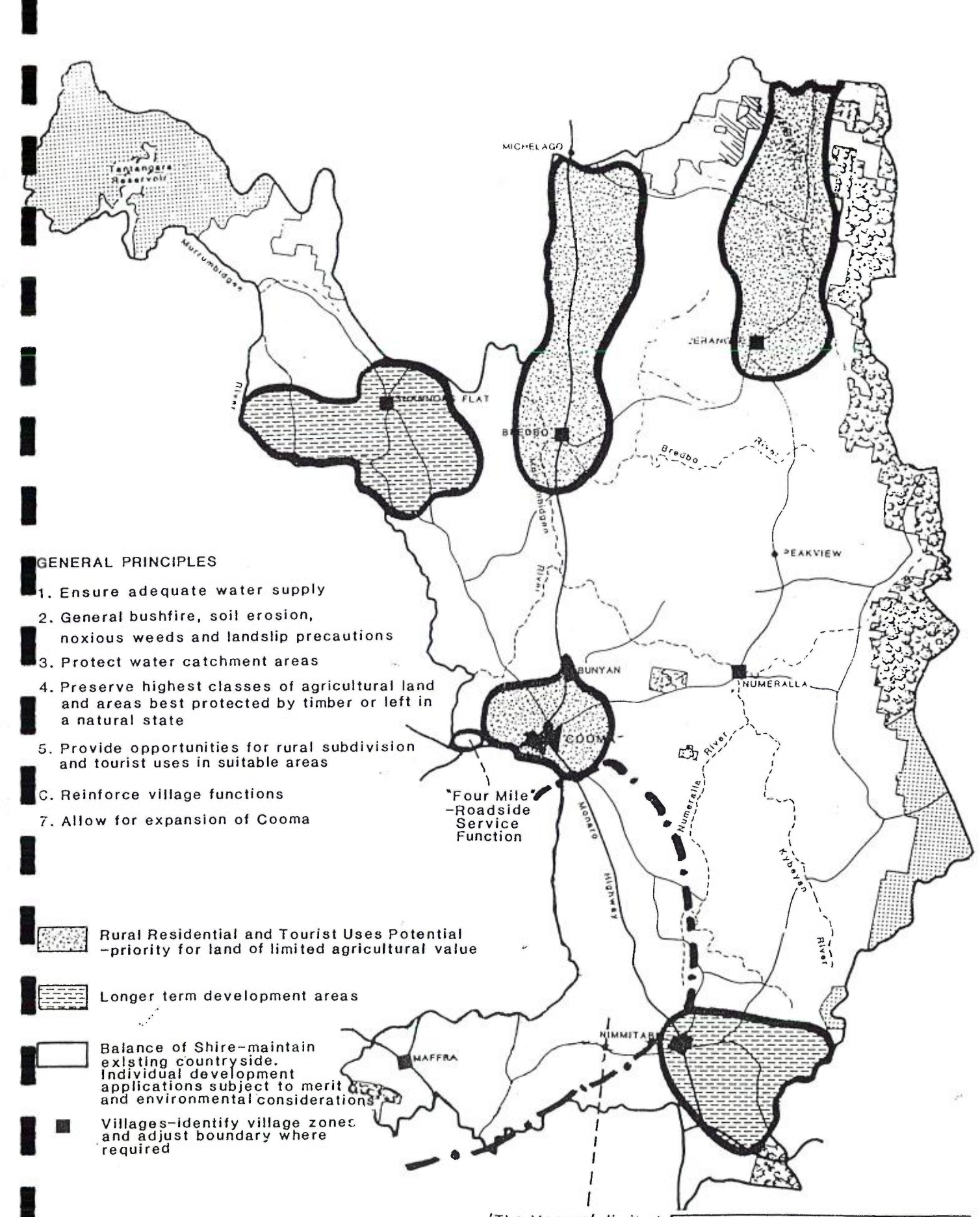
OPPORTUNITIES AND CONSTRAINTS
MASTERPLAN CONSULTANTS



GENERAL PRINCIPLES

1. Ensure adequate water supply
2. General bushfire, soil erosion, noxious weeds and landslip precautions
3. Protect water catchment areas
4. Preserve highest classes of agricultural land and areas best protected by timber or left in a natural state
5. Provide opportunities for rural subdivision and tourist uses in suitable areas
6. Reinforce village functions
7. Allow for expansion of Cooma

Rural Residential and Tourist Uses Potential -priority for land of limited agricultural value

Longer term development areas

Balance of Shire-maintain existing countryside. Individual development applications subject to merit and environmental considerations

Villages-identify village zones and adjust boundary where required

'The Monaro'-limited development opportunities due to agricultural value, fire risks, erodability, poor septic absorption and rain shadow effect

STATE FORESTS

NATIONAL PARKS

NATURE RESERVES

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

2.2

SCALE 1:500,000

0 2 4 6 8 10KM

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DEVELOPMENT AND CONSERVATION STRATEGY

MASTERPLAN CONSULTANTS

dwellings can be erected and of access. In other words the proposed approach would enable the needs of the market to be more directly satisfied.

However, it should be noted that this approach is likely to be disputed by State Departments who would prefer a more restrictive one. In particular, the Department of Agriculture has suggested a minimum allotment size for new dwellings of 900 hectares (outside of areas zoned for small holdings). The Department of Environment and Planning has indicated its support for such an approach. (See Appendix 3 and 4).

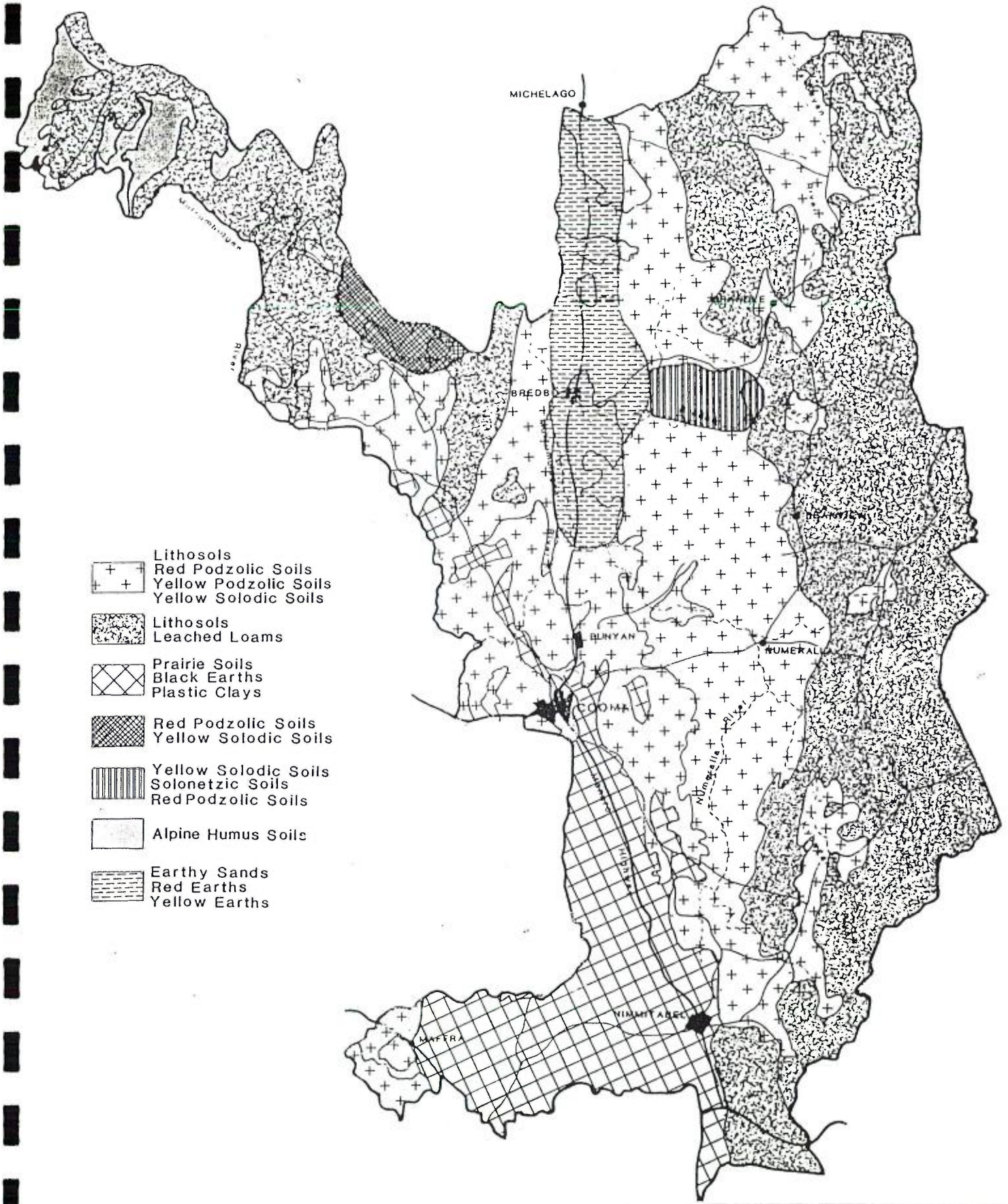
While the proposed approach is comparable in intent to State department policies, it depends upon market forces and common sense to achieve that intent. Given the tendancy of State agencies to distrust Councils, and to prefer restrictive statutory rules to a more flexible evaluative framework, it cannot be assured that the proposed approach will be accepted - irrespective of local opinion.

If the LEP proceeds along the lines intended, it is recommended that the Council also:

(a) adopt a development control plan based on the strategy illustrated in Figure 2.2, as a general guide to future development;

(b) prepares general advice to new residents in rural areas as a means of alerting former urban dwellers to the particular responsibilities and issues that flow from living in the country; and

(c) Reviews its approach to development contributions, to ensure that new development makes appropriate contributions towards road upgrading.



Cooma-Monaro Rural Environmental Study

3.5

SCALE 1:500,000

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SOURCE: A.B. Costin, (1954)

Soil Conservation Service Technical Manual (1977)

NOTE: This map is a broad representation and is not intended to refer to individual properties

SOILS

MASTERPLAN CONSULTANTS

PART II PHYSICAL ENVIRONMENTAL CONTEXT

3.0 PHYSICAL ENVIRONMENT

3.1 Climate

Analysis of climatic implications for land use has been limited by the availability of meterological data for the Shire. There are a number of recording stations in the town of Cooma with records dating back to 1858. With the exception of Cooma and Nimmitabel, the only other recording stations (rainfall only) are at Bredbo and Numeralla.

The climate of the Shire is affected in particular by its setting amongst the Great Dividing Range. The Shire is bounded by a series of smaller ranges, with the Monaro Range along the western and southern boundaries, the Scabby Range and Tinderry Mountains to the north and the Kybean and Gourock Range along its eastern boundary. The relatively high altitude (for instance, Cooma is over 800m above sea level), its latitude and its setting amongst the mountain ranges, determines the Shire's climate.

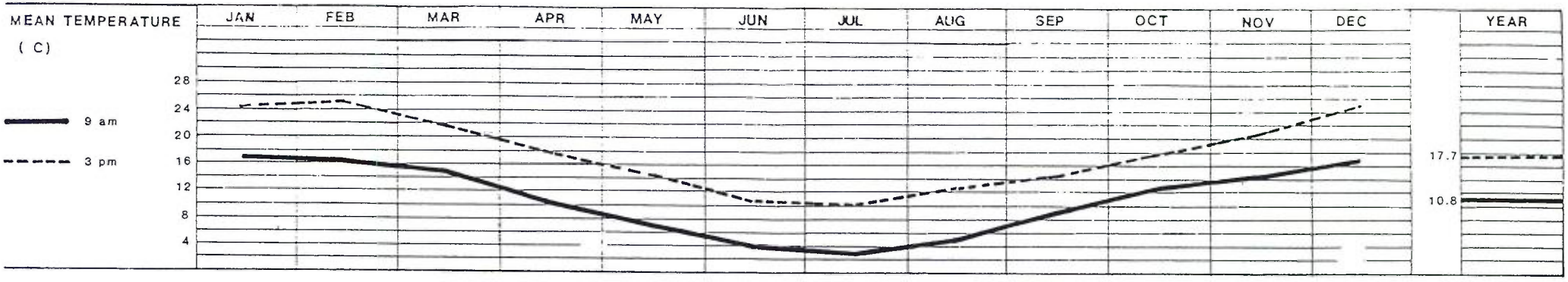
Temperature

Temperatures are generally mild throughout the year with a relatively short summer and a long winter. (Figures 3.1 and 3.2). Yearly average maximum temperatures for Cooma are 19.2°C and average minimum temperatures a low 4.1°C. Yearly average mean temperatures in the morning are 10.8°C with the afternoon mean at 17.7°C. Nimmitabel to the south experiences slightly cooler conditions than at Cooma.

In winter, overnight temperatures frequently fall below zero, but day time weather conditions are usually brisk and fine. Summer temperatures are very pleasant and are usually followed by cool nights with low humidity. Humidity is relatively low throughout the year with mean morning humidity at 72% and 45% in the afternoon.

STATION NAME Cooma Creek Street Municipal Council

TEMPERATURE



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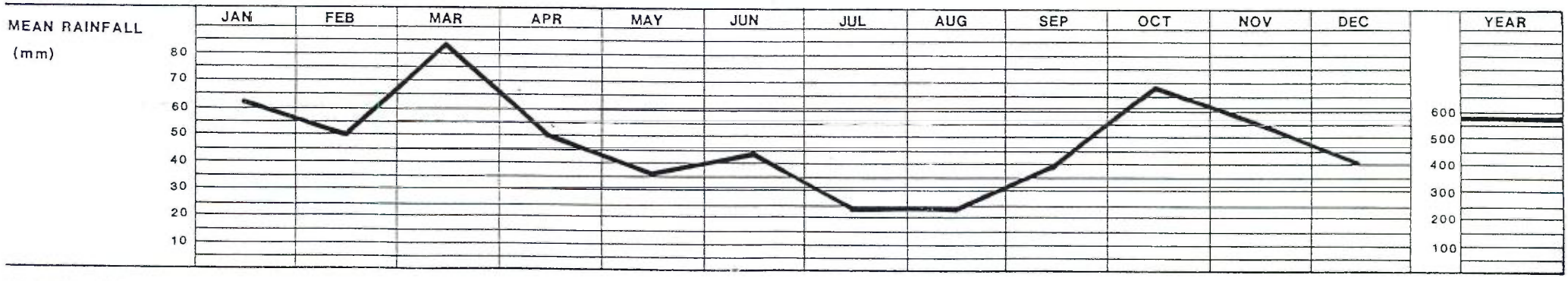
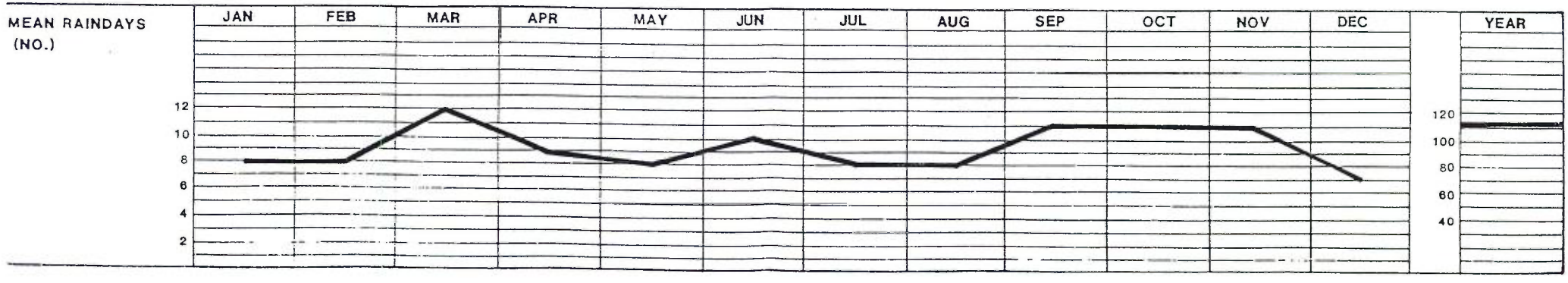


RAINDAYS

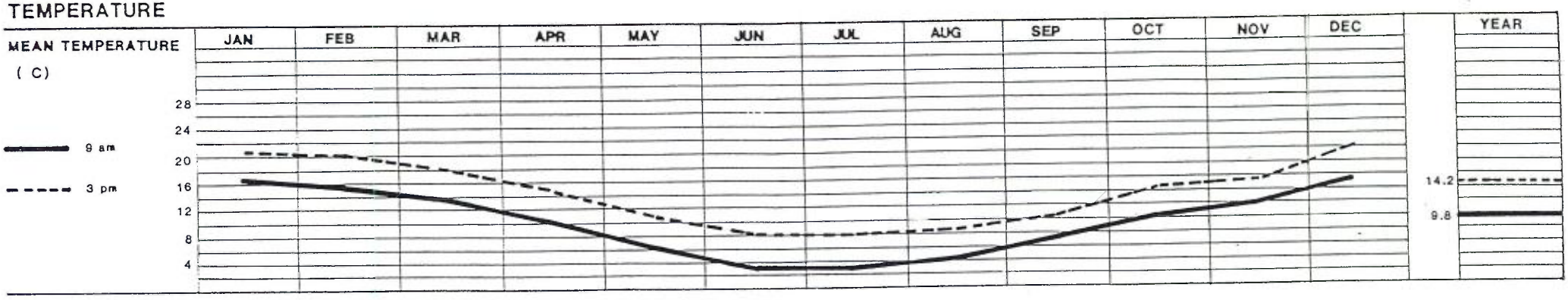


SOURCE: Bureau of Meteorology

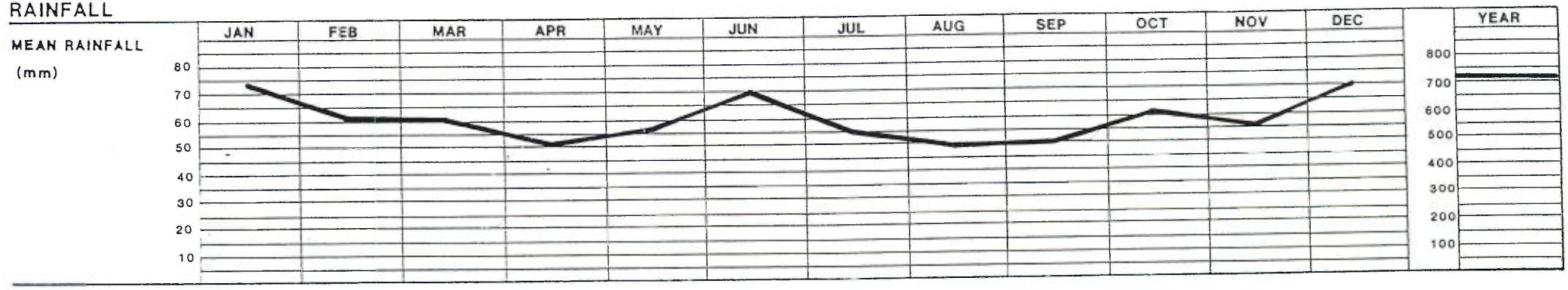
FIG 3·1 CLIMATE - COOMA

STATION NAME Nimmitabel Post Office

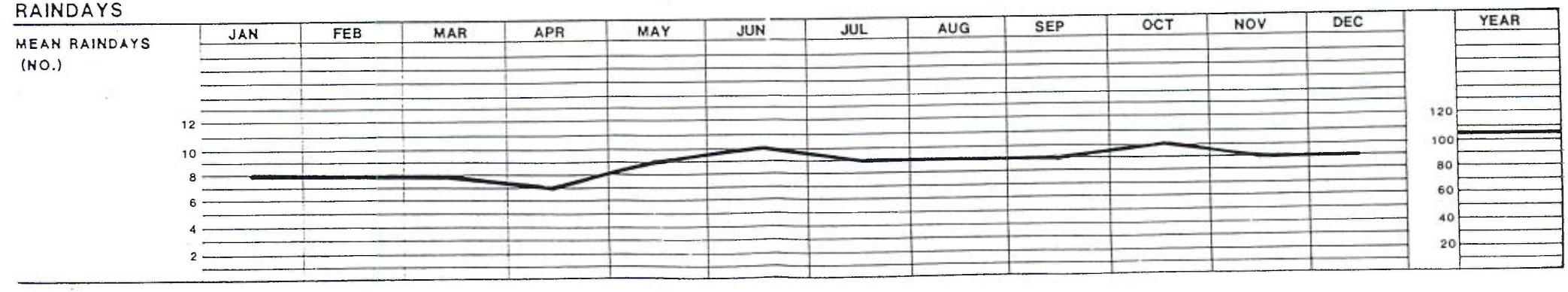
TEMPERATURE



RAINFALL



RAINDAYS



SOURCE: Bureau of Meteorology

FIG 3·2 CLIMATE - NIMMITABEL

Snowfalls occur in winter generally above 1,000m elevation but the snow does not remain for long on the ground.

Evaporation

The mean and annual evaporation figures for Cooma and the Murrumbidgee River headwaters to the west of the Shire are listed below.

Table 3.1 Estimated Mean Monthly Evaporation (mm)

	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Total
Cooma	209	162	141	93	53	34	39	61	92	133	172	194	1385
Murrumbidgee	172	127	114	76	48	28	25	38	51	76	124	178	1063

Source: Kosciusko Regional Environmental Study (Snowy River), 1983

The table indicates that the highest monthly evaporation rates in the region occur between the summer months of October to March. Evaporation rates were higher throughout the year at Cooma than further west according to the Kosciusko Regional Environmental Study (Snowy River).

Rainfall

Rainfall varies throughout the Shire due largely to the Monaro Range which runs diagonally north-west and south-east across the Shire. The generally low rainfall received in comparison to adjoining shires is due to the Snowy Mountains lying to the west and the Great Dividing Range to the east creating a "rain shadow" effect over the shire, particularly the lower altitude areas around Cooma. High altitude areas in the north west of the Shire have a higher rainfall. The eastern and southern ranges of the Gourock and Kybean further accentuate the "rain shadow" effect, the results of which can be seen in the rainfall differences of the various centres in the Shire, as shown overleaf:

Table 3.2 Rainfall in Centres

Centre	Annual Median in mm	Years of Record
Numeralla	374	18
Bredbo	467	79
Cooma *	484	124
Nimmitabel	688	89

* Lambie Street Station
Source: Bureau of Meteorology

Rainfall distribution throughout the year for Cooma and Nimmitabel is shown in Table 3.3 below:

Table 3.3 Mean Monthly Rainfall

	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct	Nov	Dec	Total
Cooma *	63	50	84	50	37	43	23	24	39	69	56	40	578
Nimmitabel	73	61	62	50	57	70	54	49	50	62	56	70	714

* Cooma Creek St Municipal Council Station
Source: Bureau of Meteorology

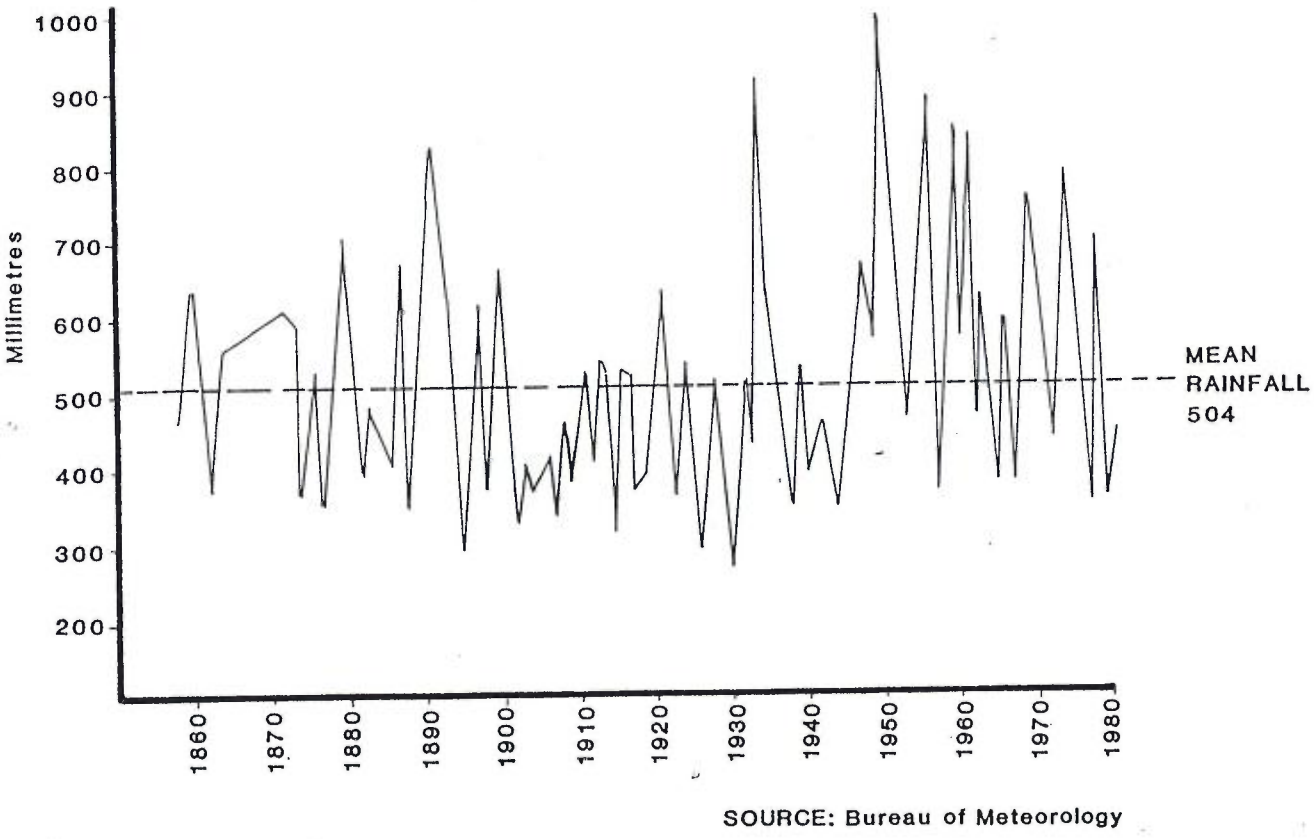
Cooma and other centres in the rainshadow belt receive most of their rainfall in the spring-summer period with a distinct "dry" period in the autumn-winter. Rainfall distribution fluctuates not only through the year but is highly variable from year to year as is shown in Table 3.4 which compares rainfall in Cooma with that in two adjoining Shires.

Table 3.4 Annual Rainfall for Shires (mm)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Cooma *	694	485	438	484	784	643	566	349	697	357	374	439
Snowy River **	732	686	-	642	969	764	641	375	910	381	444	547
Bega Valley ***	910	1042	544	828	1566	1223	1403	583	1228	605	509	689

\- Unavailable
* Lambie Street Station
** Jindabyne (Lynwood) Station
*** Composite for Shire
Source: Bureau of Meteorology

The variability in annual rainfall for the town of Cooma from 1859 to 1981 is shown in Figure 3.3. The years 1902-1933 were relatively dry with most years experiencing below mean annual rainfall though since 1945, many years have experienced above mean rainfall. Rainfall in Cooma-Monaro is unpredictable so the need for efficient irrigation systems is important for cropping and improved pastures.



SOURCE: Bureau of Meteorology

FIG 3.3 COOMA TOWN RAINFALL 1869-1981

Rain Days

The number of rain days reflects the amount and variability of rainfall in the Shire (Figures 3.1 and 3.2). Differences in the amount of rainfall in the centres may be best accounted for by their altitude, latitude and setting amongst the mountain ranges.

Table 3.5 Mean Number of Raindays/Year

Centre	Mean Number of Rain Days/Year
Numeralla	49
Bredbo	80
Cooma *	92
Nimmitabel	105

* Lambie St Station

Frosts

Frost occurs over a third of the year with Table 3.6 showing the variability of frost occurrence over a recent 10 year period in Cooma. Climatic data and local experience indicate weather conditions adversely affect agricultural practice for up to two-thirds of the year.

Table 3.6 Frost Occurrence

	Number of Frost Days									
	Year									
	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Cooma *	109	121	159	140	115	130	133	128	133	113

* Cooma Creek St Municipal Council

Source: Bureau of Meteorology

Winds

Although the north-westerlies and south-westerlies prevail for most of the year, a seasonal pattern can be distinguished. In summer, the north-easterly is prevalent during the morning and the north-westerly in the afternoon. In winter, the south-westerlies and north-westerlies are dominant throughout the day. Wind intensities are normally under 20km/hr with more intense winds experienced in the afternoon.

Implications of Climate

As plant growth is limited by the low temperatures and frost occurrences, opportunities for cropping are limited. Climatic conditions in association with soils, limit tree growth without watering systems and extensive clearing may increase evaporation. The implications of climate and the natural elements for agriculture are discussed in Section 5. Local climatic effects may influence the siting of buildings, e.g. to reduce exposure to winds. Prevailing wind patterns should be considered in development proposals likely to generate dust or odours. The rainshadow effect has implications for development in rural areas involving housing. Lot sizes would be influenced by the capacity for farm dams, and the adequacy of domestic water supply from roofs or bores would be a critical consideration, as reticulated water is unlikely to be available to the bulk of the rural area.

3.2 Geology

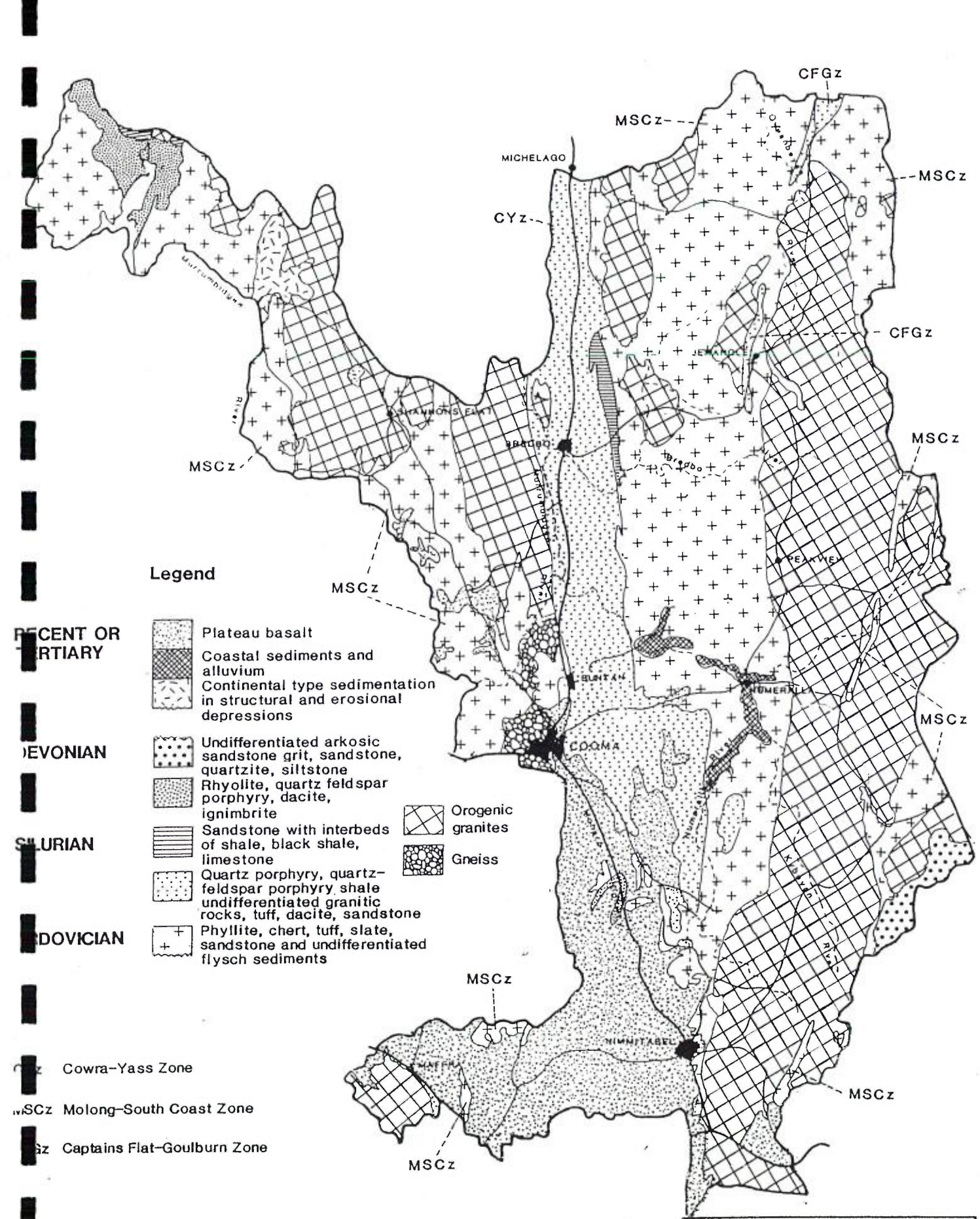
The Cooma-Monaro Shire lies within the Lachlan Fold Belt which occupies the central and southern portion of New South Wales. Three structural zones are present within the Shire: the Cowra-Yass Zone extending from Michelago to Cooma; the Molong-south coast zone; and the Captains Flat-Goulbourn zone located in the north eastern corner of the Shire. A large portion of the Shire has been extensively intruded by orogenic granites, and other areas in the region contain various rocks of sedimentary and volcanic origin. (Fig 3.4).

(1) The Cowra-Yass Zone

The central portion of the Shire from Michelago to Cooma is occupied by a well-defined north-south trending section of the Cowra-Yass Zone. It is composed of Late Silurian sedimentary and volcanic rocks, and is fault-bounded with the Murrumbidgee Batholith in the west, and Foxlow Beds in the east.

(2) The Molong-South Coast Zone

The Molong-South Coast Zone is located east and west of the central zone, and is composed of Late Ordovician sediments, which are represented by the Adaminaby



SOURCE: Department of Mineral Resources

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

3.4

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Beds and Foxlow Beds. The Adaminaby Beds comprise a sequence of interbedded quartzite, sandstone, siltstone, and chert, which crop out in a narrow, poorly-defined, north-south trending belt in the western half of the Shire. These beds are highly folded and are thoroughly compacted and cemented, often attaining a low grade of regional metamorphism, as a result of intrusive granites.

The Foxlow Beds are composed largely of slates, greywackes and shales that accumulated in a trench complex. These beds occupy an extensive and well-defined north-south trending belt in the east. The Silurian Tantangara Formation crops out near the Tantangara Reservoir. It is composed of coarse to fine-grained quartz sandstones, siltstones and shales.

(3) The Captains Flat-Goulburn Zone

The Copper Creek and Kohinoor Formations, both of late Silurian age, comprise the primary structural zones in the Captains Flat area. The Copper Creek Formation is composed of tuffaceous and calcareous shales, which overlay grey and black banded slates.

The Kohinoor Volcanics consist of a number of flows and tuffs ranging in composition from andesitic to rhyolitic, with some shale lenses.

(4) Orogenic Granites

The Cooma Gneiss is composed of granite and adamellites, located in and about the township of Cooma. It is emplaced in Ordovician/Silurian terrains of medium to high-grade metamorphism. These terrains are intruded by offshoots of the Murrumbidgee Batholith, located between the Adaminaby Beds and the Cowra-Yass Zone, to the north, and is composed of granites, adamellites, granodiorites, and porphyries.

The Shannons Flat granodiorite is of late Silurian-early Devonian age, and is located in the north western portion of the Shire.

The Jerangle Igneous Complex (or Bega Batholith), located in the eastern half of the Shire, is composed of granodiorite and adamellite and intrudes into the Foxlow Bed.

(5) **Tertiary Deposits**

During the Tertiary period, plateau basalts were extruded and covered much of eastern Australia. An extensive outcrop of this basalt occurs on the Monaro Range south of Cooma.

An early Devonian sequence of dacite, rhyodacite, ignimbrite, rhyolite, tuff and agglomerate occurs in the far north western corner of the Shire. These are termed the Kellys Plain Volcanics and crop out in the area immediately surrounding Tantangara Reservoir. Recent alluvial sediments occur within low-lying, flat areas associated with the Umaralla River and also in the north west, within the Cabramatta Plain.

The area around Cooma is of great significance to geologists and several sites in the area are classic sites in the geological literature. The area is well known for its interesting geology and is the most accessible teaching and demonstration site to the major centres of Southeast Australia (the newest similar sequence is found at Broken Hill) and is regularly used for teaching purposes by universities from Melbourne, Sydney and Canberra. The area has also been used for a number of International Geological Congress Excursions. According to the National Parks and Wildlife Service, one site in the area has been documented as a place of geological significance in NSW, in Volume III of the series "The Geological Heritage of New South Wales" prepared for the Australian Heritage Commission and NSW Department of Environment and Planning by the Geological Society of Australia, (NSW Division). (RW Schon, 1984).

Implications of Geology

Several of these geological zones are currently being exploited for minerals and many show potential for future activity. The implications of the Shire's regional geology for mining and extractive industry are discussed in sub-section 5.7. Measures recommended by the NPWS to preserve significant geological sites in Cooma include preventing surface cover of sequence or outcrops with soil or rubbish dumping; preventing restriction of access to sites for educational purposes; discouraging vandalism of the outcrops; and liasion with adjacent Snowy

River Shire to ensure consistent management of the sites that cross Shire boundaries.

There is limited geotechnical information available which can be interpreted in terms of constraints to building. It may be necessary to require ground tests for buildings on sleep slopes or in areas where there is evidence of slip.

Council's road making experience suggest there are significant construction and maintenance problems with roads on decomposed granite. However, the complex nature of the Shire's geology makes it difficult to avoid this problem.

3.3 Soils

The soil descriptions are based largely on Northcote's A Description of Australian Soils (1971) and have been correlated with "Great Soil Groups" according to Carman (1975) in the Soil Conservation's "Technical Manual for Cooma" (1977). Map information is based on Costin (1954) with modification from Soil Conservation Service's "Technical Manual for Cooma", (1977).

The most frequently occurring soil types in the area are lithosols and shallow skeletal soils, particularly in the western and eastern sections of the Shire. This reflects the generally hilly and mountainous nature of the area. These soil types are discussed in the following sections and are illustrated in Fig 3.5:

Lithosols and Leached Loams, also known as Transitional Alpine Humus Soils (Costin, 1954) occur in the eastern and north western parts of the Shire. (See Fig. 3.5). Lithosols occupy the sideslopes and crests of hills, while the deeper loam soils are found in the drainage lines. The lithosols are of a sandy loam texture over a clay subsoil and are moderately permeable with a low to moderate nutrient status. They develop from a wide range of parent materials including sandstone, shale, acid volcanics and schists. They are used for grazing of native grasses, but steeper areas are undeveloped, or remain under native forests. Because of the erosion hazard on steeper slopes, the vegetation cover should be maintained. In the event of clearing for grazing, attention should be given to the management of clearing to minimise erosion risk.

Leached Loams are the other dominant soil type in the eastern and north western areas. They have a clay to clay loam texture, are moderately permeable and have a low to moderate nutrient status. They are generally left under native forests, though smaller areas may be cleared.

Lithosols, Red and Yellow Podzols, and Yellow Solodic Soils are the other dominant soil type and occur in the central part of the Shire. Costin (1954) classifies these soils as Grey Brown Podzols, Brown Podsols and light textured Brown Soils.

The Lithosols are shallow and highly erodible. These soils support dry tussock grass, an indication of low soil fertility. Some areas are grazed but erosion is a hazard and any grazing should be managed to minimise the risk.

Red and Yellow Podzolic Soils are located in conjunction with Lithosols, and occur in undulating, hilly country on the mid to lower slopes. They are sandy to loamy over a clay subsoil, and form over base-rich volcanic rocks, granites, or feldspathic sands. They have low to moderate fertility, and can support restricted cattle and sheep grazing of the tussock grasslands, or sown pastures. Extensive clearing or over-grazing will result in severe gully erosion.

Yellow Solodic Soils occur on drainage lines in the central area. They are highly erodible, acidic soils, occuring on metasedimentary parent materials of Ordovician age, and granites of Devonian age. They have a low nutrient status, and require large amounts of fertiliser to maintain productive pastures. Cultivation on steeper slopes results in severe run-off and erosion which is enhanced by bushfires and over-grazing.

The area south of Cooma township contains Prairie Soils, Plastic Clays and Black Earths. These are also called Chocolate Soils (Costin). They are an important soil group because of their moderate to high fertility which may decline after clearing and intensive use, due to losses of nitrogen and phosphorous. Prairie Soils are black clay loams formed from Tertiary basaltic rocks. They are used for grazing of both cattle and sheep. They integrate with the Black Earths, which occur on lower slopes and valley floors. They are heavy clay soils and contain montmorillonite clay, making them highly erodable and unstable for building

purposes. They are fertile, and can be cultivated or used for intensive grazing in flat land areas. Plastic Clays occur on ridge tops, and present no significant erosion hazard in the Cooma area. They form from basalt, have moderate fertility and permeability, and are used for both cattle and sheep grazing.

Alpine Humus Soils are found in the highest elevations of the region, primarily in the north west. They are loam to clay loam in texture, and are erodable when cleared of vegetation. They are used for grazing, but Costin (1954) recommends that they should be reserved primarily for catchment purposes, except in some higher regions where controlled stocking may be continued.

A variety of soil types occur in the north central part of the Shire. These include Earthy Sands, Yellow and Red Earths, and Solonetzic Soils which exhibit similar physical and chemical properties. The Earthy Sands occur on mid to lower slopes, and are generally deeper than the Red and Yellow Earths. All develop from siliceous parent material and are highly infertile, suitable only for sheep grazing of the sparse native vegetation. The Solonetzic Soils occur in drainage lines, in an area east of Bredbo. They are derived from granitic and metasedimentary parent materials, and exhibit low fertility and high erosion rates.

Other soils occur throughout the Shire in limited quantities and their properties are generally similar to the dominant types, with profile variations being a result of topography, parent material, and microclimate. The Department of Agriculture has advised there are large areas of basalt within the Shire, giving rise to highly productive soils.

Implications of Soils

Much of the Shire has soils of low fertility and high erodability. The implications are discussed in Section 4 and 5 respectively. High erodability characteristics also emphasise the Shire's problems with rural road construction and maintenance.

Soil characteristics of the "Monaro" or treeless plain suggest some restrictions on building or the need for construction techniques to overcome instability.

The presence of clays and low permeability over much of the Shire indicates that larger allotments should be required for dwellings, to enable septic disposal of domestic wastes. Transpiration beds or more sophisticated domestic treatment systems may be required.

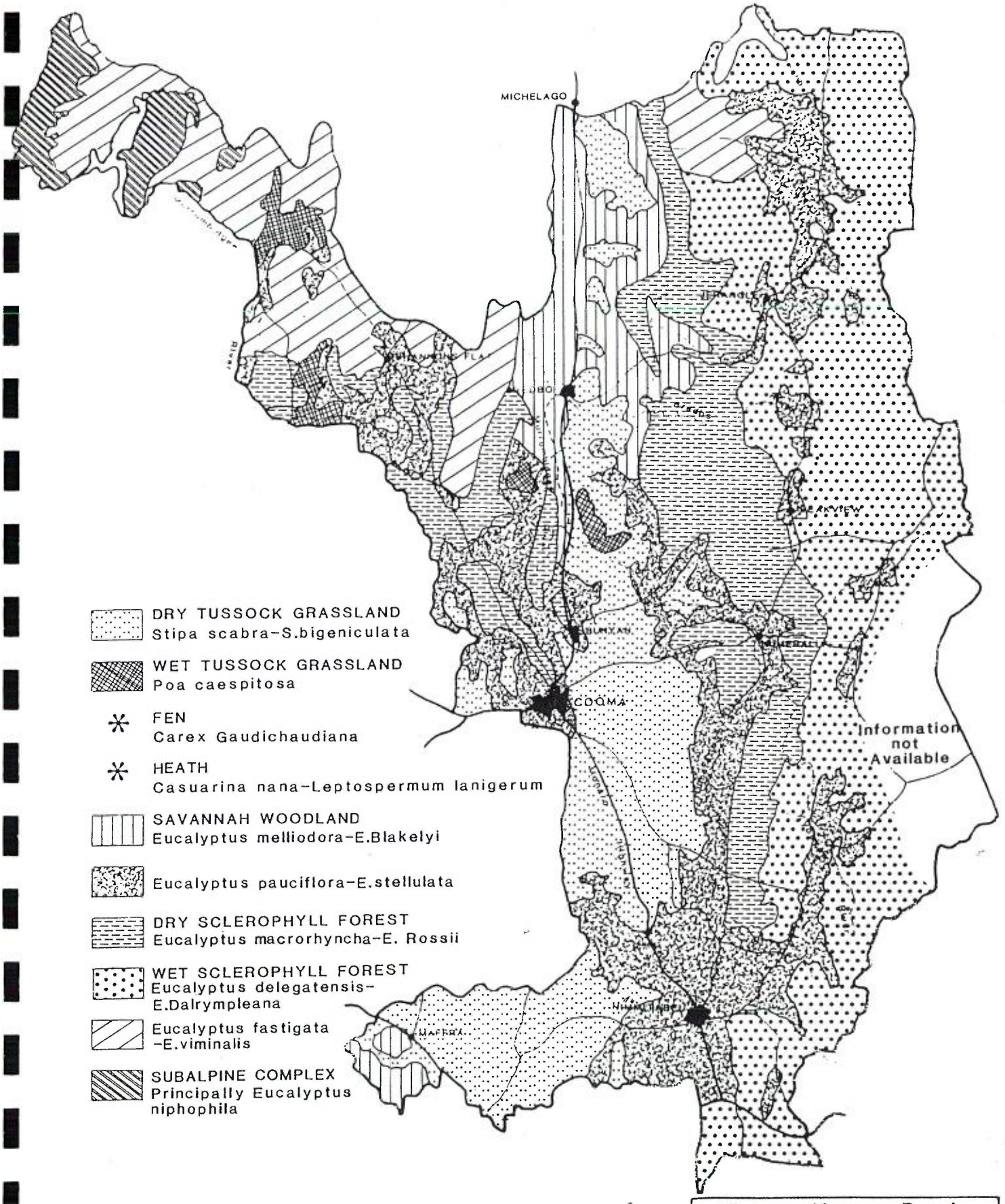
3.4 Flora and Fauna

Flora

The vegetation of the Monaro region has been described by Costin (1954) using the methodology described by Beadle and Costin (1952). Of the ten vegetation formations and fifteen subformations recognised, six formations and six subformations occur within the Cooma-Monaro Shire and these are represented in **bold** in Table 3.7, together with the appropriate alliance or dominant plant species for each vegetation type.

Table 3.7 The Vegetation of the Monaro Region

Formation	Subformation	Alliance
Grassland	**Dry Tussock** **Wet Tussock** Sod Tussock	**Stipa scabra – S. bigeniculata** **Poa caespitosa**
Alpine Herbfield	Tall Short	
Fen		**Carex gaudichaudiana**
Bog	Valley Raised	
Fjaeldmark		
Heath		**Casuarina nana – Leptospermum lanigerum**
Scrub	Wet Dry	
Mallee	**Wet**	**Eucalyptus glaucescens – E. moorei**
Woodland	**Savannah**	**Eucalyptus melliodora – E. blakelyi** **Eucalyptus pauciflora – E. stellulata**
	Tall Subalpine	
Sclerophyll Forest	**Dry** **Wet**	**Eucalyptus macrorhyncha – E. rossii** **Eucalyptus fastigata – E. viminalis**



Cooma-Monaro Rural Environmental Study

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* Localised alliances not shown on map

SOURCE: A.B. Costin, (1954)

NOTE: This map is a broad representation and is not intended to refer to individual properties

(i) **Grassland**

The dry tussock grasslands occur in semi-arid to sub-humid tableland environments to the west of the Shire under conditions of low soil moisture availability, low aeration, or cold air drainage. Wet tussock grasslands are comparatively uncommon in the Shire and develop over a wide range of tableland and mountain climates in level to gently sloping situations influenced by freely moving and slightly acid ground waters.

(ii) **Fen**

The fen is a marshy, swampy plant community occuring in water saturated level areas, mainly in isolated patches to the east and north west of the Shire.

(iii) **Heath**

The typically low closed heath communities occur in small patches in the Shire where the development of taller vegetation is probably prevented by unfavourable conditions such as strong winds, poor soil aeration and strongly leached and porous soils.

(iv) **Mallee**

Mallee vegetation is represented in the Shire only by communities of the relatively rare wet type. It is restricted to moist, windswept, rocky, mountain environments and occurs in a few small isolated pockets in the far north east of the Shire.

(v) **Woodland**

Savannah woodlands are widespread throughout the Shire, usually in tableland areas.

(vi) **Sclerophyll Forest**

These forests are widespread throughout the Shire. Dry sclerophyll forests are best developed in steep, rocky slopes of the tableland and lower mountain tracts while wet sclerophyll forest occurs in more moist mountain environments.

Past land use practises such as grazing, together with the effects of fire, erosion and the introduction of feral animals and exotic plants have all had an impact on the vegetation of the Shire. In addition to those vegetation areas under the control of the NSW National Parks and Wildlife Service and the Forestry Commission of NSW, the Shire contains a number of areas considered significant in terms of vegetation and wildlife habitat by the NSW National Parks and Wildlife Service, who have indicated that the Cooma area contains the highest level of rare plant localities in the region although most of these are very broad localities only.

The basalt areas in the south and west of the Shire were native grasslands at the time of settlement. It is thought that few areas of these grasslands remain in a natural condition as either application of superphosphate and/or the introduction of new grasses and grazing to most of the grassland has resulted in the loss of both plant and animal (invertebrate) species from altered areas. An unusual white form of the Common Brushtail Possum has been recorded from the grasslands of the Shire on at least two occasions and it is thought by the service that a population of Snow Possums may be present, which would be of scientific interest.

A variety of unreserved forest remnants with high conservation value occur in the Shire. The Murrumbidgee Gorge, a major gorge system on the Murrumbidgee River to the north of Cooma, is considered to have a high scenic and recreation value, contains rare plants, and may have considerable archeological significance. Other timbered areas of conservation significance include the naturally vegetated land around Cowra Creek and Strike-a-Light Creek along the high country to the south of Tinderry Nature Reserve, and the Umeralla/Kybean and Yaouk Bill areas of the Shire.

The Murrumbidgee River corridor in particular provides a corridor for the annual migration of several species of birds from the Monaro grasslands to the north. There are a chain of ephemeral lakes on the grasslands to the south of Cooma-Monaro Shire that provide a link between the Snowy River Corridor and the Murrumbidgee Corridor. Koalas, which are rare on the Southern Tablelands, are uncommonly recorded from naturally timbered areas, particularly in the north east of the Shire.

Other ecosystems of importance in the Shire include the Yaouk Swamp, one of the most important peat swamps on the Southern Tablelands, and a limestone area to the north west of Cooma, containing significant caves.

(vii) **Rare and Endangered Species**

Five species of plants, classified as rare and endangered by Leigh et al (1981), have been listed by Costin for the wet sclerophyll alliance, **Eucalyptus fastigata - E. viminalis,** in the Monaro region and could possibly occur in this vegetation type in the Shire. They are:

Phebalium coxii
Tetratheca glandulosa
Prostanthera walteri
Hakea macraeana
Eucalyptus badjensis

The following rare and endangered species are also likely to occur in the Shire:

Eucalyptus pulverulenta
E. parvifolia
E. cybeanensis
E. stenastoma
E. olsenii
E. paliformis

An unusual occurrence of the southern sassafras, **Atherosperma moschatum** has been recorded from Tallaganda State Forest.

Fauna

Faunal studies of the Shire as a whole have not been undertaken, however the Forestry Commission of NSW has assembled data on fauna for the southern half of the Queanbeyan Management Area, in particular, the Tallaganda State Forest, and Badja and Bandi State Forests, and Deua National Park within the Badja Management Area. See Map 3.7.

As well, the NSW National Parks and Wildlife Service, in their submission to this study, have provided a faunal list for the Murrumbidgee Gorge. All of the areas either occur in part in the Shire or are immediately adjacent to it. A composite list of fauna from these sources indicating some of the species that occur or are likely to occur in the Shire, is provided in Appendix 1.

In general, the most important areas in the Shire from the point of view of wildlife conservation are the tall mature, moist forests on fertile soils, which have not been severely burnt for 30 to 40 years. Such forests would typically contain a diversity of plant species with well-developed shrubs and ground vegetation and heavy litter accumulation. Mature trees with suitable hollows provide shelter, protection and breeding sites for arboreal mammals which are relatively abundant in forested areas of the Shire. Other forest types are also likely to be of importance and the National Parks and Wildlife Service in their submission have noted that:

> "The naturally vegetated ridgelines and gullies, particularly in the north-western part of the area, are probably of greatest significance for fauna values. These woodlands link the Mt Gladstone reserve with the Murrumbidgee River via the steep terrain surrounding Cooma Creek."

The fauna in the Shire is likely to comprise a variety of species typical of cool dry woodlands in eastern Australia. The NPWS have noted that the occurrence of the Koala which is uncommonly seen in the area between Bredbo and Cooma is of particular conservation interest in the area with the most recent recorded sighting in Cooma in 1981. The animal is almost certainly to have travelled through the naturally vegetated country from the Murrumbidgee River, where it is likely that a colony of koalas still exists.

A recommendation of the NPWS is that the naturally vegetated areas to the north west and west of Cooma be disturbed as little as possible, in order to retain natural corridors for wildlife movement between Cooma township and Mt Gladstone and the Murrumbidgee River corridor, which is a major wildlife corridor through the Southern Tablelands.

The conservation of a range of habitats within the Shire and preservation of wildlife corridors between important areas are issues to be considered, although it needs to be borne in mind that the essential reason that these habitats and corridors exist is that the land is unsuitable for economic use, and there is no apparent reason to assume this will change.

Rare and Endangered Species

The following have been observed or are likely to occur in the Shire.

The Potoroo (**Potorus tridactylus**)
Koala (**Phascolarctos cinereus**).

The following species are listed as rare and endangered in Schedule 12 of the National Parks and Wildlife Act, 1974.

Peregrine Falcon - **Falco peregrinus**
Gang Gang Cockatoo - **Callocephalon fimbriatum**
Sooty Owl - **Tyto tenebricosa**

Further Investigation

Considerable scope exists to undertake detailed studies into the present distribution of flora and fauna in the Shire, assessment of the conservation significance of the communities and species recorded, the significance of remnant natural vegetation for wildlife habitat and the maintenance of wildlife corridors, as well as the significance of other natural features such as wetlands and geological features including caves.

In terms of future planning, further detailed studies into the Shire's flora and fauna are only likely to be of value in assessing future development pressures, particularly those presenting potentially serious environmental consequences. As mentioned elsewhere in this report, future development opportunities in the Shire would seem to be limited and this is likely to be dictated to a large extent by the desires of the local community who have indicated a wish not to see too much change in the rural countryside.

3.5 Archaeology

Only a small number of sites of archaeological significance have been recorded in the Shire. This reflects the lack of a systematic archaeological survey of the region and cannot be taken as a true indication of the actual frequency of occurence of sites. The National Parks and Wildlife Service have indicated that it is likely that a comprehensive survey would reveal a considerable number of surface campsites and other sites, if studies carried out in Snowy River Shire can be used as a basis.

According to Tindale's map of tribal boundaries, the area was occupied by the Ngarigo people who shared a boundary along the top of the coastal ranges with coastal tribes. Relationships with people from the far south coast and Gippsland appeared to have been friendly with intermarriage and reciprocity. By contrast, there was conflict and war with tribes from the south coast. The Snowy Mountains formed the boundary with other uplands tribes to the west.

Their territory included a wide range of environmental types including the treeless plains, rugged mountain peaks and undulating tablelands. The type of terrain and distribution patterns of resources would have had a significant bearing on Aboriginal settlement patterns, and thus the distribution of archaeological sites. Occupation of the high country would have been confined to summer, when bogong moths were collected, with winter occupation in frost free valleys.

Research in the area indicated that sites are mostly surface scatters of stone artefacts (open sites), although quarries, scarred trees and burials have also been recorded. The open sites are mostly located on flat slightly elevated ground either close to or within sight of water courses, for example, the Numeralla, Murrumbidgee and Kybean Rivers.

Flood (1980) noted a site on Cooma Creek 13km to the south of Cooma which contained large numbers of artefacts representing a stone knapping location. She also noted a site at Rock Flat Creek, 14km south east of Cooma where quartzite has been quarried.

Lance and Hughes (1983) noted the observation of severe surface scatters of artefacts in escoland on hill slopes 1km from Cooma Creek near Cooma north. These sites contain quartz and quartzite flakes and flaked pieces located some distance from water. Dovey (1984) recorded a similar surface scatter in Murrumbidgee Gorge to the north of the Murrumbidgee River in a similar location to those noted by Lance and Hughes (1983).

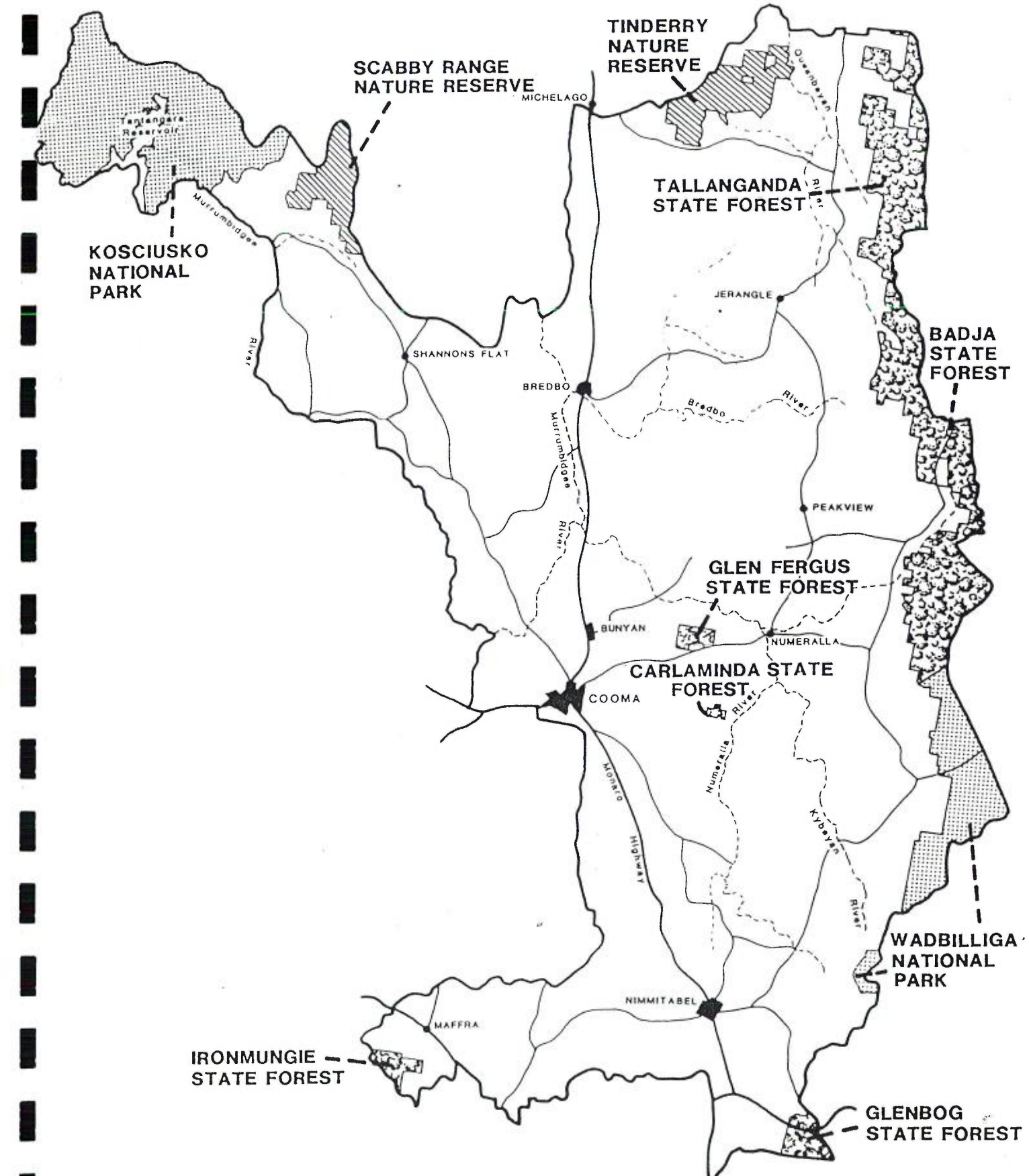
Surveys of Lake Jindabyne and the lower Snowy to the west of the Shire and the Naas Valley to the north has shown that the area is rich in archaeological sites and there is no doubt that many sites are yet to be discovered. Areas of high archaeological sensitivity within the Shire are creek flats and hillspurs along river valleys and ephemeral lakes on the tablelands. The mountains along the eastern boundary may contain open sites in saddles and along ridge lines. Swamps and wide valleys affected by cold air drainage have a particularly high potential for sites.

Stone arrangements and other ceremonial sites may be present, particularly in the Peakview-Jerangle area. According to Aboriginal tradition the Ngarigo travelled along a route near there on their way to the coast.

3.6 National Parks, State Forest and Nature Reserves

Areas of conservation value exist around Cooma as outlined in Council's Land Evaluation Study. The Shire contains portions of a number of State Forests and National Parks shared with Bega Valley and Snowy River Shires (see Figure 3.7). Glen Fergus and Carlaminda State Forests are the only two state forests wholly contained within the Shire.

The north eastern portion of the Shire is within the Queanbeyan Forestry District and under what the Queanbeyan Management Area Plan describes as an area of


TINDERRY NATURE RESERVE
SCABBY RANGE NATURE RESERVE
MICHELAGO
Tantangara Reservoir
Murrumbidgee River
KOSCIUSKO NATIONAL PARK
TALLANGANDA STATE FOREST
JERANGLE
BADJA STATE FOREST
SHANNONS FLAT
BREDBO
Bredbo River
Murrumbidgee River
PEAKVIEW
GLEN FERGUS STATE FOREST
BUNYAN
NUMERALLA
CARLAMINDA STATE FOREST
COOMA
Numeralla River
Monaro Highway
Kybeyan River
WADBILLIGA NATIONAL PARK
NIMMITABEL
MAFFRA
IRONMUNGIE STATE FOREST
GLENBOG STATE FOREST
STATE FORESTS
NATIONAL PARKS
NATURE RESERVES
SOURCE: National Parks and Wildlife Service
NOTE: This map is a broad representation and is not intended to refer to individual properties
Cooma-Monaro Rural Environmental Study
3.7
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NATIONAL PARKS, STATE FORESTS & NATURE RESERVES
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"management significance". The central area of the Shire is covered by the Bega Forestry District. These two plans govern the management of State Forests and other Crown land within the Districts. The National Parks, State Forests and Nature Reserves provide not only scenic attractions and timber reserves but provide opportunities for recreational use, e.g., bushwalking, camping, etc.

There are a number of important issues relating to National Parks, State Forests, nature and timber reserves, particularly, differences in opinion between landholders and authorities over the control of noxious weeds, bushfires and feral animals. To a large extent, these issues are beyond the scope of this study and Council's planning powers.

Recreational use of these areas has been small largely confined to bush walkers and off-road vehicle users. Road access is being improved with increased visitation by visitors from Canberra to especially Tuross Cascades and Tuross Falls in Wadbilliga National Park.

The eastern part of the Shire is on the western extremity of a well forested coastal escarpment with large areas of moist tall forest stands. These have a most important conservation value and provide a rich habitat for a wide range of fauna as outlined in Technical Appendix 1 (in separate report).

3.7 Land Capability

Land capability has been assessed in accordance with the maps and tables produced by the Soil Conservation Service of NSW. The "Land Capability Maps" delineate areas suitable for rural subdivision according to biophysical factors. This assumes that land is used only according to its physical capability for any particular use, (i.e. ignoring economic and site specific factors).

The maps help to identify specific hazards occurring on land that is otherwise generally suitable for subdivision. Hazards may include unstable soils, wetlands and areas of high water tables, areas of erosion hazard, drainage lines, inundation areas and steep slopes. The maps also identify areas where restrictions to development may be necessary, e.g. on road placement, or location of houses and outbuildings.

The Soil Conservation Service has established a number of general principles applicable to land use. They are:

- Land should be used according to its capability.

- In planning rural land use activities, the more productive classes of agricultural land (i.e. Soil Conservation Service Rural Land Capability Classes I, II and III) should be retained for permanent agricultural production. In Cooma-Monaro, some of the better classes of land may need to be excluded from future rural subdivision.

- Small lot subdivision of rural lands for hobby farms should be directed to lands with a lower potential for agricultural use (i.e. Soil Conservation Service Rural Land Capability Classes IV, V and VI).

- Lands generally classified as Class VII or VIII are not suitable for rural subdivision because of various limitations, e.g. slopes too steep or soil type too erodable. These classes of land should not be subdivided or cleared of timber and are best retained for uses compatible with the preservation of the natural vegetation. Class VII and VIII land also corresponds closely to areas defined under Section 21 of the Soil Conservation Act as Protected Land.

- All land development should incorporate effective soil erosion control measures during the development and maintenance phases, in order to minimise both on-site and off-site erosion.

- The impact of any proposed development on the total catchment must be considered.

Soil Conservation Practices Suitable for Regular Cultivation

Soil Conservation Service rural land capability Class I lands require no special soil conservation works or practices. Class II land may require soil conservation practices such as strip cropping, conservation tillage, and adequate crop rotation.

Class III land may require structural soil conservation works such as graded banks, waterways and diversion banks, together with conservation tillage and adequate crop rotation practices.

Suitable for Grazing

Classes IV and V are suitable for occasional cultivation. Class IV land may require practices such as pasture improvement, stock control, application of fertilizer and minimal cultivation for the establishment or re-establishment of permanent pasture. Class V land may require structural works such as absorption banks, diversion banks and contour ripping, together with practices as in Class IV. Cultivation is unsuitable on Class VI lands. Soil conservation practices required may include limitation of stock, broadcasting of seed and fertilizer, prevention of fire and destruction of vermin.

Other

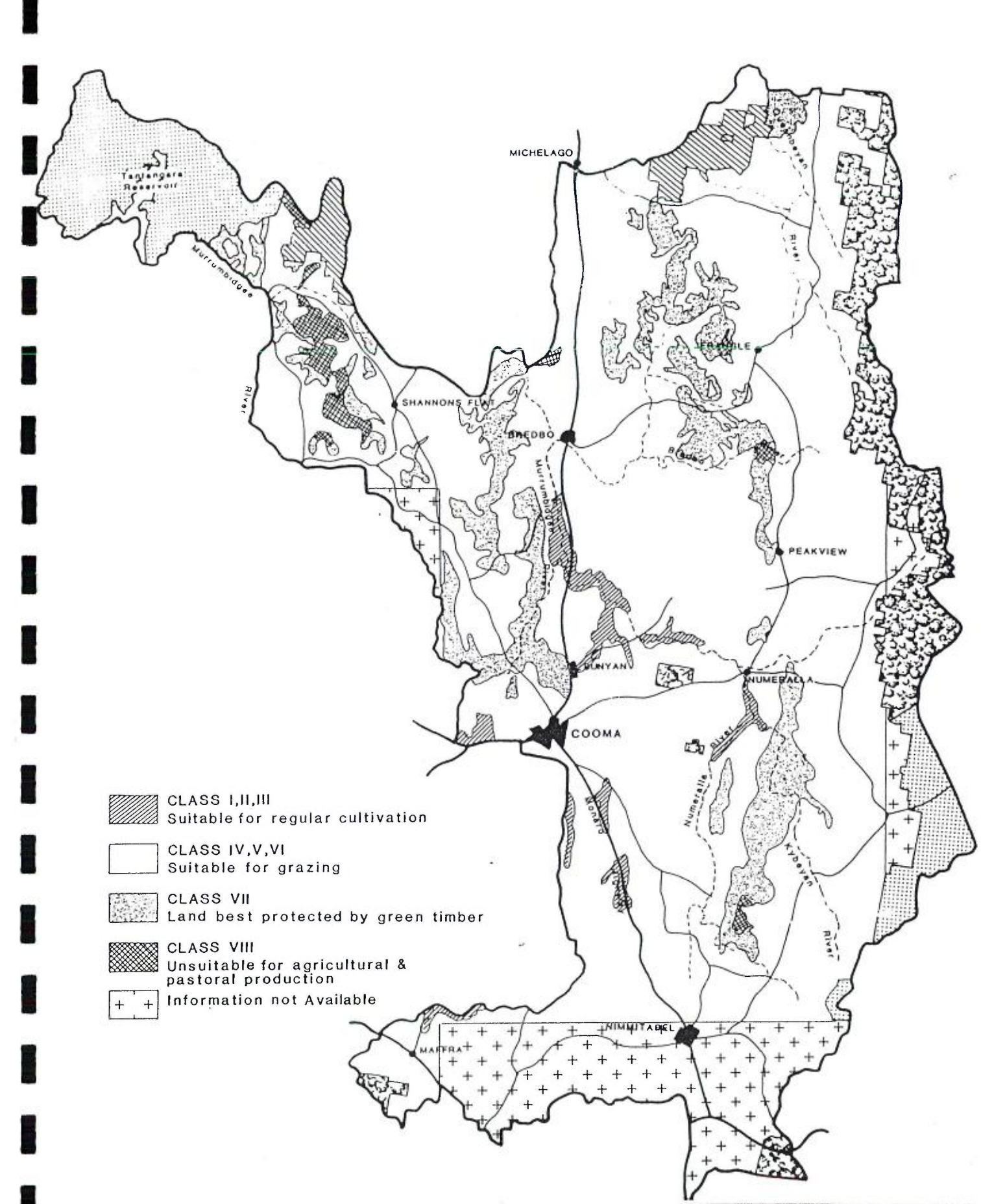
Lands classed as VII or VIII are unsuitable for pastoral uses and should be retained in their natural state.

Figure 3.8 shows a summarised representation of the Soil Conservation Service land capability maps. The maps however exclude National and State Parks, State Forests, urban zonings, restricted water supply catchments and protected lands under S.21 of the Soil Conservation Service Act (1938) and S.26D of the Water Act (1912).

Land Capability Maps Interpretation

(i) **Land Suitable for Regular Cultivation**

Land which has been identified as being suitable for regular cultivation is very limited in quantity relative to the large rural areas of the Shire. Such land is found along the more fertile river soils along the Murrumbidgee and Numeralla Rivers and in two locations on the Monaro Highway, south of Cooma. This land, occurring in only small quantities in the Shire, is of high agricultural potential and should be protected from activities which may sterilise its agricultural potential.



CLASS I,II,III
Suitable for regular cultivation

CLASS IV,V,VI
Suitable for grazing

CLASS VII
Land best protected by green timber

CLASS VIII
Unsuitable for agricultural & pastoral production

Information not Available

STATE FORESTS

NATIONAL PARKS

NATURE RESERVES

SOURCE: Soil Conservation Service of N.S.W.

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

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LAND CAPABILITY

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(ii) **Land Suitable for Grazing**

The majority of lands within the Shire falls within Classes IV, V, VI which are classified as being suitable for grazing. Class IV and V lands are considered suitable for occassional grazing and may require soil conservation practices and structural soil conservation works.

Class VI lands, considered unsuitable for cultivation, may require soil conservation practices and some isolated structural works.

If rural residential housing occurs in these areas, then special consideration should be given to water supply, effluent disposal, access roads and the selection of safe building sites with regard to bushfires.

(iii) **Other Classes**

Class VII comprises areas of steep slopes with shallow soils. They occur in various locations over the Shire. These are areas best protected by green timber.

Class VIII consists of cliffs, lakes or swamps and other lands considered unsuitable for agricultural and pastoral production. Such lands occur in limited quantities and tend to be found in the hilly and rugged north west portion of the Shire. These areas are best left in their natural state.

3.8 Landscape Assessment

The Council's **Land Evaluation Study on the Environs of Cooma,** (April 1985) has noted three particular areas for their value from their point of view of European heritage and identity. These include the rugged gorge containing the hand built road and flour mill ruins at Snake Creek, the setting of "Hatsell" and "Bulong" on the Mittagong Road and the southern approaches to Cooma on Cooma Creek.

The study also identified two noteworthy environmental areas such as the Murrumbidgee Gorge area west and north of Mittagang Bridge and wildlife corridors leading south to Mount Gladstone and east to Cooma Creek.

The areas identified above may require special management and development policies which are being considered in LEP's currently being separately prepared.

The visual context of Cooma is important as the township is situated at the interface between the treeless plains and the wooded hills. The visual contrast between the treed hills to the west and the grassy slopes of the east contribute to the major visual quality of Cooma. The desirability of preserving this view could provide a case for restricting ribbon development along the highway, confining major development to the township and giving attention to the siting of buildings in the rural hinterland of Cooma.

The "Monaro" or treeless plain is a major landscape element of a type unique to the region. From a landscape perspective this area has a low capacity to accept building development. This opinion was shared by a number of rural residents consulted in the course of preparing this study. This suggests a planning strategy which restricts the amount of new buildings, and guides the siting of new buildings to less visually prominent areas (e.g. when viewed from roads or existing dwellings). A policy to protect the few existing trees in the area would also seem justified.

Restrictions on new buildings in the "Monaro" would also be justified because of fire risk, unstable soil conditions, and a policy intended to protect farms and farming.

The landscape of the balance of the Shire is featured by farmland, undulating countryside and steeper wooded hills. The diversity of built development is not high, and in visual terms there is some capacity to accept more buildings without substantial landscape changes. As discussed elsewhere, there is limited probability of change of the steeper lands.

There is negligible roadside advertising and no apparent reason to vary council policies against billboards.

3.9 Water Catchment Areas

According to the Water Resources Commission, the Shire covers portions of three major river basins. Most of the Shire falls under the Murrumbidgee River Basin in an area that could be called the Upper Murrumbidgee River Catchment. The south-eastern portion of the Shire forms part of the Tuross River Basin while the southern portion forms a part of the Snowy River Basin. (See Figure 6.4). The main rivers in the Shire are the Murrumbidgee, Numeralla, Big Badja, Bredbo, Queanbeyan and Kybean in addition to numerous streams and creeks. The importance of these catchments is recognised by their protection under Section 21 of the Soil Conservation Act and under the Clean Waters Act. While the Googong Dam Catchment area, its tributaries and some other rivers in the region are classified under the Clean Waters Act, basically all applications for licences are assessed under the same considerations of the Clean Waters Act.

The Murrumbidgee River originates in the Snowy Mountains with the snow-capped mountains being the main source of water to the Murrumbidgee River. The Murrumbidgee extends generally westwards for hundreds of miles over an area called the Murrumbidgee River Basin.

Information provided by the Water Resources Commission (see Technical Appendix 3 - in separate report) indicate that the Upper Murrumbidgee River Catchment would more than adequately cater for any growth in the Shire with the major constraints being the high costs of provision. The northern parts of the Shire are located in the southern end of the Googong Dam Catchment Area. Development is generally permissible in these areas so long as water quality, especially for uses downstream are not adversely affected. With Council water works, a prerequisite flow (as determined by the Water Resources Commission) is required for uses downstream while individual landowners will need licences to extract water from rivers and streams.

Water quality tests by the Commission indicate that river waters in the Shire are generally low in salinity and turbidity and suitable for human consumption. (see Technical Appendix 4 - in separate report).

Forests in the shire are generally located away from these catchments, and forests operations according to the Forestry Commission are therefore not likely to adversely affect water quantity and water quality. Attention to soil erosion is however always required.

To protect these water resources, the Commission has advised that development should not adversely affect their environmental attributes. Development may include the associated activities of flood protection, supply of water for towns, industries and irrigation, disposal of waste and the use of riverbanks and still-waterbodies.

Water resources and their implications for development are covered in greater detail in Section 6.3.

4.0 ENVIRONMENTAL HAZARDS

4.1 Soil Erosion

Nearly all of the Shire's lands are of high risk from soil erosion. This is due to a combination of the Shire's climate, geology, soils, topography and land use practices. According to local farmers, wombats digging up roots of crops and leaving the ground bare, are another cause of soil erosion.

Soil erosion risks and occurrence can be minimised through appropriate development controls in high risk areas, site planning, sound soil conservation practices and structural works, where required. Development in susceptible areas should be based on assessment of the natural constraints.

Soil erosion is a complex process depending on the interaction of many external factors, such as rainfall intensity, rainfall amount and duration, vegetation cover, land form, slope, land use and management practices. Internal factors influencing soil erodability are soil texture, structure, and dispersibility. Classifying soils according to their erosion risk requires an examination of the interrelationship between both external and internal factors.

The soil erosion classes for Cooma-Monaro are determined in conjunction with land capability assessments done by the Soil Conservation Service. Geology and land slope are the overriding factors considered in determining erodability, and because of their influence on erosion, the Land Capability classes have been modified where necessary.

I-II	Low Risk	The Prairie Soils derived from basalts and rhyolites and alluvial deposits.
III	Moderate Risk	Praire Soils formed from basalts, and podzolized sand stones.
IV-VII	High Risk	Soils formed from granites and fine-to-course-grained leached sandstones.

VIII	Very High Risk	Lithosols and leached granite and sedimentary rocks.

Low Risk soils are those subject to little or no erosion. Class I soils form on slopes not greater than 1 to 1.5%, such as alluvial plains. In Cooma, the Prairie soils contain a significant amount of clay, making them relatively stable when dry, but unstable when wet. No special conservation works are necessary for Class I soils except those management factors needed to preserve soil structure or productivity.

Low risk soils in Class II occur on slopes between 1.5 and 5% and are subject to sheet and rill erosion, whereby a layer of topsoil is removed and, depending on land slope, may form small channels (rills), or in some instances on slopes of 3% to 4% gully erosion may occur. Class II soils require cultivation techniques, such as strip cropping, conservation tillage, and crop rotation to control erosion. Their relatively flat topography renders them subject to very little to moderate erosion.

Moderate Risk Class III soils generally form on slopes of between 5-12%. These soils are subject to sheet, rill, and gully erosion, and require very strict land management practives and structural soil conservation measures to prevent severe erosion problems. This class is distinguished from Low Risk areas because of an increase in slope, and hence an increase in soil erodability. Soil parent materials are similar, so the differences in erodability classes can be attributed to variations in topography.

High Risk Classes IV-VII soils are generally those that range from moderate to high erodability. It is a broad class, and covers the majority of the Shire.

Class IV and V soils occur on slopes having a maximum 25% gradient. They are subject to moderate sheet, rill and gully erosion. Class V soils require land management practices in excess of those necessary for Class IV.

Class VI soils occur on slopes of between 25-33% which limits the use of structural works to control soil erosion. The soils are shallow, and rocks may outcrop on at least 50% of the surface area. Mass movement may occur on slopes of less than 33%.

Class VII areas occur on slopes of between 33% and 50% in higher rainfall areas, and have a high erosion rate. Class VII land often develops extensive and complex patterns of gully and sheet erosion when cleared. Gully patterns may comprise fluted columns, collapse of sides and headwalls, and tunnel characteristics, which occur in areas where the clay subsoil is unstable, resulting in slumping. Class VII is only distinguished from Class VIII because erosion can be controlled in Class VII areas by the establishment of native vegetation.

Very High Risk Class VIII land occurs on slopes of greater than 50%, and contain a high percentage of rock outcrop, often up to 70%. In Cooma, Class VIII land occur in the steep mountainous areas in the northwest sections of the Shire.

Because of the undulating topography the majority of land in Cooma-Monaro is in the high risk category. (Figure 4.1). Although the land presents a high erosion risk, it can be minimised through sound land use practices, such as restricted grazing and sensible site planning of the areas classified as highly erodable. In areas of low risk, such as alluvial plains, care should be taken in cultivation practices and site development, to minimise the risk of flooding and sedimentation of rivers.

Preventive Measures

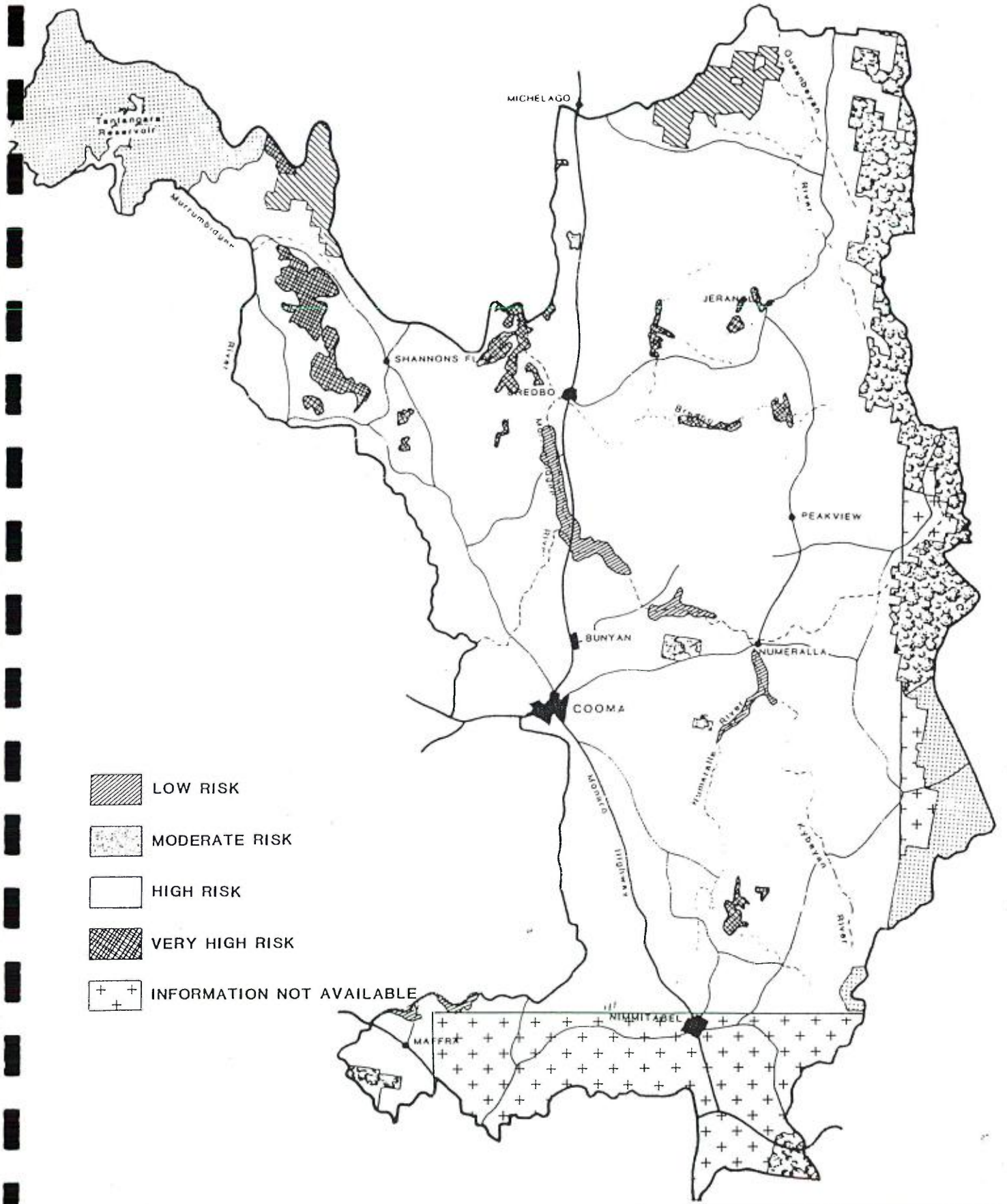
The type of erosion that occurs such as sheet, rill or gully is often determined by land use practices and slope steepness, and may require different preventive or restorative measures. The main factors in the reduction of sheet erosion are:

(i) maintenance of plant cover to protect soil from splash erosion and overland flow.

(ii) maintenance of a rough surface.

(iii) cultivation on the contour.

(iv) elimination of unnecessary cultivation which tends to reduce soil aggregation.



SOURCE: Soil Conservation Service of NSW

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

4.1

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SOIL EROSION

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(v) structural soil conservation measures such as contour banks, graded banks, and contour turnovers.

Rill and Gully erosion are localized areas of sheet erosion occuring on slopes steeper than 3.4%. This type of erosion occurs in a majority of areas in Cooma, and its severity increases with slope. The main control is to stabilize the bare and gullies with vegetation if possible or fill them with earth. Any badly rilled or gullied land requires soil conservation treatment to maintain long term stability and productivity.

Any agricultural practice should encourage maximum infiltration of rainfall into the soil, and should encourage soil build up. Grazing should be managed to maintain vegetation cover and root penetration, which increase infiltration and maintain soil structure.

4.2 Land Stability

The Shire has considerable areas of reactive (swelling) soils where special footing designs are required to reduce the risk of damage to new buildings. With increased fragmentation of rural properties for "rural residential" development, identification of the character and extent of these soils is becoming more of a problem.

The Soil Conservation Service has indicated they are prepared to do soil reconnaissance work to identify such areas and to recommend appropriate measures.

Land stability is only finely distinguished from soil erosion. For the purposes of this report, only landslides which are the most severe form of erosion, will be addressed.

Land slides, or slips, occur primarily on slopes of greater than 10%. Slopes of this degree occur throughout the Shire, on soils containing a relatively impervious layer such as rock or clay. The top soil layer becomes unstable through waterlogging, and 'slips' off. The clay content and type is important in

determining areas suceptible to land slides, since the properties of clay vary. Cooma-Monaro soils contain varying amounts and types of clays, including those that exhibit extreme shrink and swell characteristics, as well as the more stable clays.

Rock type and weathering rates will determine the kind of clay that develops in soils while climate and topography will influence the soil susceptibility to land slips.

Using soils information in conjunction with field data it is possible to delineate areas susceptible to mass movement with considerable accuracy. Control ranges from re-establishing vegetation, to more complex structural stabilization practices.

As a general principle, building development should be directed away from land liable to slip. Council may need to require geotechnical surveys of susceptible sites prior to approving building development.

4.3 Flooding

Flooding is not a major constraint on rural land use, but it does have implications for future residential use and property access in times of flood in localised situations. As a general principle, habitable buildings should be sited above known flood levels.

Land management in river catchment areas should aim to prevent sedimentation of river channels, which may have implications for land use and flood characteristics downstream.

Recreational use of rivers and their banks should continue to be encouraged because of its significance to local tourism. Access and other associated works should be managed to ensure that effects on flood chartacteristics and effects of flooding are minimised. There is also a local problem of unauthorised access over private land.

Seasonal flooding of the Murrumbidgee River which includes the Numeralla as one of its major tributaries, may pose a future flooding hazard along the areas adjacent to the river channel. To further assess areas susceptible to flooding requires an analysis of river character, land stability, catchment conditions and drainage capability. the scale of flooding in the rural areas is not considered to be significant enough to warrant such an exercise where the likely rate of development is not high and most problems can be avoided by careful siting of new buildings.

The Land Evaluation Study (by Council's Town Planning Department) has identified areas in and around Cooma known to be subject to frequent inundation though it notes that there are no known significant areas of large fresh water or poorly drained areas where special management measures would be required.

4.4 Wetlands

Shallow lakes and swamps occur in the eastern part of the Shire and are important wildlife habitats and natural buffers for flood waters. These areas are not likely to be subject to pressures for change. Prior documentation of the Shire's natural features indicates that there would be relatively few occurrences of wetlands in the Shire, however they have not been identified.

The undulating topography surrounding Cooma contains no significant wetland areas that would require special management policies.

4.5 Bushfires and Grassfires

Bushfires and grassfires are a potential threat in the Shire particularly between October and March, the official bush and grassfire season. The likelihood of bushfires and grassfires varies according to seasonal climatic conditions with many factors influencing "natural fire" risks. These include climate, topography, vegetation and land management practices.

The Shire is susceptible to bushfires and grassfires largly due to its location in a rain shadow area of the Snowy Mountains. Much of the Shire does not receive as much rain as the two adjacent Shires of Bega Valley and Snowy River so the

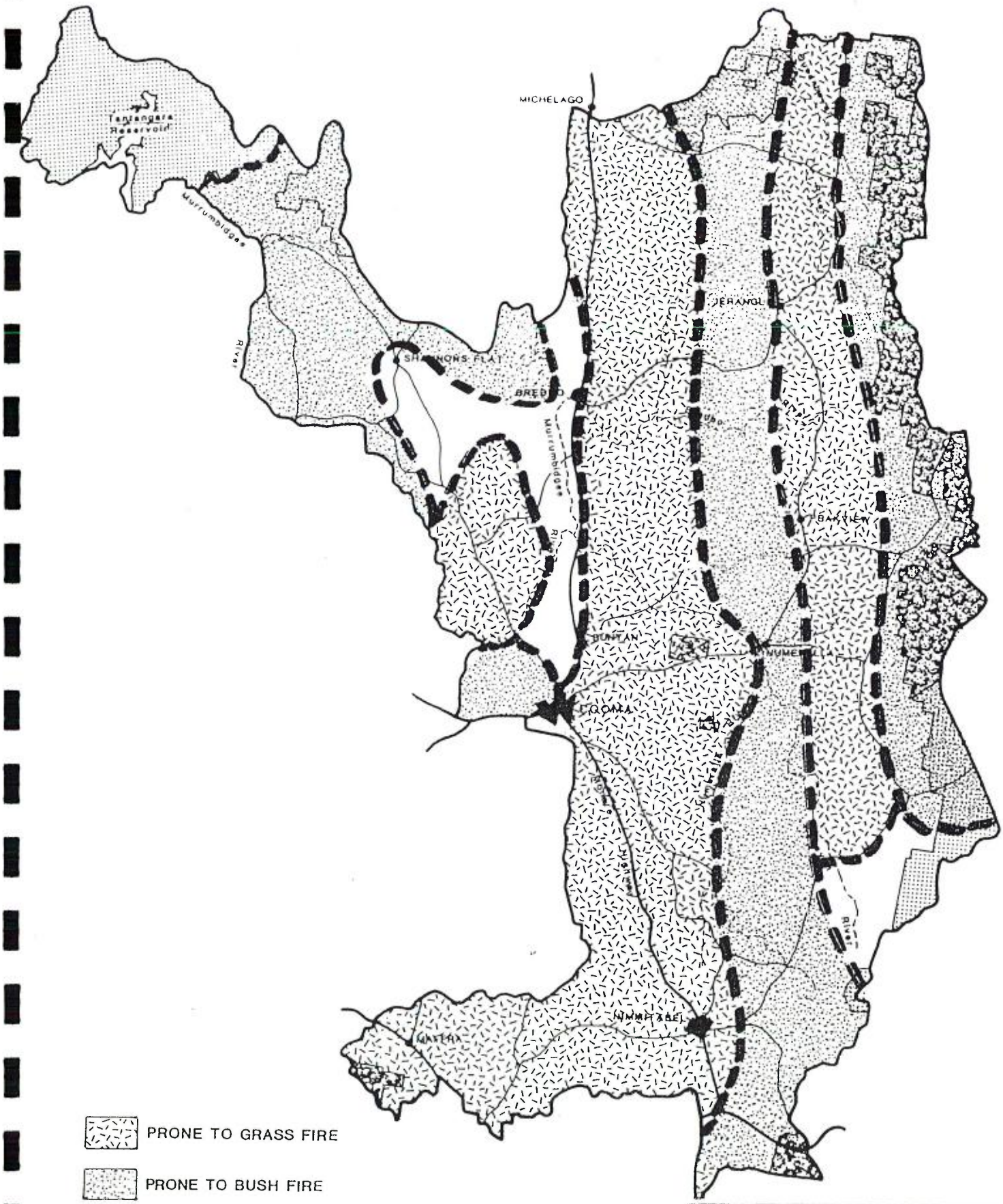
relatively dry conditions during summer make the grassy plains susceptible to fires. Figure 4.2 illustrates areas prone to bushfires and grassfires.

Other factors include the Shire being bordered by a series of State Forests, National Parks and Nature Reserves which contain timbered land on a range of undulating to steep slopes. The eastern and northern boundaries adjoin the largely timbered Tallanganda, Badja and Glenbog State Forests; Wadbilliga and Kosciusko National Parks, and Scabby Range and Tinderry Nature Reserves. Glenbog State Forest, to the east of Nimmitabel has a substantial area planted with pine. Timbered lands, mainly government owned or leased out, provide the main fuel for bush and forest fires. Bushfires can be prevented by clearing and reducing of combustible material, either from seeded pasture or forest litter. Hazard reduction burning however, is often controversial. The incidence of bush fires throughout the Shire, particularly in the State Forests has been generally infrequent due to the isolation of timbered areas. Major bush fires have occurred in Badja State Forest in 1942 and 1968.

Grass fires depend on grass growth and dry conditions so grassfire risks are highly seasonal with conditions ranging from low danger to extreme fire danger in a matter of months. Grassfires tend to travel a lot faster than bushfires, particularly affecting open grazing lands with dwellings and livestock.

The Monaro Plains consisting of open grazing country are particularly susceptible to grass fires, as illustrated in Figure 4.2. Grassfires spreading from lands in other Shires, particularly from the south west, is a possibility. Areas west of Cooma, consisting of relatively rough, inaccessible partially timbered land also pose a fire risk. Nearly all of the grasslands are privately owned, with individual owners expected to manage their lands through grazing, cropping or burning. Grasses need to be kept to a minimum but problems can arise with absentee landowners and when land management practices in reducing fire risks are not strictly adhered to. The decline in grazing has also contributed to increased fire risk.

Some areas in the Shire are known to be subject to lightning strikes which can cause fires particularly during dry storms when rainfall does not follow or does so much later. The likely areas include the Tinderry Mountains and Scabby and



PRONE TO GRASS FIRE

PRONE TO BUSH FIRE

STATE FORESTS

NATIONAL PARKS

NATURE RESERVES

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

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BUSHFIRE AND GRASSFIRE PRONE AREAS

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Yaouk Bill Ranges. Bushfires in the Shire usually originate in the north west (and to some degree, the north east), usually fanned by north westerly winds.

Parts of the area between Cooma and the mountain ranges in the north present a fire problem due to the steep nature of the land and its stunted timber and heavy grass tussock cover.

In 1985, there were twenty five "natural" fires in the Shire. Of these, twenty four were grassfires with one bushfire. No formal records of bushfire history have been kept in the Shire and these figures are not indicative of past fires and of the ratio between grassfires and bushfires.

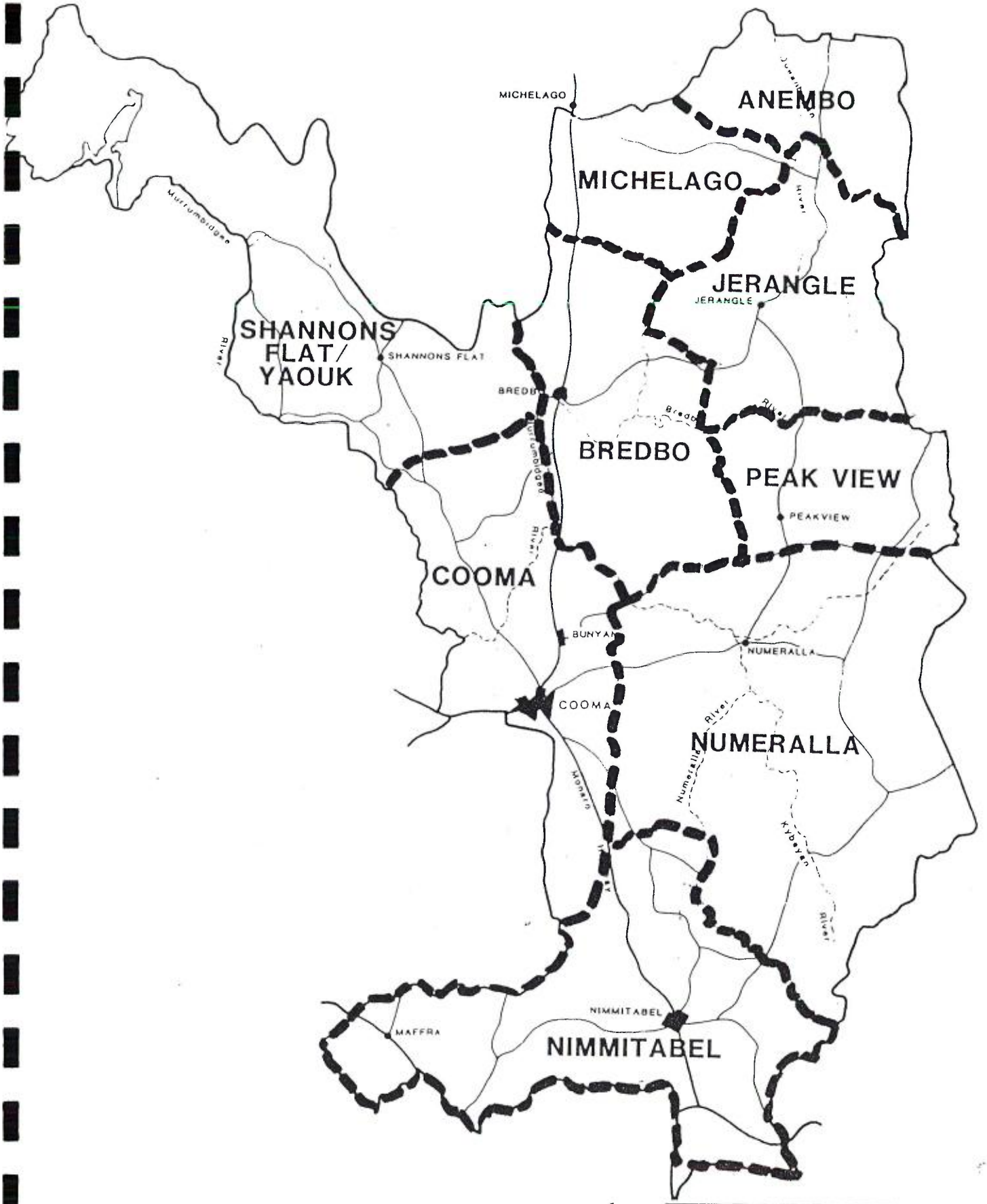
Problems and Solutions

An emergency fire plan for the Shire is currently being finalised. It is designed to develop and co-ordinate effective fire fighting and covers the suppression of all bushfires within the Shire and those threatening from adjoining areas.

There are nine bushfire brigades in the Shire with all members being volunteer fire fighters. Figure 4.3 shows the brigades for bushfire and grassfire fighting in the Shire. Brigades consist of an average of fifteen members (local farmers) with a "floating" membership of up to a hundred members of more in each brigade.

The bushfire brigades perform a series of important social and communications functions in their area, in addition to their primary task. Training sessions organised through the Brigades complement other training such as in schools, conducted by Council's Fire Control Officer.

As development occurs, fire hazards are likely to increase correspondingly due to increased numbers of lives at risk. Increased numbers of absentee owners who may not maintain land or farm it, and who do not contribute to bushfire brigades, are a possible problem. Also, if rural land is occupied by "commuters", there is a degree of risk with families being isolated. Firefighting equipment should be increased pro rata with development, with consideration given to ways in which absentee landlords can be required to contribute proportionately.



Cooma-Monaro Rural Environmental Study

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BUSH FIRE BRIGADES

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NOTE: This map is a broad representation and is not intended to refer to individual properties

Fire risks increase in National Parks and State Forests with increased visitors. The Forestry Commission has implemented fire protection measures, mainly fire trails in the State Forests constructed initially by the Monaro Bush Fire Prevention Association and linked up during fire suppression in 1968. The threat of fires to rural landholders from State Forests, National Parks and Nature Reserves is an issue of continuing debate. The Government has recently claimed that bushfire records held by the National Parks and Wildlife Service indicate that the majority of bushfires originating in the national parks were contained and that more fires from neighbouring properties entered national parks. There is no easy solution to the matter as these lands are out of the jurisdiction of Council. Only surveillance and fire hazard reduction by both landowners and Government bodies will reduce the risks of fires.

The occurrence of grassfires along the Monaro Highway is a potential threat during dry conditions in Summer, particularly from passing motorists. Grasses along the highway need to be kept to a minimum either by grazing or clearing.

In part the existing and potential risks of fire can be addressed by better equipment and better information for predicting fires and their spread. In other words increasing the resources to deal with fires when they occur. There is also the question of whether development should be constrained or conditioned in the light of fire risk.

The Bush Fire Council has advised that DEP Circular No 74, **Planning in Fire Prone Areas** provides detailed guidance on the evaluation of areas with potential bush fire risk. As it is impossible for each area in the Shire to be examined by the Bush Fire Council in detail, it has advised that as long as the rural lands draft plan is generally consistent with the circular, the evaluation required would be acceptable.

The evaluation would give an indication of relatively high risk areas for development and indicate areas where particular management strategies could be pursued, such as access and fire controlled road building, hazard reduction areas, special lot design etc. Other techniques such as on-site shelter may also be appropriate.

In practice, it is difficult to be prescriptive in advance, as distinct from responding to particular developments on particular sites. However, from the point of view of fire risk there is a case to protect open grazing land from development, and a case to restrict development or to provide a high standard of safeguards in steep timbered country.

4.6 Noxious Weeds and Feral Animals

Noxious Weeds

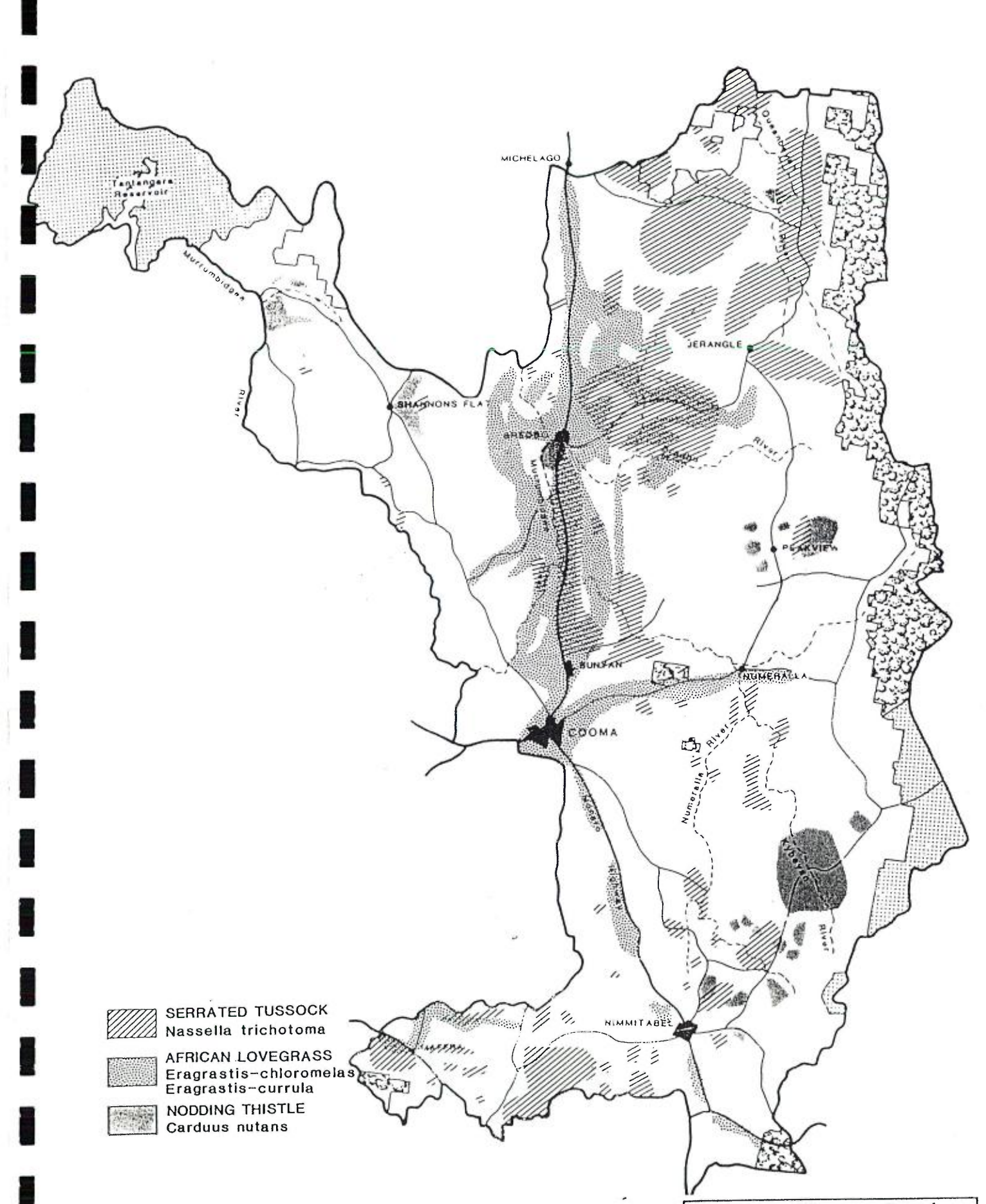
The occurrence of noxious weeds has a direct bearing on the agricultural capability of the Shire's lands particularly as the issue is of concern to landholders with a large part of the Shire affected. Fig 4.4 shows the areas affected by the three major noxious weeds and the widespread nature of the problem.

The Council's priority on the control and eradication of noxious weeds is in descending order: Serrated Tussock, Nodding Thistle, African Love Grass, St John's Wort, Bathurst Burr, Sweet Briar and Horehound.

Serrated Tussock is predominant around Bredbo and the northern portion of the Shire. There is an estimated 28,000 hectares of serrated tussock in the Shire and Council's programme has managed to reduce the areas affected by about a third in six years.

The three main areas affected by Nodding Thistle are Peakview, Kybean and Yaouk with an affected total area of about 250 hectares. Biological control of the weed by the Nodding Thistle Weevil (**rhinocyllus conicus**) is expected to commence soon and this method of control has been proven effective overseas.

There are about 17,000 hectares of African love grass occurring predominantly between Cooma and Bredbo and along the Monaro Highway. This problem has been practically eliminated by spraying and replacement by improved pastures.



NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

4.4

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NOXIOUS WEEDS

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St John's Wort covers about 100 hectares of the Shire and while it is not a real problem, it is a poisonous weed to horses. Bathurst Burr, a weed of the blacksoils found along roadsides is more of a nuisance than a real problem. Sweet Briar is extensive and scattered throughout the Shire, particularly in Maffra and Springfield. Rabbits find the thorny roses a good breeding ground. It mainly affects sheep by getting stuck in their wool, causing economic losses by reducing wool quality and costs in removing the sweet briar. Horehound was brought in by the English as a herb but like sweet briar, it similarly affects wool quality.

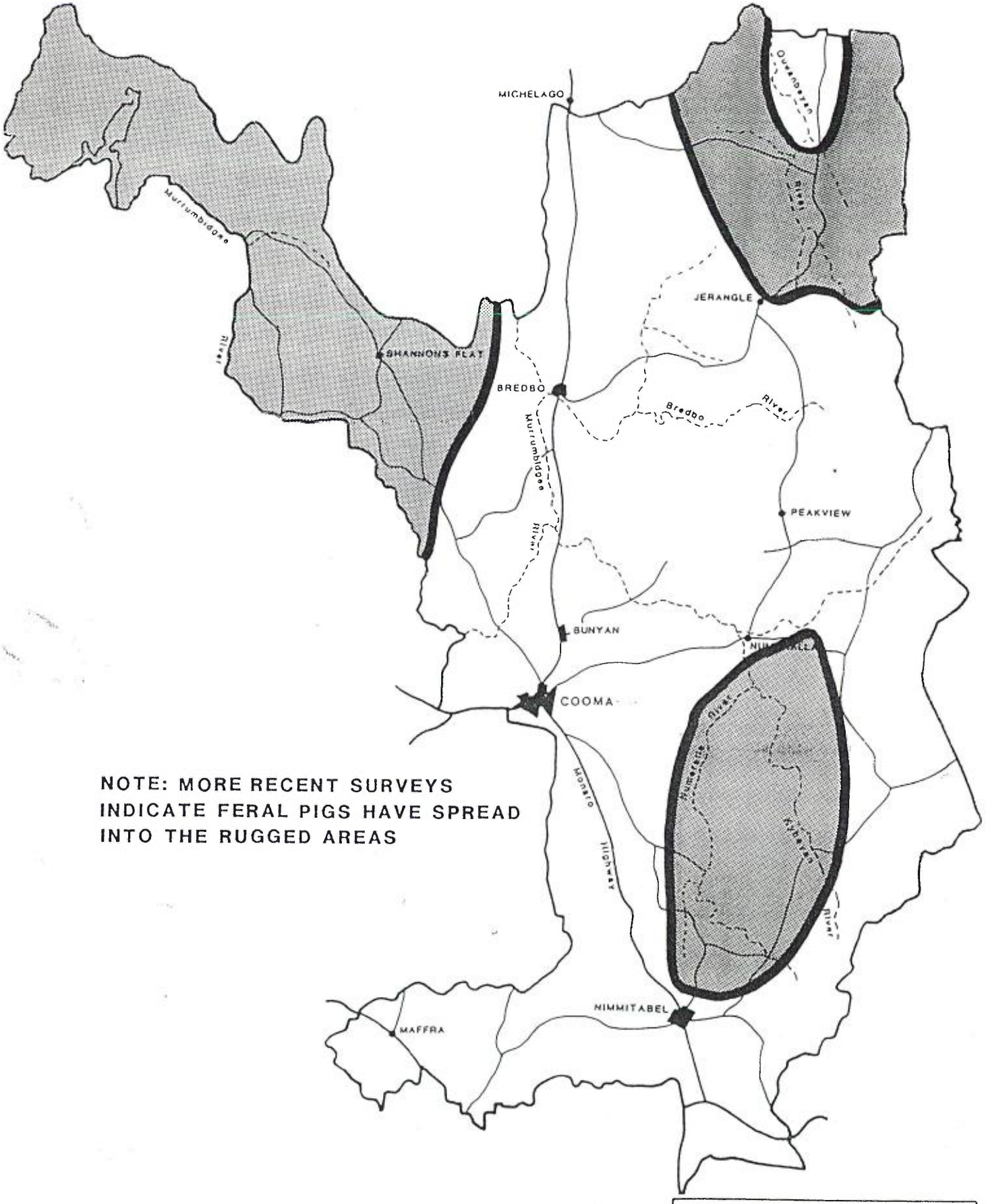
Like many other aspects of Local Government, funding by the Government is considered inadequate to meet the costs of eradicating and controlling noxious weeds in the Shire. Landholders with little experience in eradicating and controlling noxious weeds pose a problem but this can be offset to some degree by Council advice and assistance. Follow-up measures to areas already sprayed are important to effectively controlling noxious weeds in the Shire.

The main implication of noxious weeds is that the opportunities for rural residential development and other small holdings should include lot sizes that a non-farmer or inexperienced rural resident is able to effectively manage. There is some local experience of people buying 40 hectare lots (the minimum currently allowed) and being unable to effectively manage them.

Feral Animals

Feral animals in the Shire are likely to be found in government reservations, (State Forests, National Parks, Nature Reserves, etc), government leasehold lands and in other land in a natural state. Technical Appendix 1 contains a detailed list of the fauna found or likely to be found in the Shire while Figure 4.5 shows feral pig distribution in the Shire. Feral animals include dingoes, wild dogs, rabbits and pigs.

The issue of feral animals and noxious weeds in national parks and state forests is a major one particularly as it affects landholders adjacent to these lands. Stock losses have been attributed by farmers and graziers to wild dogs in areas under the management of The National Parks and Wildlife Service and Forestry Commission.



NOTE: MORE RECENT SURVEYS INDICATE FERAL PIGS HAVE SPREAD INTO THE RUGGED AREAS

SOURCE: Department of Agriculture

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

4.5

SCALE 1:500,000

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FERAL PIG DISTRIBUTION OCTOBER 1977

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Inadequate control of household garbage on sites has also been cited as an attraction to dogs and pigs.

Electric fencing is not a wholly effective method on controlling feral animals, with many farmers believing selective helicopter baiting to be the only effective method of control. This method is controlled by the local Pastures Protection Boards. Aerial baiting is however not permitted within National Parks so dog trappers employed by the Southern Tablelands Wild Dog Control Board carry out perimeter hand baiting.

As with noxious weeds, there is concern that the spread of feral animals is fostered by inadequate management of smaller rural holdings which are not formed or are owned by absentees. The opportunity for small holdings of a more manageable size, accompanied by practical land management advice to new rural residents may partly address the problem.

Council could press the National Parks and Wildlife Service and the Forestry Commission for better management and control of feral animals on land under their control. The Federal Government recently approved funding under the Commonwealth Employment Program (C.E.P.) for a national feral animal control project. Under the project, twelve jobs would be created in the Monaro region through the Cooma C.E.S. Participants would be employed to erect electric fences on the boundaries of national parks to prevent the movement of wild dogs and feral pigs from national parks. The objectives would be to reduce wild dog attacks on sheep, and environmental and stock damage caused by feral pigs on adjoining private land holdings. ("Cooma-Monaro Express", August 14, 1986).

PART III SOCIAL AND ECONOMIC CONTEXT

5.0 LAND USE

5.1 Brief History

The first Europeans to penetrate the Cooma-Monaro district were Mark Currie, John Oven and Joseph Wild. On June 4th, 1823, they learnt from the local tribe of natives in the area that "the clear country before them was called Monaroo". Many versions of the name of the area were to follow - "Monera", "Manero", "Maneiro", "Meneriu, "Miniera", "Monera", but in time, Monaro became the accepted name. It is derived from an Aboriginal word meaning 'treeless plains' or 'open country'. Exploration and land settlement of the high mountain pastures of the Monaro proceeded almost immediately after. By 1827, lands south west of the present location of Cooma were settled. Those who settled in the area were attracted by the potential for wool production and later, the breeding of cattle and lambs. From the earliest days of its settlement, the Monaro was essentially a pastoral district.

The village of Cooma was surveyed in 1849 and proceeded to develop as the hub of the area called the Monaro. In 1856, the population of Cooma Village was 166, while Bombala to the south, had 319 residents.

The progress of settlement was stimulated by the discovery of gold at Kiandra (55 miles north-west of Cooma) in 1859. This resulted in an influx of about 15,000 people in 1860. Not much gold was discovered but many chose to remain at Cooma.

In 1879, Cooma was proclaimed a Municipality. Development however was handicapped by the lack of a railway and the consequent reliance on slow and costly bullock transport through the hilly country. The railway line was eventually extended from Queanbeyan to Cooma in 1889, with further extensions to Nimmitabel in 1912 and later to Bombala. Cooma received water early in its history, as in 1912, a steam pumping plant was established in the Murrumbidgee River 8km from Cooma. A reticulated sewerage system was introduced to much of the town in 1937.

The Monaro attracted a large proportion of migrants after the Second World War. This influx was due largely to the Snowy Mountains Scheme which began in 1949 to provide hydro-electricity and irrigation to both New South Wales and Victoria. Cooma was selected as the headquarters of the Snow Mountains Authority.

The population of Cooma in 1947 was 2,289 and by 1965 it had risen to 9,350. The rapid growth of Cooma and the region as a whole can be attributed to the Snowy Mountains Scheme. The Scheme generated thousands of jobs, while hundreds of miles of roads were built in the previously isolated mountain areas, opening the area for development. The means to provide accommodation, recreational and cultural facilities for the influx of people were beyond the resources of both State and Local Governments so new suburbs at Cooma North and Cooma East were built by the Snowy Mountains Authority. The Snowy Mountains Scheme brought a rapid increase in population but this gradually decreased during the late 1960"s as the S.M.A's regional centres of Cabramurra, Khancoban and Talbingo developed, the construction workforce was reduced.

The opening of the ski fields nearby, namely, Thredbo, Guthega and Perisher Valley in Kosciusko National Park and the Snowy Mountains Scheme has seen the emergence of the region, especially Cooma-Monaro, as a tourist area. Cooma is an important stop-over and through route for travellers on their way to the snowfields.

On January 1st, 1981, the Municipality of Cooma and Monaro Shire Council were amalgamated to form Cooma-Monaro Shire Council. Cooma is not only the main town in the Shire but serves as a regional centre for the Snowy Mountains-Monaro region. Cooma should continue in this regional position, considering the many government departments and commercial organizations located there and the relatively large population in comparison to other villages in the area.

Cooma is often known as the "Gateway to the Snowy Mountains" being just over an hour's driving distance from the snowfields, Canberra and the South Coast. It is the main town servicing the Snowy Mountains and is the commercial hub of the Monaro pastoral district. The Monaro district has become an historic and important grazing area for Merino sheep and beef cattle.

5.1.2 Heritage Issues

There are remnants of the Shire's rich historical background, whose preservation as heritage items warrants consideration. Items of heritage significance in the Shire (excluding Cooma) recorded by the National Trust of Australia are listed below. The inventory of items and places of heritage value within the Shire and particularly for Cooma is presently incomplete.

Cooma has many fine old buildings which are either classified or recorded by the National Trust. Lambie Street, in particular contains a number of nineteenth century buildings.

Historic buildings in the Shire (excluding Cooma) consist of the following: (Those buildings marked with an asterisk were recorded in the National Trust Register prior to 1980, and are being investigated for a classified listing).

Historic Buildings

Bunyan

- Old Farm House Complex * (c.1870, on Cooma-Canberra Road, 8km north of Cooma).
- Evergreen, formerly Squatters Arms Inn with Barn (c.1855).
- Dromore Homestead.

Nimmitabel

- Police Station and Lock-up * (Main Street)
- Public School * (1881, Wolfe Street)
- St Andrew's Roman Catholic Church * (1860's)
- St Peter's Anglican Church *
- Former Mill * (1872)
- Former Post Office

Cemeteries

Two sites within the Shire appear on the Interim List of Burial Sites. As no detailed survey has been carried out by the Trust in the Shire, the sites listed may have no extant remains and there may be other burial grounds unrecorded by the Trust.

The sites with some heritage importance and on the Interim List are:

Locality	Name	Grid Reference (1.25,000 Topo. Map)
Cooma Village	General Cemetery	920 900 8725-IV-S
Cooma	Isolated Grave of Samuel Shannon	913 859 8725-III-N

Industrial Archaeology

A detailed survey of the industrial archaeology of the Shire is yet to be undertaken.

A number of sites in the Shire are, however, included in the National Trust's Industrial Archaeological List. (This list comprises sites which are considered, or expected to be of some cultural significance as relics or remains of industrial activity in NSW. The Industrial Archaeology Committee is currently in the process of inspecting and assessing all of these sites).

Those sites in the Shire included within the Industrial Archaeological Sites List are:

Cooma

- Cooma Station, straight loco shed
- Railway Station
- Old Cooma Pumping Station
- Water Reservoirs

Landscapes

The National Trust's Landscape Assessment Committee has not surveyed the Shire. As a general rule, a large number of landscapes classified in the Trust's Register for their scenic, cultural or scientific qualities generally coincide with the better quality agricultural lands identified by the Department of Agriculture.

Areas of scenic or environmental quality (e.g. Murrumbidgee Gorge) could be listed on the schedule of heritage items in the Shire and be protected by the normal heritage provisions in a future local environmental plan.

5.2 Agriculture

5.2.1 History

Wheat was grown early in Cooma-Monaro's history but with the extension of rail services to Cooma in 1889, it was found that local wheat flour production was not economical as it was cheaper to bring grain than to grow and mill it locally.

The rolling hills of the Monaro have been used for grazing since the earliest settlement. The beef cattle industry also established early with livestock being sent by rail to the major meat slaughtering areas of the State.

Cooma is known as the major rural centre of the sub-region. Some of the leading stud merino and cattle breeders are located there. The Merino studs especially, are regarded as an important source for breeding for other wool producing areas of the State and Victoria. The town has always been a centre for stock sales with the Cooma saleyards used for cattle and sheep auctions with commercial female, stud, herd bulls and heifers for sale.

The general pattern of rural land use in the Shire which has evolved, concentrates grazing in the central and western parts of the district with timber, grazing and nature conservation to the north and east. The Forestry Commission notes that both Badja and Glen Fergus State Forests have a long history of grazing with records indicating continued grazing in Badja State Forest since 1930 and Glen Fergus State Forest since 1920.

5.2.2 Overview of Agricultural Activity

In 1983/84, there were a total of 346 agricultural holdings in Cooma-Monaro Shire, with the majority of holdings in the "Monaro" (as opposed to Cooma Municipality). The total area and number of agricultural establishments in the Shire have declined since 1970, though in recent years, the number of establishments has stabilised. See Table 5.1.

Agricultural production in the Shire is based largely on wool production with some beef cattle husbandry as a subsidiary enterprise. Local cereals are grown on a comparatively small basis as year round production is constrained by the climate and percentage arable country. The great distance from the major markets and relatively poor quality of soils are inhibiting factors for crop production.

Drought conditions have always affected agricultural activity in the Shire. Severe drought conditions were experienced for 47 consecutive months between 1979 and 1982. The whole district of Cooma has been included within the 35 whole and 4 part drought declared Pastures Protection Districts in NSW this year (1986) due to widespread drought conditions affecting much of the State.

Table 5.1: Agricultural Production of Cooma-Monaro

		1970 (67-68 Season)		1977 (75-76 Season)	1980 (78-79 Season)	1981 (79-80 Season)	1982 (80-81 Season)	1983 (81-82 Season)	1984 (82-83 Season)	1985 (83-84 Season)
Agricultural Activity										
No of Establishments	No	410	No.	453	324	361	369	342	342	346
Total Area of Est.[a]	Ha.	435,665	Ha.	397,268	320,381	325,426	329,251	320,242	306,268	303,327
Crops										
Wheat (Grain)	Bush.	7,916	Tonnes	348	275	18	8	146	-	475
Oats (Grain)	Bush.	5,442	Tonnes	553	617	177	78	264	53	1,288
Hay (Crop, Lucerne and Grass)	Tons	2,348	Tonnes	6,723	6,512	3,114	3,651	4,607	2,482	10,123
Livestock (at 31 Mar)										
Cattle for **Meat** Production	No.	29,235	No.	70,395	35,864	33,101	29,455	25,457	23,076	21,118
Cattle for **Milk** Production	No.	20	No.	11	2	236	218	200	164	5
Pigs	No.	258	No.	607	160	242	118	60	34	64
Sheep and Lambs	No.	649,261	No.	580,310	463,779	484,365	444,850	422,202	412,781	421,242
Sheep and Lambs Shorn	No.	710,027	No.	538,513	445,217	455,572	434,524	424,371	399,212	410,101
Wool Production	'000 kg	5,234	'000kg	2,295	2,054	2,115	1,883	2,035	1,870	1,896
Lambs Marked	-	-	No.	15,475	134,645	152,982	112,526	153,792	122,089	106,620
Gross Value of Agricultural Production	$'000	-		-	-	-	-	8,832	8,213	9,679

Source: A.B.S. Handbook of Local Statistics, NSW.
- Not recorded.
a In 1981/82, properties deemed to earn less than $2,500 p.a. were excluded from the agricultural production survey.
b Only major crops shown.

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5.2.3 The Sheep and Wool Industry

The sheep and wool industry parallels the general decline of agricultural activity in the Shire. This to a large extent can be explained by the recent severe drought conditions and to the general downturn of the rural industry in Australia.

Severe drought conditions were experienced by most of the years shown in Table 5.1. Drought between 1979 and 1982 resulted in a substantial decline of livestock, particularly in the numbers of beef cattle and dry sheep (wethers), with farmers tending to hold on to breeding stock (ewes). By late 1985, livestock numbers had risen.

Wool production and the numbers of sheep and lambs have declined since 1978/79. The latest available data indicates that over 82 per cent of agricultural holdings had sheep on them. Of those with sheep, the majority (84 per cent) had between 100 and 2,999 sheep. The majority of sheep establishments (66 per cent) ranged in size from 300 to 1,999 hectares. There were only 32 sheep establishments over 2,000 hectares in size.

Market forces, particularly the drop in price of prime lambs (meat production) has meant a swing away from this type of production in the Monaro to wool production. Overall, wool production has been fairly constant with variations due largely to seasonal fluctuations in weather.

Outlook for Wool and Sheep Industry

The immediate outlook for the wool and sheep industry is likely to be relatively constant with production subject to the effects of drought. The national wool and sheep industry is examined as a matter of reference, although the wool and sheep industry in the Shire is not expected to change much.

Recent statistics published by the Bureau of Agricultural Economics are shown in Table 5.2 overleaf. The number of sheep in Australia has risen by almost 10 per cent since 1979 and sheep exports by 20 per cent. Increases in the number of lambs slaughtered are offset by decreases of sheep slaughtered.

Wool production has risen by over 10 per cent since 1979-80. The outlook for the wool industry is one of continuing demand and modest price increases. The B.A.E. predicts that demand for Australian wool will remain reasonably firm over the medium term as a consequence of moderate sustained economic growth in major wool consuming countries. In Australia, sheep numbers are expected to increase to around 145 million in 1989 but no major increases for wool production are envisaged.

Table 5.2: Australian Sheep Disposal and Wool Production

Item	Unit	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85[p]
Sheep Disposal [a]							
Opening Number [b]	million	134.2	136.0	134.4	138.0	133.2	139.2
Lambs Slaughtered [c]	million	16.5	16.3	16.5	16.9	17.1	17.5
Sheep Slaughtered [c]	million	14.0	15.4	11.9	13.1	8.4	10.5
Live Sheep Exports	million	5.3	5.4	6.2	6.6	7.3	6.8
Closing Number [d,e]	million	136.0	134.4	138.0	133.2	139.2	149.7
Wool Production [f]							
Number Shorn	million	148.5	150.0	155.2	149.1	152.6	168.1
Wool Production (greasy)							
- Shorn	Kt.	642.4	637.9	661.0	641.5	671.2	752.8
- On Skins	Kt.	71.0	63.3	56.2	60.1	56.4	62.3
- Total	Kt.	713.4	701.2	717.2	701.7	727.6	815.1
- Clean Yield	%	60.7	60.6	60.8	60.1	63.2	64.2

a From April to March.
b Sheep and lambs at 31st March of first year shown.
c For human consumption only but excludes slaughterings on farms.
d Sheep and lambs at 31st March of second year shown.
e Totals are approximate due to rounding.
f From July to June.
p Preliminary

Source: B.A.E. Commodity Statistical Bulletin, January 1986. p1.

5.2.4 The Beef Industry

Beef cattle activity is primarily a subsidiary activity to wool and sheep production. With drought conditions, cattle livestock are usually the first to be sold or slaughtered as they require large amounts of feed for subsistence.

Cattle numbers for meat production have fallen by about 70 percent since 1975-76. In the 1983-84 season, there were 213 holdings with meat cattle on them accounting for about two-thirds of agricultural holdings in the Shire. About 50 percent of all meat cattle establishments had less than 50 head of cattle with 70 percent having less than 100 head. Large holdings in Cooma Monaro ranging in size from 400 to 2,999 hectares accounted for over 70 percent of meat cattle establishments.

Cattle for milk production (dairying) is obviously a sideline activity with only 3 agricultural establishments with milk cattle in 1983-84. This represents only 1 percent of all agricultural establishments. None of the establishments had more than 10 cows, indicating that dairying was primarily for household consumption.

Outlook for the Beef and Veal Industry

The views and statistics presented here are drawn from a number of recent publications prepared by the Bureau of Agricultural Economics and The Australian Bureau of Statistics.

As shown in Table 5.3, the beef and veal industry in Australia has declined since 1978 with cattle numbers falling by a quarter, production by 40 per cent, beef and veal exports by almost fifty percent, and total consumption by 30 per cent. Recent figures published by the Bureau of Agricultural Economics indicate the general decline has been temporarily arrested as it forecasts Australian cattle herd numbers to increase to 23.2 million by 31st March 1986 and 24.1 million by 31st March 1987. Total slaughterings and total production are both forecast to increase by 3 per cent. The forecast is that the Australian cattle industry faces reasonably bright prospects over the next two years largely because of lower overall supplies in Australia and some unexpected strengthening in the U.S. import market.

Table 5.3: Australian Supply, Export and Utilisation of Beef and Veal

Item	Unit	1978	1979	1980	1981	1982	1983	1984 p
Cattle Numbers [a]	mill.	29.33	27.11	26.20	25.17	24.55	22.48	22.74
Slaughterings	'000	12,344	9,839	8,832	8,090	9,431	8,129	6,826
Production [b]	Kt.	2,131	1,770	1,534	1,421	1,679	1,414	1,273
Beef	Kt.	2,042	1,711	1,481	1,372	1,621	1,362	1,234
Veal	Kt.	89	58	52	49	57	52	39
Exports [b]	Kt.	1,199	1,098	882	708	942	767	616
Total Consumption [b]	Kt.	933	727	665	717	754	654	663

a At 31st March.
b Carcass weight.
p Preliminary.
Source: B.A.E. Commodity Statistical Bulletin, January 1986. p5.

The longer term outlook for the industry is one of uncertainty due to changing patterns of consumption, relative demand, prices and local weather conditions.

5.2.5 Other Agriculture in Cooma-Monaro

Pigs

In 1983-84, only 8 establishments in Cooma-Monaro Shire had pigs on them. However, none of the establishments more than 30 pigs. This indicates pigs are reared as a sideline activity.

Crops

Crop production consists largely of hay (crop, lucerne and grass) and on a smaller scale, wheat and oat production. There is intensive irrigated lucerne production on the Murrumbidgee River flat lands.

A limited area of winter cereals are grown, primarily to provide forage for grazing animals during winter feed shortage. The predominance of grazing industries and the almost total exclusion of the more intensive forms of agricultural production (i.e. horticulture, oil seed and cereal grain production) is the result of climate and topography. Also economic considerations in terms of

distance from markets, lack of capital infrastructure and yield limitations imposed by climate affect production.

The Shire is characterised by having a relatively cool climate with only a short growing season and a long, cold winter where temperatures are generally restrictive for plant growth. Frost occurs over a third of the year.

Crop production in the Shire has been extremely variable with very high production registered for all crops in the 1983 season. Production of the three main crops (wheat, oats and hay) have increased collectively by about 35 percent since 1980 but cropping remains a relatively small scale activity.

Summary

The economy of the Shire is dependant largely on agriculture, particularly wool and sheep production. The limitations imposed by the climate (droughts, rainfall etc), distance from major markets, and lack of capital infrastructure inhibit agricultural activity and its further expansion. The significance of agriculture, and its current depressed eonomic condition and outlook, point to a planning strategy or principle in support of and protective of agriculture activity. The converse is that planning should not impose restrictions that will inhibit adjustment or production.

5.3 Agricultural Suitability

A broad classification of the agricultural suitability of rural land has been prepared by the Department of Agriculture. It is derived from field surveys carried out by the Department using the classifications shown in the table below. The highest quality land is in Class 1, with the lowest quality in Class 5.

Class

1. Land capable of regular cultivation for cropping (cereals, oilseeds, fodder, etc.) or intensive horticulture (vegetables, orchards). It has a very good capability for agriculture, where there are only minor or no constraints to sustained high levels of production.

2. Land suitable for cultivation for cropping, but not suited to continuous cropping or intensive horticulture. It has good capability for agriculture, but where constraints limit the cropping phase to a rotation with improved pastures, the overall level of production is reduced.

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. The overall level of production is moderate as a result of high environmental costs which limit the frequency of ground disturbance. Has a moderate capability for agriculture. Pasture land capable of sustained high level of production, although conservation measures may be required.

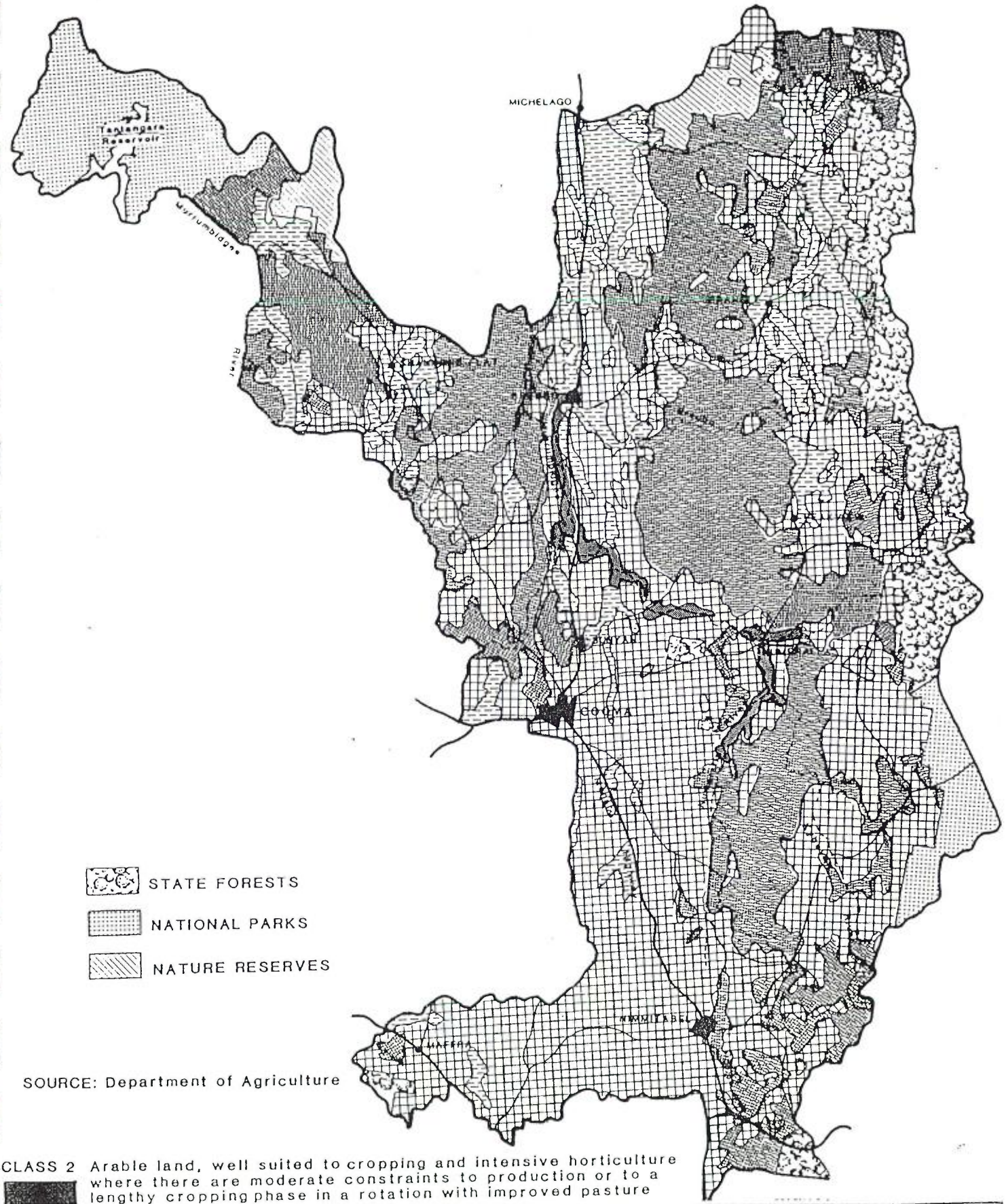
4. Land suitable for grazing and not suitable for cultivation. Agriculture is based on native pastures or improved pastures relying on minimum tillage techniques. The overall level of production is low. Environmental constraints make arable agriculture uneconomic.

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 are imposed by environmental factors.

The Department of Agriculture has prepared an Agricultural Land Suitability Map for the Shire based on the five land classes described above. Figure 5.1 is a generalised representation of these classifications, although reference should be made to the copy of the original of the map held by the Council for more precise definitions. Even this map cannot be taken as totally accurate, as smaller pockets of land of different quality may not be represented within the broader classes.

Most of the land in the Shire would fall within Class 4 or 5, i.e. "poorer" agricultural land.

The Department of Agriculture has indicated that, generally speaking, Class 3 lands are of paramount importance to the agricultural economy of any area. These areas are arable for the purposes of fodder crops and should be retained in



SOURCE: Department of Agriculture

CLASS 2 Arable land, well suited to cropping and intensive horticulture where there are moderate constraints to production or to a lengthy cropping phase in a rotation with improved pasture

CLASS 3 Land well suited to grazing and pasture improvement; suited for occasional or limited cropping in a rotation with pasture. The overall level of production is moderate. Not suited to regular cropping or intensive horticulture

CLASS 4 Land suitable for grazing but not cultivation. Production is based on native pastures and/or improved pastures relying on aerial and/or zero establishment techniques. Production may be seasonally high but overall production is low because of major constraints

CLASS 5 Land generally unsuitable for agriculture but may provide shelter. Agricultural production, if any, is very low due to severe constraints

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

5.1

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AGRICULTURAL SUITABILITY

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broadacre agricultural use. This is particularly important as there is relatively little fertile land in the Shire.

Class 4 grazing lands would also have a prime role to play in the economy and social traditions of the Shire. These lands would form the majority of the productive land in the Shire and would be considered significant in a regional sense. They also contribute to the particular scenic and environmental character of the district. Rural subdivision for smaller blocks used primarily for dwellings would not be logical on these lands. It is likely that small area subdivision on the lands west and north west of Cooma would not interfere with the agricultural productivity of the region as a whole nor the economic viability of individual farmers, as the lands are of poorer agricultural value (i.e. Class 4 and Class 5).

It has been estimated by the Soil Conservation Service that only 10% of area around Cooma is arable and suitable for cultivation for cash and forage cropping (i.e. Class 3 Agricultural Land). The remainder is either undulating non-arable stony country suitable only for extensive grazing (i.e. Class 4) and hilly to rugged steep timbered country of limited or no agricultural capability.

As forage crops play an important role in the management of most grazing properties and as the total amount of arable land suitable for this purpose (and for most intensive type cropping such as lucerne production) is limited (i.e. 10% in Cooma) the preservation of this land for agricultural production should be identified to ensure subdivisions do not alienate that land from being economically viable.

The Water Resources Commission has noted that any subdivision of agricultural land should be related to topography to allow retention of significant potential farm dam sites. Proposed subdivisions of agricultural land should be submitted to the Commission for assessment of their economic viability, as a farm lot in a subdivision needs to be viably productive to be eligible for assistance under the terms of the Farm Water Supplies Act.

The Department of Agriculture's basic policies are to promote the efficient and effective use of agricultural land, and to conserve prime crop and pasture by ensuring subdivisions occur on lower quality land. As discussed later in this

report, historic and prospective development pressures suggest that there are unlikely to be significant risks to agricultural land.

The Department has provided the following recommendations on planning controls for land in the Shire:

(a) As the Shire forms part of the Koscuisko sub-region, its LEP should be consistent with the Draft REP (Snowy River).

(b) **Subdivision Generally**

The Department recommends that Council should not grant consent to the erection of a dwelling house unless:

(i) the land is a holding having an area not less than 900 ha;

(ii) is a rural small holding;

(iii) is an allotment created under an environmental planning instrument that was in force before the appointed day and a dwelling house could under the provisions of that instrument, have been erected on the allotment; or

(iv) comprises the whole of an existing holding having an area of less than 900 ha and on which a dwelling house could have been erected under the provisions of any environmental planning instrument applying to the land at the date of exhibition of this plan.

Workers' dwellings should be provided for, but only where a deed has been demonstrated, and the dwelling should be located on the same lot or portion as the principal residence. Applications for workers' dwellings should be referred to the Department of Agriculture for advice.

(c) **Subdivision for Agriculture in Zone 1(a)**

Consent for subdivision should confer no automatic dwelling entitlement.

Subdivision for any size for agriculture should be permitted but strictly without dwelling entitlement, except where subdivision for agriculture creates a lot that reaches the minimum size for a dwelling entitlement (900 ha).

The Department recommends a 900 ha minimum subdivision area with dwelling entitlement in the 1(a) zone, on the basis of the average existing farm size in the Shire being 877 ha (ABS data 1983-84).

Council should not consent to a subdivision for agriculture where the lot proposed to be created contains an existing dwelling and is smaller in area than the minimum area proposed above, except for the land surrounding the principal residence or homestead on an **existing** holding. This should be regarded as a once only provision for holdings existing at the time the plan is made.

(d) **Subdivision for Dwellings in Zone 1(a)**

The Plan should permit excision of a limited number of small-holdings for erection of dwellings (rural residential opportunities). These should be limited in number to 3 and in area to be not greater than reasonably required for the purpose of the dwelling, and in any case the three should not total more than 30 ha provided that this is not more than 5 percent of the area of the holding. Thus if the existing holding is not more than 600 ha, the 3 excisions should total not more than 5 percent of the area of the existing holding. If the existing holding is greater than 600 ha, the 3 excisions should total no more than 30 ha.

The number of concessional dwelling allotment excisions is proposed as three to maintain the status quo with previous instruments. Future subdivision under these provisioins should require Council consideration of maximum area and agricultural quality of the land.

Such rural residential excisions should be located on land of agricultural Classes 4 and 5 unless it can be shown that there is no reasonable alternative land available that is not class 3 land. Rural residential blocks should not be permitted on agricultural land classes 1 and 2.

In the siting of rural residential development, Council should have regard to the possibility of interface conflicts arising from normal agricultural operations and legitimate agricultural activities. We believe a Development Control Plan would be a useful means of providing the necessary detail for control of rural residential development.

(e) **Subdivision for Non-Agricultural Purposes in Zone 1(a)**

The Plan should provide that such development is located on poorer quality agricultural land (class 4 and 5), unless Council is satisfied that:

(i) there is no other suitable land in the locality;

(ii) the development supplies goods and services to the area; and

(iii) there is a justifiable demand for the goods or services to warrant the use of prime crop and grazing land.

Such subdivisions should be no larger than necessary for the particular purpose.

Problems of identification of prime crop and pasture land should be referred to the Department of Agriculture.

The Department is anxious to conserve prime crop and pasture land and has recommended similar controls to those outlined in the Koscuisko Draft Regional Environmental Plan (Snowy River). The above recommendations particulary reflect the important economic contribution agriculture makes to the Shire and the State generally.

Comment

The above comments from the Department of Agriculture illustrate the basic conflict that often exists in rural land use planning. That is, while all would agree with the principle that agricultural land resources should not be wasted, many would disagree that the way to achieve this end is by mathematical general formulae. The strategy outlined in sections 9 and 10 proposes a merits based approach as an alternative.

5.4 Tourism

The development of tourism in Cooma-Monaro Shire has been closely linked with developments in Snowy River Shire adjacent to it. The Snowy Mountains Scheme and the opening of Kosciusko National Park and the snowfields saw the emergence of large numbers of visitors through Cooma-Monaro Shire to these centres. Cooma in particular became an important stop-over and through route for travellers on their way to the Snowy Mountains region particularly from Sydney and Canberra.

The completion of the dams at Eucumbene, Jindabyne, Blowering and Tantangara in Snowy River Shire, produced new lakes fed by mountain rivers and streams with abundant fresh water fish. The result is fishing has become a popular recreational activity in summer.

Concurrent with the general expansion in the Snowy Mountains Region, Cooma has attained a "regional" status as evidenced by the establishment of the main government agencies. Cooma is presently the centre of a network of sealed roads leading to Sydney and Canberra, the Snowy Mountains and the west of NSW, the State's South Coast and the Gippsland Region of Victoria. It is ideally located in that it is just over an hour's drive from the National Capital of Canberra, beach resorts of the South Coast, and the ski-fields and fishing waters of the Snowy Mountains Region. Cooma Airport, 16km south west of Cooma town is over an hour's flight from the State capital cities of Sydney and Melbourne. Coach travel particularly ski package tours has made the Cooma - Snowy Mountains area a popular tourist stop-over and destination. The Kosciusko is the most popular inland tourist area in Australia. The Shire is ideally located between the major populations to attract significantly more tourists.

A comprehensive regional development strategy plan for the development and promotion of tourism in the Snowy Mountains region is currently being prepared. The study and plan is expected to be completed soon and should provide the framework for tourism development in the Shire. A development of such an understanding is beyond the scope of this study so only an overview of the industry will be attempted to highlight the nature of tourism and the implications for planning.

5.4.1 Sub-Regional Overview

A study of the "tourist industry" in the Shire is constrained by the availability of information relating specifically to the Shire as data tends to be collected on a sub-regional basis. **Tourism Trends in New South Wales, A Comprehensive Report to June 1984**, is the major statistical source for this overview. It needs to be stressed that the statistics provided include Snowy River and Yarrowlumla Shires and are thus not truly representative of Cooma-Monaro. Where possible other local statistics are used to qualify this source.

Figures for the South Coast are provided only for comparison. As a prelude to these figures, it should be stressed that given the influence of stop-overs (by visitors to the snowfields in winter) in the Shire, a figure illustrating snow depth in the Snowy Mountains is provided, as snow conditions may often be used to explain seasonal variations in tourist numbers (Figure 5.2).

Travel Characteristics

Visitation

Table 5.4: Domestic Visits and Nights (000's)

	Snowy Sub-Region [a]				South Coast[b]			
Year	80/81	81/82	82/83	83/84	80/81	81/82	82/83	83/84
Visits ('000)	557	587	468	521	827	719	702	764
Nights ('000)	1,937	2,177	1,581	1,853	3,736	2,993	3,391	3,441

Source: Tourism Trends in NSW, June 1984.
a Includes Snowy River, Yarrowlumla and Cooma-Monaro Shires.
b Includes Bega Valley and Eurobadalla Shires.

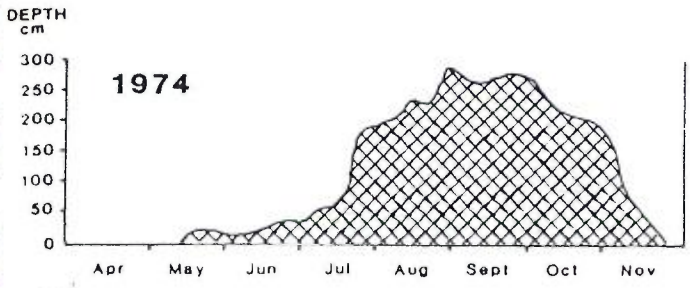
The recent differences in yearly visitation to the Snowy sub-region could probably be best explained by the amount of snow fall in the Snowy Mountains. 1981 was the 'deepest season' with the greatest snow depth recorded since 1954. This is reflected in the high numbers of visits and nights recorded in 1981/82. The substantial decline in 1982 could be explained by the corresponding snow fall (ski season) in 1982 which was one of the worst recorded seasons, with the least amount of recorded snowfall. The corresponding increase in tourist visits is reflected by the relatively good snow season in 1983.

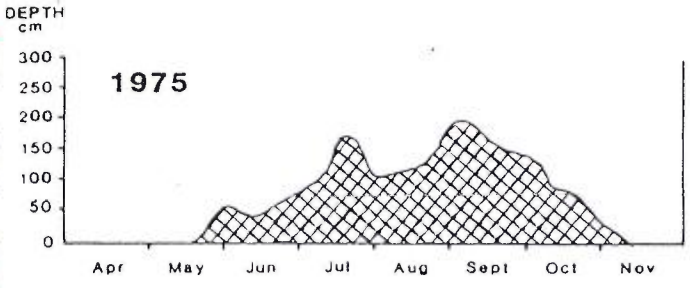
Local Visitation

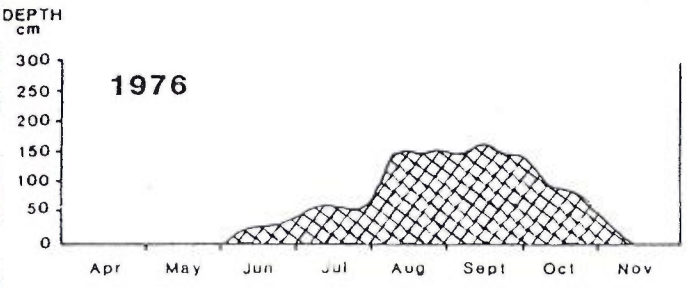
The number of tourists in Cooma during an average year can be estimated by the fact that the town's 7 hotels and 15 motels provided a total of 1366 beds* and if average occupancy is taken to be in the order of 30 pecent (with almost 100 percent in peak holiday and ski-season periods), then this would approximate 150,000 persons per annum. Figures for the 3 caravan parks in Cooma catering to a different market, would need to be taken into account as well.

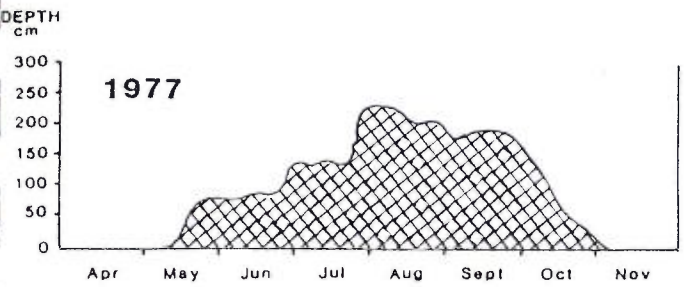
Apart from Cooma, Nimmitabel and Bredbo are the other only towns in the Shire with any accommodation. Both have a motel/inn each with a combined total of 42

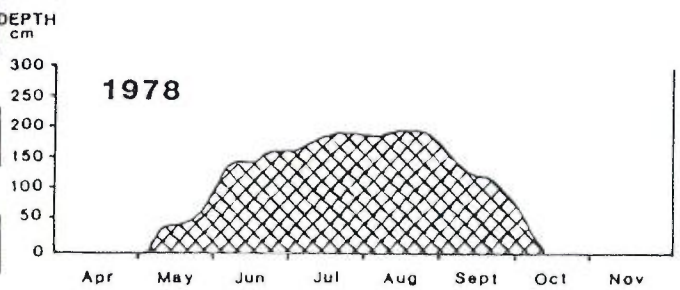
* Cooma Visitors Centre, November, 1985.

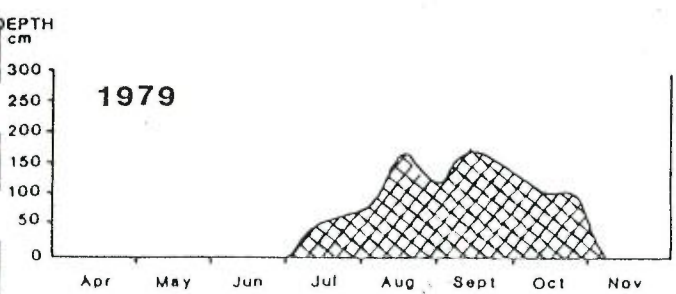


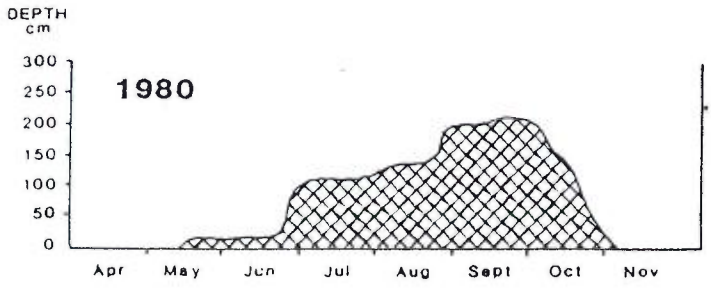


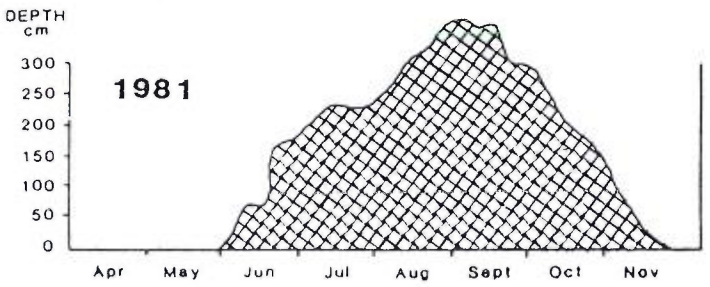


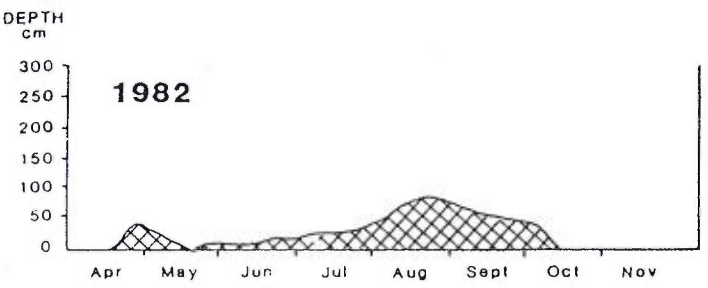


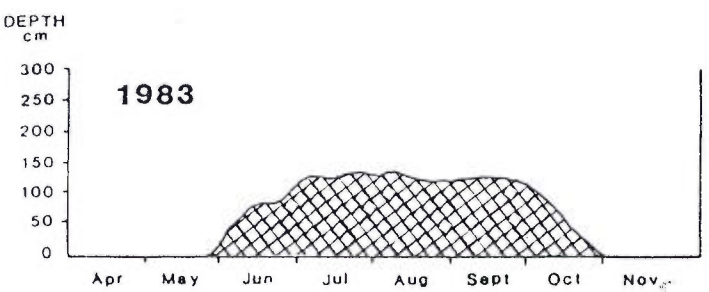


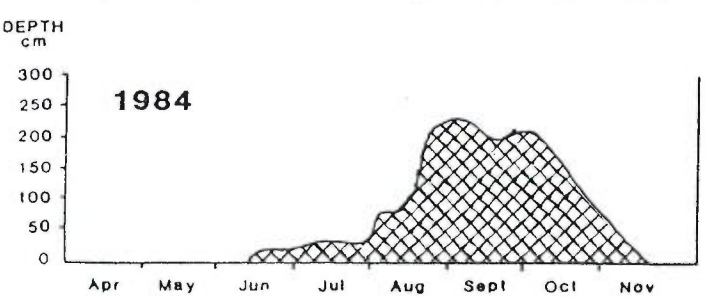












SOURCE: Sundance Sports Jindabyne

Cooma-Monaro Rural Environmental Study

5.2

SNOW DEPTHS IN THE SNOWY MOUNTAINS

MASTERPLAN CONSULTANTS

Table 5.5 **Monthly and Annual Visitation to the Cooma Visitors Centre**

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
January	13,883	13,036	12,627	16,042	16,199	18,187	18,947	16,848	14,643	12,907	16,224	11,643	14,071	11,638
February	4,736	4,289	4,882	5,468	5,926	5,531	6,345	6,519	6,074	4,899	6,536	4,519	5,969	5,523
March	5,681	5,333	5,318	8,273	5,622	7,015	9,688	7,389	7,051	7,007	7,223	5,345	6,209	6,100
April	6,533	9,570	6,890	7,278	8,823	10,228	8,284	9,170	10,125	9,364	10,164	8,802	7,938	8,754
May	8,673	9,037	10,521	11,366	11,632	12,520	11,619	10,188	9,828	9,197	10,944	9,260	6,940	7,802
June	4,716	4,820	6,544	7,532	6,317	7,851	7,743	6,159	6,924	7,865	7,743	8,423	7,224	7,656
July	4,480	5,084	6,713	7,888	7,033	10,353	12,073	8,437	10,794	11,475	10,711	11,827	9,718	8,997
August	8,982	10,071	11,893	14,983	15,500	14,654	17,725	15,861	19,915	15,301	11,286	12,450	11,832	12,728
September	7,086	8,209	8,628	9,553	13,350	12,178	13,511	11,594	10,989	13,138	8,883	10,603	9,657	9,221
October	4,554	3,811	6,515	6,125	6,261	7,158	6,277	5,930	6,983	8,100	5,976	5,601	5,520	6,094
November	3,692	3,729	4,423	4,244	4,507	5,229	4,909	5,425	5,012	5,645	4,251	5,069	4,816	4,771
December	6,791	6,845	7,516	7,710	8,149	10,051	8,886	7,958	7,667	8,452	5,729	7,217	7,224	7,926
TOTAL	79,807	83,834	92,480	106,462	109,319	120,955	126,007	111,478	116,005	113,350	105,870	100,759	97,118	97,210

Source: Cooma Visitors Centre, 1986

beds with a further caravan park in Nimmitabel. To qualify the above statistics on Cooma, the only other data available on tourist numbers are monthly and annual visitors since 1972 to the Cooma Visitors Centre as shown in Table 5.5.

The number of visitors to the Centre reached a peak in 1978 and has declined since. The relative decline could best be explained by numbers of people that used the Centre's services and subsequently did not require any following services.

The use of the Centre in January has declined over the years while winter figures have all increased. There is a need to relate the Centre's figures to snowfall/ski seasons as seasonal conditions affect tourist numbers.

The following tables provide a statistical scenario of tourism in the sub-region.

Duration of Stay

Table 5.6: Length of Stay
Per cent of Visits

Length of Stay (Nights)	Snowy %				South Coast %			
	80/81	81/82	82/83	83/84	80/81	81/82	82/83	83/84
1	19.6	26.6	29.3	20.8	27.1	26.9	23.0	28.0
2	36.9	26.4	22.7	31.8	27.9	28.8	21.6	18.9
3	15.1	14.5	20.0	16.1	14.1	9.2	16.5	14.4
4	3.8	7.2	4.8	7.2	3.5	7.1	7.9	8.2
5	4.7	4.0	2.9	2.9	4.3	3.1	5.3	5.7
6	3.0	5.4	8.2	7.1	2.2	2.6	3.2	2.7
7	9.8	8.2	6.8	7.5	5.0	4.6	6.9	6.9
8 - 14	6.7	5.1	3.4	5.3	10.9	10.4	11.6	11.5
15 - 21	0.2	1.5	0.6	0.6	3.4	3.4	2.2	2.0
22 - 28	0.3	-	-	0.3	1.0	0.4	0.7	0.6
29 +	-	0.8	0.3	-	0.7	0.5	1.0	0.5
No answer	-	0.2	0.9	0.4	-	1.1	0.1	0.6
Total Visits '000	557	587	468	521	827	719	702	764
Average length of Stay (Nights)	3.48	3.71	3.4	3.56	4.52	4.16	4.8	4.5

Source: Tourism Trends in NSW, 1984.

The high numbers recorded for up to two nights indicate that visits were most likely made over a week end. This would be particularly true during summer while longer stays would be expected in winter. The variations in yearly average lengths of stay may best be explained by the snow fall in any given season than by any other factor.

Seasonality

Table 5.7: Seasonality
Per cent of Visitor Nights/Financial Years

	Snowy %				South Coast %			
Length of Stay (Nights)	**80/81**	**81/82**	**82/83**	**83/84**	**80/81**	**81/82**	**82/83**	**83/84**
January	13.5	15.7	9.4	16.6	36.3	25.2	25.0	20.9
February	1.5	6.9	4.3	4.1	8.2	10.9	12.2	6.9
March	2.3	5.7	1.5	4.7	7.0	8.9	5.3	9.4
April	5.2	9.9	7.1	5.8	6.8	14.0	9.5	9.4
May	7.9	3.0	5.6	6.2	5.1	9.1	6.5	6.6
June	7.6	4.9	9.3	5.1	2.3	3.8	5.3	3.7
July	12.2	13.8	11.6	14.7	3.8	4.7	3.1	4.2
August	26.9	14.8	21.1	15.1	4.7	4.1	8.6	4.7
September	13.4	11.2	16.5	13.3	7.2	6.9	5.3	8.8
October	3.3	4.9	4.5	8.4	7.8	3.5	8.7	9.8
November	2.2	5.5	5.3	2.6	2.9	6.0	5.2	8.0
December	3.9	3.8	4.0	3.3	7.8	3.9	5.3	7.5
Total Number of Nights ('000)	1,937	2,177	1,581	1,853	3,736	2,993	3,391	3,441

Source: Tourism Trends in NSW, June 1984.

There are two distinct peaks in visitor nights spent in the Snowy sub-region. One is in January, the holiday period; the other in the ski-season (July, August and September) which accounts for 40 to 50 percent of total visitor nights. This is in contrast to the South Coast which experiences a noticeable January peak with the remaining nights spread over the rest of the year with a winter trough.

The winter figures for 1981/82 (Snowy) show a substantial decline over 1980/81 and this is surprising considering the record snowfall that year. This can probably be explained by external factors like the increased costs in ski-ing, travel economic conditions, etc.

Table 5.8: Main Reason for Visiting

	Snowy %				South Coast %			
Purpose of Visits	**80/81**	**81/82**	**82/83**	**83/84**	**80/81**	**81/82**	**82/83**	**83/84**
Pleasure Holiday	68.1	77.1	72.5	76.5	75.5	77.2	70.8	76.8
Visiting Friends and Relatives	8.8	11.1	9.9	12.4	13.7	10.0	15.1	12.8
Business (Inc. Conference)	7.2	4.5	7.1	5.1	6.7	9.4	5.1	6.7
Educational/School Excursion	7.5	3.2	2.7	2.6	0.2	0.5	5.7	0.5
Other	8.5	4.1	7.8	3.4	4.1	2.9	3.3	3.4

Source: Tourism Trends in NSW, June 1984.

The Snowy sub-region is being increasingly seen as a recreational destination with about three quarters of visits primarily for that purpose. There has been a corresponding increase in visits of friends and relatives. Purposes for visits other than the above have fluctuated over the years though these differences could be accounted for by statistical error.

Mode of Transport

Table 5.9: Mode of Transport Used by Visitors
Per cent of Visitors

	Snowy %				South Coast %			
Transport Mode	**80/81**	**81/82**	**82/83**	**83/84**	**80/81**	**81/82**	**82/83**	**83/84**
Air	4.6	5.1	6.6	3.8	3.5	6.8	3.0	3.0
Bus/Coach	14.8	12.3	13.6	10.1	0.9	3.8	6.6	4.3
Private Vehicle	76.9	76.9	74.4	81.5	93.7	88.6	88.4	90.1
Rented Vehicle	0.7	1.3	1.8	1.9	1.5	0.3	-	2.1
Train	3.0	1.8	3.6	2.9	0.2	0.2	1.0	0.3
Ship/Boat/Ferry	-	-	-	-	0.2	0.4	0.9	0.2
Total Number of Visits ('000)	557	587	468	521	827	719	702	764

Source Tourism Trends in NSW, June 1984.

The increase in percentage of visitors to the sub-region by private vehicles could be attributed to roads improvements in the Shires although it would be equally true to say that high patronage of the roads and the increasing importance of the snowfields necessitated the road improvements. The feature of charter buses/coaches to the snowfields, as a mode of transport is quite high when compared with the South Coast. This could reflect the increasing tourism component of charter tours to the Snowy sub-region both in summer and winter. Coach tours have implications for the town of Cooma and its role as a major coach stop. It is likely to provide a basis for tourist development and other services/facilities in the town.

Accommodation

Table 5.10: Accommodation Used by Visitors to the Area Per cent of Visitor Nights

	Snowy %				South Coast %			
Accommodation	**80/81**	**81/82**	**82/83**	**83/84**	**80/81**	**81/82**	**82/83**	**83/84**
Hotels/Motels with private facilities	22.1	17.2	21.9	20.0	9.9	12.6	12.8	12.2
Hotels/Motels without private facilities	6.8	2.4	4.6	0.9	1.2	0.1	0.1	0.2
Private Hotel/ Guest House	19.6	11.5	13.8	16.9	0.9	0.4	0.5	0.9
Rented House/Flat	11.3	13.5	18.6	12.1	15.1	18.2	23.9	24.1
Own House/Flat	2.6	5.5	7.2	4.6	12.8	11.6	8.7	10.5
Friends/Relatives House/Flat	14.8	22.2	13.5	17.4	20.0	20.1	25.8	18.7
Farm	1.2	3.2	1.1	2.3	1.4	2.6	0.7	1.5
Cabin in Caravan Park	4.1	3.6	2.5	6.1	-	2.0	2.0	1.8
On-site Vans	3.4	3.4	3.7	2.6	5.7	2.3	5.0	4.1
Other in Camping Ground	8.5	8.1	8.3	7.1	27.0	20.9	16.2	17.4
Other not in Camping Ground	5.1	9.0	4.2	8.8	5.0	8.3	3.7	6.1
Boat	-	-	-	-	-	0.2	-	0.2
Other	0.3	-	-	-	0.1	0.1	-	-
No answer	0.2	0.4	0.7	1.2	0.8	0.8	0.6	2.2
Total number of nights '000	1,937	2,177	1,581	1,853	3,736	2,993	3,391	3,441

Source: Tourism Trends in NSW, June 1984

The differences in the nature of tourism between the Snowy and the south coast sub-regions are clearly highlighted by the differences in accommodation used by visitors to the respective sub-regions. The Snowy sub-region has a heavy dominance of rented accommodation (about 50 percent), with a very low proportion of visitors owning their own accommodation. This is in contrast to the South Coast where a higher percentage own their accommodation. The traditional attraction of coastal areas for real estate investment, holiday homes, etc, provides an explanation.

The incidence of rented accommodation in the Snowy would most likely be during the ski-season where rental accommodation is booked out months in advance. The low attraction of the sub-region for camping as opposed to the South Coast could be explained by cool conditions experienced throughout much of the year.

Source of Visitors

While traditionally, the majority of visitors has come from within the State (intra-state), this is being reduced by interstate visitors, particularly from Melbourne. Sydney residents account for about two-thirds of visitors followed by residents of Melbourne, (although collectively NSW Country accounted for slightly more).

Statistics point towards people from the ACT, NSW Country and Melbourne as being more likely to visit the South Coast than the Snowy Mountains. The low percentage of Victorians in the sub-region (as opposed to the south coast) could best be attributed to Victoria having its own ski-fields. The increase in visitors as a percentage from Victoria would most likely be summer, with the Snowy Mountains then being a desirable destination for trout fishing and sightseeing. It seems that apart from the ACT, NSW and Victoria, visitors from the other states are limited by large travel distances.

Table 5.11: Source of Visitors to the Area

Per cent of Visitor Nights

Length of Stay (Nights)	Snowy %				South Coast %			
	80/81	81/82	82/83	83/84	80/81	81/82	82/83	83/84
Sydney	56.0	51.5	60.0	59.0	27.0	24.8	24.8	22.2
ACT	2.7	8.9	6.7	5.9	12.0	10.2	12.9	8.9
NSW Country	26.6	24.6	15.4	12.9	26.2	23.4	26.4	23.3
Total Intra-state	85.3	85.0	82.1	77.8	65.2	58.4	64.1	54.4
Melbourne	7.9	6.6	3.0	12.6	18.9	23.9	26.9	31.9
VIC Country	2.8	1.4	2.8	2.6	12.8	14.8	6.4	9.7
Brisbane	1.4	2.0	3.8	2.6	-	0.8	0.2	0.9
QLD Country	0.3	1.3	0.7	1.1	0.8	0.5	-	0.2
Adelaide	1.4	1.5	2.4	1.9	1.1	0.1	0.8	1.7
SA Country	-	0.1	-	0.7	-	1.3	0.3	0.0
Perth	0.3	1.5	3.2	-	1.0	-	0.1	0.1
WA Country	-	0.2	-	0.6	-	-	-	-
Tasmania	0.6	0.5	-	-	-	0.1	-	0.0
NT	-	-	1.9	-	0.1	-	1.2	1.0
Total Interstate	14.7	15.0	17.9	22.1	34.8	41.6	35.9	45.5
Total No. of Nights ('000)	1,937	2,177	1,581	1,853	3,736	2,993	3,391	3,441

Source: Tourism Trends in NSW, June 1984.

5.4.2 Implications

Despite the degree of aggregation of these statistics (Snowy sub-region comprising Cooma-Monaro, Snowy River and Yarrowlumba Shires) certain factors emerge:

- There has been a slight decline in the total number of visits since 1980/81 but the differences are probably due to varying seasonal snow conditions than by a decline of visitors to the Shire and the snow fields.

- Visitation of the Cooma Visitors Centre has stabilised as people using the Centres services previously were not likely to require follow up services.

- The majority of visits to the area (over 50 percent) are for a period of up to two nights with 70 percent of visits accounted for stays of up to three nights. This indicates most trips were made over week-ends, though in winter, most stays would be for a longer period.

- Tourism within the sub-region is seasonal with a high demand for tourist accommodation and other facilities during the peak periods (winter) and January with a low demand during the remainder of the year.

- Commensurate with new recreational (skiing) and accommodation facilities, better roads and transport, the area is being increasingly seen as a holiday destination.

- There has been an increase in road usage by travellers due largely to road improvements. Conversely the high patronage may have brought about the road improvements.

- The high predominance of rented accommodation in the Snowy is due largely to the nature of the area as a holiday destination as opposed to the South Coast where holiday accommodation was more likely to be owned by visitors due largely to the attractions of the year-round climate and the coast.

Visitation from the rest of NSW (intra-state visitation) has declined on relative terms, while that from Melbourne has increased markedly. It is clear that while the Shire's base is established within the NSW market, this share is being diminished by an increase in inter-state visitors.

5.4.3 Existing Structure of the Industry in the Shire

(a) Accommodation

The major forms of rented accommodation in the Shire are hotels/motels, private hotels/guest houses and private houses and flats. Relevant statistics related to hotels and motels in the Shire since 1980 are shown in Table 5.12.

Table 5.12: Tourist Accommodation - Cooma-Monaro Shire Hotels/Motels[a.]

Years	1980	1981	1982	1983	1984	1985	1985[b]
Number of Establishments	17	18	19	20	19	19	24
Number of Rooms	405	N[c.]	442	443	432	432	NA
Number of Beds	1,270	NA	1,371	1,465	1,500	1,476	1408
Room Occupancy Rate (%)	35%	NA	29%	30%	32%	31%	NA
Takings ($ '000)	513	NA	475	680	629	770	NA

Source: Australian Bureau of Statistics, Tourist Accommodation, New South Wales.
a. Figures are September quarterlies
b. Cooma Visitors Centre 1985 Statistics
c. NA - Not Available/Not Published

Since 1980, the number of tourist establishments (as defined by the ABS) has increased from 17 to 19 (or 24, depending on source). Room occupancy rates of 29-35% are very low, due possibly to the summer low and the peripheral location of Cooma to the snowfields. Earnings have increased steadily since 1980. The September quarterly figures would include most of the ski-seasons takings for the year.

(b) Economic Benefits and Associated Development

The Tourism Commission of NSW notes that in the 1983/84 financial year, an estimated 394,000 visitors stayed one or more nights within the Shire and spent about $17 million which was responsible for the direct and indirect employment of some 450 people. Expenditure generated by day-trippers through the Shire was not included in the above.

"A recent survey of Cooma business operators by the Commission's Regional Officer, Mr Peter Carruth, indicated that 81% of the businesses surveyed considered that tourism was important to their business, with the values given ranging from 2% to 95%. The average value was 27%, although indications are that this figure was underestimated and the average was probably in the order of 30 to 40%. Woolworths indicated that 50% of its turnover was attributable to tourists". (Tourism Commission of NSW submission).

Retailers at the "Express" advertising seminar in May 1986, were told that Cooma had an annual turnover of $194 M with tourists annually spending $138 M in Cooma ("Cooma-Monaro Express", May 22, 1986).

While there are large discrepancies on tourist spending, it is evident that the town's economy is dependent to a large extent upon the tourists' dollar. For example, tourist related developments that exist (restaurants, specialty retail outlets, commercial and professional services) would not be viable given only the resident population. Other factors that can be attributed to tourism include employment, increased land values, increased rates and the attraction of permanent residents to the Shire, which in turn provide stimulus for further development.

Tourism related growth has perceived disbenefits particularly when a large influx of visitors threaten the established environment, life style and living conditions of the local residents. These threats can arise from increased vehicle/pedestrian conflicts, increased traffic congestion, increased queue lengths at shops, restaurants, public facilities, etc. These conflicts tend to be more of an issue in coastal resort areas, where tourism has different characteristics.

Future of the Industry

The demand for tourist accommodation in the Shire is derived largely from travellers to and from the Snowy Mountain snowfields and to a lesser extent upon attractions within the Shire. To some degree, it is dependant upon the availability of alternative types of accommodation such as holiday units in the Shire. It is not possible to estimate future demand for accommodation in the Shire as overall demand is related not only to individual location and management but to external

factors outside the Shire. Given the peripheral location of Cooma to the snowfields and the lack of significant tourist attractions, the tourist industry in Cooma is largely dependant on associated growth in Snowy River Shire. Any rise in the provision or upgrading of facilities in that Shire will have some effect on the tourist industry in Cooma Monaro. The ability of the Shire to increase tourist accommodation is constrained by the increased competition that could occur between establishments in the Shire and the problem of "off-peak" occupancy.

It is likely that Cooma, being a stop-over destination, will be affected by any increase in winter sports activity. Various studies on projected winter growth in tourism to Koscuisko National Park have been conducted. These have been summarised below and are in the Koscuisko Draft Regional Environmental Study (1983). All forecast winter tourist number growth ranging from 6% to over 12% between 1980 and 1990. The Department of Leisure, Sport and Tourism suggested an annual average growth rate of 5.6 percent until 1991-92. Hancock's (1982) Study concluded a similar estimate of around 5.6 percent but indicated that if certain constraints to growth (like restrictions on services by the National Parks and Wildlife, and on access capacity to the Perisher Range imposed by the Koscuisko Road) were removed, a higher growth rate could eventuate. David Hogg Pty Ltd's (1983) Study implied an annual average growth rate to 1991-92 of approximately 8.7 percent.

With rail transport soon to be provided between Thredbo Valley and Perisher with Skitube, the number of visitors to the Snowy Mountains is likely to increase. According to the National Parks and Wildlife Service, (as reported in the "Cooma-Monaro Express", June 5, 1986), the number of day visitors to the Koscuisko National Park could increase by about 50 percent between now and 1995.

If increases in visitors are realised as predicted, then road side ski-hire shops, motels, cafes and other commercial development are likely to be affected. Demand for weekenders could arise as a consequence. However, any attempt to place the tourist industry on a firmer footing must address the impact of seasonality on the permanent residents of the Shire, their enjoyment of lifestyle and the economic costs they are required to meet in the provision of community infrastructure, both public and private.

With changing demands and a desire to increase tourist numbers to the Shire, there is a need to consider the further provision of tourist accommodation and tourist attractions not only in Cooma but in the rural areas where development can be environmentally accommodated and economically justified. Fishing in the streams and man made lakes during summer should be greater promoted as an attraction to increase tourists in Spring and Summer.

5.5 Forestry

Although a large proportion of forestry activities in the Shire takes place on State Forests and other Crown land, and as such, is not directly regulated by Council, forestry influences the Shire in a number of ways, through employment, assistance with infrastructure such as roads, and fire fighting resources.

This section is drawn primarily from Forestry Commission publications (Badja Management Plan and Queanbeyan Management Plan) which highlight their management strategies for Crown land. The Badja Management Area Plan covers part of Badja State Forest, Glen Fergus State Forest and other Crown timber lands within Bega Forestry District. The Queanbeyan Management Area Plan covers those portions of Tinderry Nature Reserve and Tallaganda State Forest in the Shire and those within the Queanbeyan Forestry District.

Brief History

The "Badja Mill" was built by James Broadhead at the head of the Big Badja River in 1906. His son took over the mill after his death in 1929 and selectively logged over much of Badja State Forest and supplied hardwood timber to Cooma, the Snowy Mountains Scheme and, at one stage, to the NSW Government Railways at Cootamundra and Junee.

In 1939, Mr J A Peters set up a mill in Cooma and logged for a number of years over private property in the Dolundundale area. A decade later, he obtained a special licence to cut on Badja State Forest east of Countegany. Prior to 1952, there were no quota restrictions over the logging of timber. Between 1952 and 1970 Crown quotas were allocated, which reduced from a production timber output in 1952 of 3230m^3 net to 650m^3 in 1970. In 1970, Mr L Legge bought the

mills of both Peters and Broadhead and built a new mill at Polo Flat in Cooma operating as Badja Sawmills Pty Ltd. Both the Crown timber quota of 650m^3 and annual parcel sales continued until 1973. In 1976, timber quota (650m^3) and parcel allocations (7430m^3) were combined to 8080m^3. In 1977, this mill was bought by Tablelands Sawmills Pty Ltd (Cooma) who modernised the mill.

Timber production from Badja State Forest has been almost entirely hardwood sawlogs, with limited quantities of fencing timber and, in recent years, pulpwood. Records for Crown timber lands (other than State Forests) are not available prior to 1973 but production, like those from private property sources would not have amounted to a great deal.

The majority of the sawn product from the Badja Management Area is sold to the Wollongong market with the remainder divided between the local Cooma market, Canberra/Queanbeyan and a very small amount to Melbourne. The relative isolation and distance from the markets limits demand for forest products.

Records of log production in Tallaganda State Forest date back to the 1830's while available records indicate a history of over 50 years for Badja State Forest. By the turn of the century numerous sawmills were scattered to the north of the Shire and these operated on Crown lands for a nominal fee until timber royalties were introduced in 1903. Quotas were increased to an allocation of 10,170m^3 of timber in 1983.

The Forestry Commission notes that Tallaganda State Forest is increasingly being used for recreation, education and military training by the large, expanding and mobile population in Canberra. This is due largely to improved access, expanding interest in forest recreation by the nearby Canberra/Queanbeyan population and hobby farm development in rural areas. The Commission estimates that the number of visits has risen from 4,445 in 1980 to 10,800 in 1983.

Forestry as such is generally regulated outside the council development control process. In addressing draft plans of management and environmental impact statement for forestry, Council should consider:

(a) impacts on local roads and the means available to obtain additional funds for any necessary additional works,

(b) supporting increased recreational use of State Forest areas, and

(c) seeking controls over feral animals and noxious weeds.

Clearing

The Department of Agriculture has made the following recommendations on clearing of land in the Shire.

Council is encouraged to consider the merit of introducing controls requiring consent for tree clearing in the light of the benefits to agriculture in having trees in such an extreme climate, e.g. shelter and other aspects of micro-environment. Re-afforestation could be given higher priority. The Department of Agriculture has recommended that Council adopt the land clearing provisions in the Koscuisko Draft REP (Snowy River) viz "the killing or removal of trees comprising a stand of more than 2 ha in area, but does not include the killing or removal of trees associated with the erection or maintenance of fencelines". Council should limit this to a maximum 2 ha in any 5 year period, otherwise a person could clear 2 ha in any single development, and the cumulative effects would be effectively uncontrolled.

As discussed elsewhere, this approach is unnecessary, legalistic and arbitrary. Controls over clearing for soil conservation reasons are proposed in the draft LEP, but elsewhere in the Shire, it is reasonable to assume land owners will not clear land where it is against their interests.

5.6 Fishing

Fishing within the Shire is predominantly a recreational activity although there is some fishing for commercial purposes. The industry is however, presently very small due to the seasonality of fishing and relatively small demand.

Amateur angling is an attractive recreational activity for visitors to the Shire and the adjoining Shire of Snowy River during summer. The icy cold waters are good breeding grounds for freshwater fish. The popular fishing venues are in the large man-made lakes of Lakes Eucumbene and Jindabyne and the numerous streams and rivers throughout the Snowy Mountains region.

Presently, the more serious fishing visitors use Cooma, Bredbo and Nimmitabel as a base for fishing in the streams and man-made lakes. It has been estimated by the Fisheries Division that up to 250,000 people fish in the Snowy Mountains Region (including Cooma-Monaro). The number of fishermen cannot be estimated by the number of licenses issued as many fish without licences.

Fishing is an important tourist drawcard to the Shire, which raises a need to protect the general aquatic environment and maintain angler access to streams for fishermen. Adequate good quality water is a priority though this sometimes provides some conflicts in balancing between fishing and agricultural responsibilities. Also, provision for access for angles should recognise the interests of adjoining landowners, as well as minimise flooding risks.

5.7 Mining and Extraction

This section is based largely on the submission (Appendix 2) prepared by the Department of Mineral Resources.

Metallic Minerals

Intensive prospecting for gold was undertaken throughout the Monaro Region in the latter half of the nineteenth century. Gold mining, followed by silver, lead and zinc, was concentrated in the Cowra-Yass structural zone, a belt of Silurian acid volcanic and sedimentary rocks, which crop out between Michelago and Cooma. (See Section 3.2). Mining activities at Michelago, Colinton and Bredbo date back to 1878. Mining began later in the Captains Flat-Goulburn zone (5km north of the Shire boundary) though by 1962 the ore body there was depleted. This discovery greatly influenced further mining activity in the southern part of the zone, located within the Shire.

(i) The Cowra-Yass Zone

A large proportion of deposits in the Shire occurs within this belt. The sedimentary and acidic volcanic rocks of this zone yield various amounts of stratabound and vein deposits, including gold, lead, copper, silver, and barite. During 1957, over 5.0t of copper and 37kg of silver were extracted from the Dartmoor and Dartmoor East mines within this zone.

(ii) The Molong-South Coast Zone

The Cowarra gold mine is the only operating metalliferous mine within the Shire. It is located 15km south east of Bredbo, in the Molong-South Coast Zone and is one of 12 deposits which comprise the Cowra Creek Gold District. These deposits occur in late Ordovician sedimentary rocks and in the southern part of the district, are probably fault-controlled. Total recorded production for the district is 903kg of gold and, of this, 457kg has been extracted from the Cowarra mine.

South east of the Cowarra mine is an area of alluvial deposits, primarily of silver, with some lead and copper. The host rocks are both sedimentary and acidic volcanic intrusives.

(iii) The Captains Flat-Goulburn Zone

Numerous deposits of primarily iron and lead have been found in the Shire within acidic volcanic rocks of this zone, but most of these are very small or have no recorded production.

Recent exploration in the Shire has been concentrated in the Cowra-Yass Silurian volcanic belt and also in the area south of Captains Flat. This intensive exploration will be directed towards volcanogenic massive base metal sulphides and more recently, gold of hydrothermal origin.

Construction Minerals

Construction materials which have been extracted from within the Shire include clay/shale, river sand, ridge gravel and quartzite. These are low-cost

commodities, available in abundant quantities and have various uses, primarily as bricking materials. Remaining reserves of sand are likely to be sufficient for the future however, information on remaining reserves of clays, gravels and quartzite is not available.

Several deposits of limestone exist within the Silurian strata in the Umaralla River area. These are important materials for cement making but their economic potential is low because of their remote location.

Geological and Mining Heritage Value

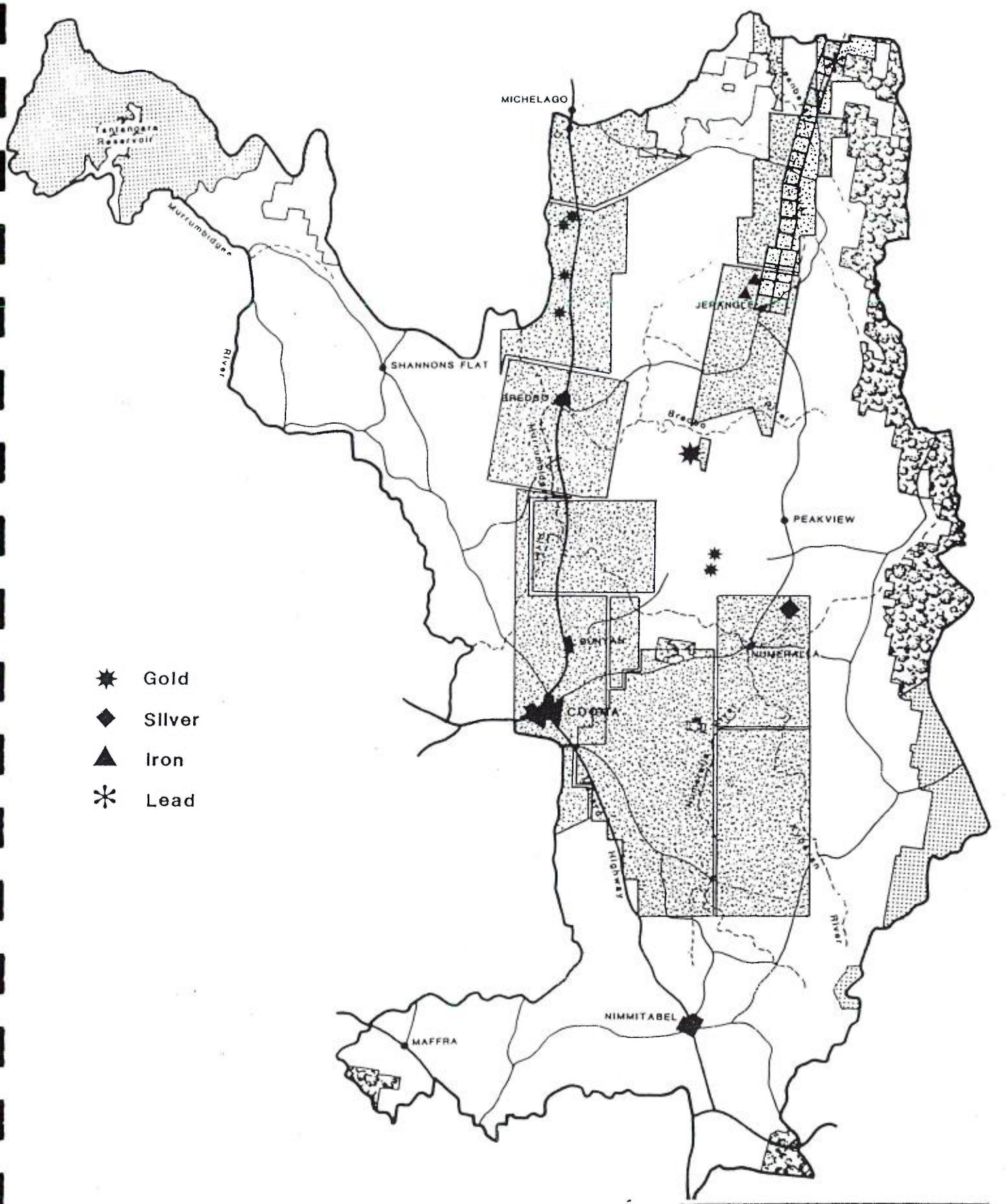
One site of geological significance and worthy of preservation occurs near Cooma. The site is on Soho Street on the outskirts of Cooma and offers good exposure of an amphibolite, notable because of its complex metamorphic history and consequently has significant educational value.

There is no declared fossicking in the Shire. Mining leases in the Shire are shown in Fig. 5.3. Leases are for up to 2 years while some leases have renewals pending.

Overview

As a general planning principle, the sterilisation of recoverable mineral deposits through surface development should be avoided where possible. Land use zoning may be a means to ensure that mineral resources occurring in sufficient quantities are protected for future development.

Extractive resources for road making is also a major issue, with uncertainty surrounding the status of existing pits, and complex statutory procedures required for even minor new workings. Council is taking separate steps to ensure existing pits and quarries are accurately recorded so that their continued operation is adequately covered. It is suggested that excavation by Council for road making be excluded from any requirement for development consent, relying on Part V of the Act for assessment of potential environmental impacts.



STATE FORESTS

NATIONAL PARKS

NATURE RESERVES

SOURCE: Department of Mineral Resources

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

5.3

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MINING LEASES AND MINERAL DEPOSITS

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5.8 Secondary and Tertiary Industry

The Shire's economic base is centred around agriculture which is discussed elsewhere in this Section. In 1983/84, agricultural production had a gross value of over $9½ million. (See Table 5.13).

Employment in the major sections of the Shire's economy is shown below.

Table 5.13 Cooma-Monaro Shire - Employment by Industry

Industry	1971	(%)	1976	(%)	1981	(%)
Agriculture	443	(11.3)	477	(12.3)	488	(11.3)
Mining	12	(0.3)	8	(0.2)	10	(0.2)
Manufacturing	162	(4.1)	232	(6.0)	208	(4.8)
Utilities	663	(17.0)	243	(6.2)	259	(6.0)
Construction	301	(7.7)	299	(7.7)	287	(6.6)
Retailing/ Wholesaling	664	(17.0)	681	(17.5)	804	(18.6)
Transport	159	(4.0)	168	(4.3)	158	(3.6)
Communications	119	(3.0)	103	(2.6)	126	(2.9)
Tertiary Services	359	(9.2)	464	(12.0)	604	(14.0)
Public Administration	120	(3.1)	152	(4.0)	161	(3.7)
Public Services	437	(11.2)	498	(12.8)	597	(13.8)
Hotel and Leisure	357	(9.1)	329	(8.5)	319	(7.4)
Other	115	(3.0)	231	(5.9)	308	(7.1)
Total Employment	3,911	(100.0)	3,885	(100.0)	4,329	(100.0)

Source: ABS

The major features of the table are:

- relative stability of employment in agriculture,
- the dramatic fall in Utilities due to the culmination of the Snowy Mountains Hydro-Electric Scheme,
- a gradual increase in tertiary (white collar) services,

- decline in the hotel, entertainment and recreation industry which could be explained by seasonal variations in snow conditions and increased accommodation in the Snowfields and Snowy River Shire.

In the Shire in 1981, 54% of the workforce was engaged in primary and secondary production, 14% in tertiary industry, 17.5% in public service with the rest in tourism and leisure. The dramatic decline of numbers in utilities can be explained by the completion of the Snowy Mountains Hydro-Electric Scheme. A decline in the proportion of employed in primary and secondary industries is evident with over a 10% decrease. This has been off-set by an increase in tertiary services and the public service. The decline in the hotel and leisure industry may be explained by a decrease in numbers who previously lived in the Shire but commuted to the snowfields. Increased accommodation in the snowfields and in Snowy River Shire may be another factor.

6.0 INFRASTRUCTURE

6.1 Roads, Transport and Traffic

Arterial Roads

The Monaro Highway provides the main road access to and through the Shire, linking the ACT in the north and Bombala Shire and Victoria to the south. The Snowy Mountains Highway is important for providing inter-shire access to the snowfields in the west and coastal access through to Bega in the east. See Figure 6.1.

The snow fields in Kosciusko National Park are reliant upon the Monaro Highway via Highway No 286 for access from the population centres of Canberra and Sydney. Cooma is centrally located between the snowfields and these centres, and not surprisingly, Cooma is often referred to as the "Gateway to the Snowy Mountains'.

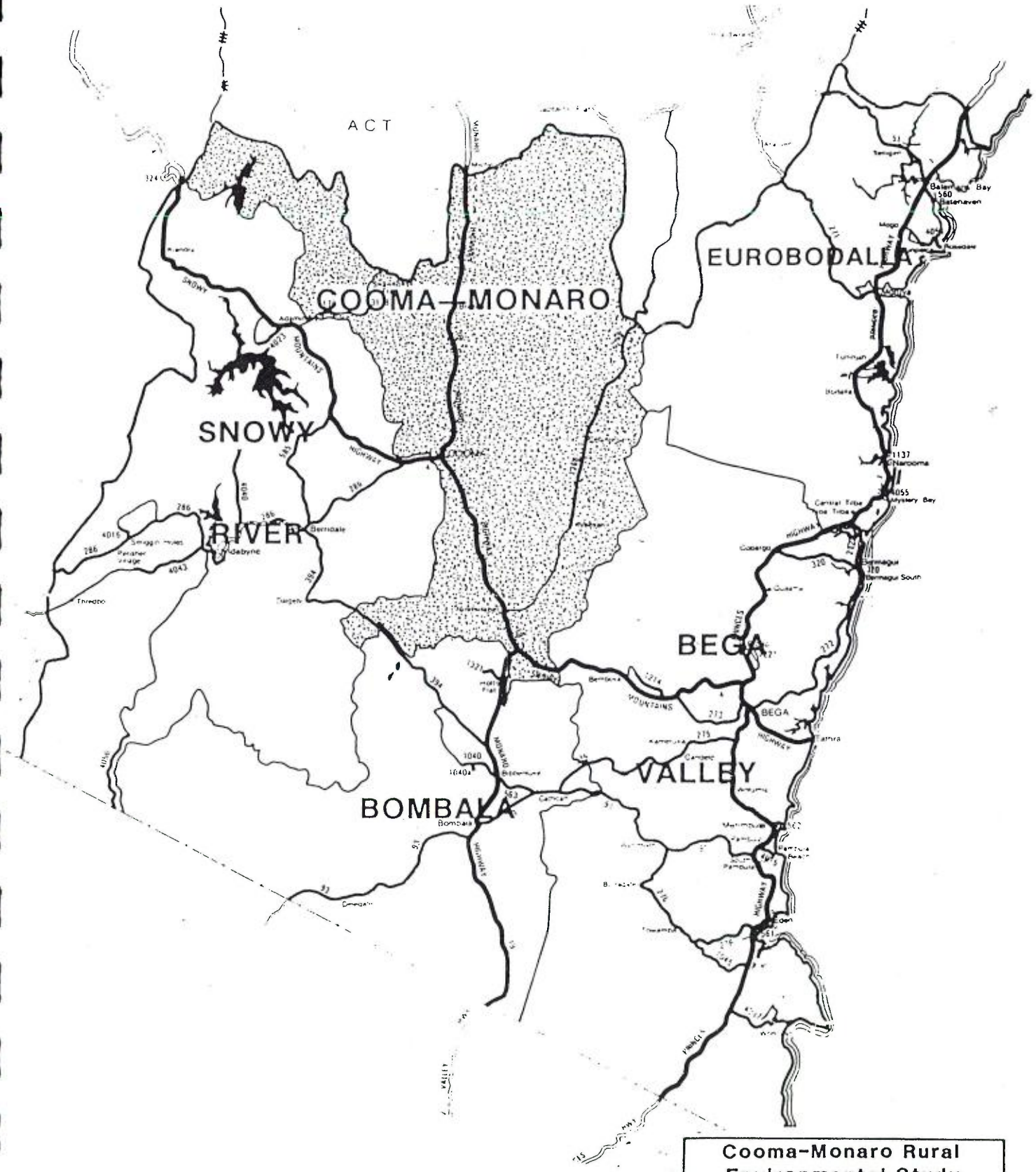
Table 6.1 shows the distances between Cooma and five capital cities.

Table 6.1 Distances to Cooma by Most Direct Route from Capital Cities (Km)

	Canberra	Sydney	Melbourne	Adelaide	Brisbane
Cooma	118	414	618	1,244	1,618

The Department of Main Roads is responsible for the construction and maintenance of the two important State Highways through the Shire. Extensive sections of these roads are maintained from a base in Cooma and activities include snow clearing in the Snowy Mountains area.

The Department of Main Roads has indicated they have no proposals which will cause any significant changes to the classified road system within the Shire. Construction of the approaches to the new bridges over Numeralla River will represent the largest roadwork project programmed within the forseeable future. All other works by the Department of Main Roads involve either minor deviations of the existing highway or pavement rehabilitation, including the provision of overtaking lanes where applicable.



Cooma-Monaro Rural Environmental Study

6.1

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SOUTH COAST-SNOWY MOUNTAINS SUB-REGIONAL ROAD NETWORK

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SOURCE: Department of Main Roads

Boboyan Road, leading from the ACT through Namadgi National Park to Shannon's Flat provides an alternative access to the Shire and snowfields. Even though it is somewhat shorter in distance than the Monaro Highway to the snowfields, it is not frequently used for that purpose because it is only partially sealed and not easily accessible. It is only an access road but road improvements may be undertaken in the future.

Transport

Cooma is well served by rail and bus/coach with daily services from Canberra, Sydney and Melbourne, although recently rail services have been reorganised by the State Rail Authority.

The Shire is well serviced by bus-services, comprising passenger, tourist coach; and school bus services.

Passenger services are available within Cooma township; Jindabyne to Cooma to Sydney; Bega to Cooma to Canberra; and Cooma to Jindabyne and Adaminaby. During the ski-season, more services are scheduled.

Tourist vehicle licences within the Shire are held by Cooma Coaches, Heise, Boomerang, and Ansett-Pioneer. A restricted tour licence is held by Wilderness Expeditions who specialise in cross-country skiing and outback tours.

School bus services are available from - Shannons Flat to Cooma, Nimmitabel to Bobundara, Cooma to Nummeralla, Eucumbene to Cooma, Kybean to Nimmitabel, Bredbo to Cooma, Maffra to Cooma, Jumping Creek to Nimmitabel, Adaminaby to Cooma, Jindabyne to Cooma, Dalgety-Berridale to Cooma, Nimmitabel to Cooma, Peakview to Jerangle and Myalla-Walker to Cooma.

According to the Department of Transport (Queanbeyan) the Shire is well served by bus/coach public transport given there are other forms of transport available and the Shire's relatively small population.

There are flights available daily to Cooma from Sydney and Melbourne with flights available from Brisbane to Cooma on weekends during winter. In winter, more flights than usual are scheduled to accommodate skiers, with a major attraction being the short travelling time. There is scope to capture more of the skiing tourist market by greater promotion and effective marketing. Coach services and tours are available and it may be necessary to allow long distance coach operators to compete with the railways in an attempt to improve services to the Shire.

Traffic

Future development in rural areas will need to be considered in the context of ribbon development principles, traffic capacity and safety on main roads, and the impact of buildings on the landscape when viewed from major roads. Topographic and geologic conditions impose constraints on extensive new access road construction to service new development.

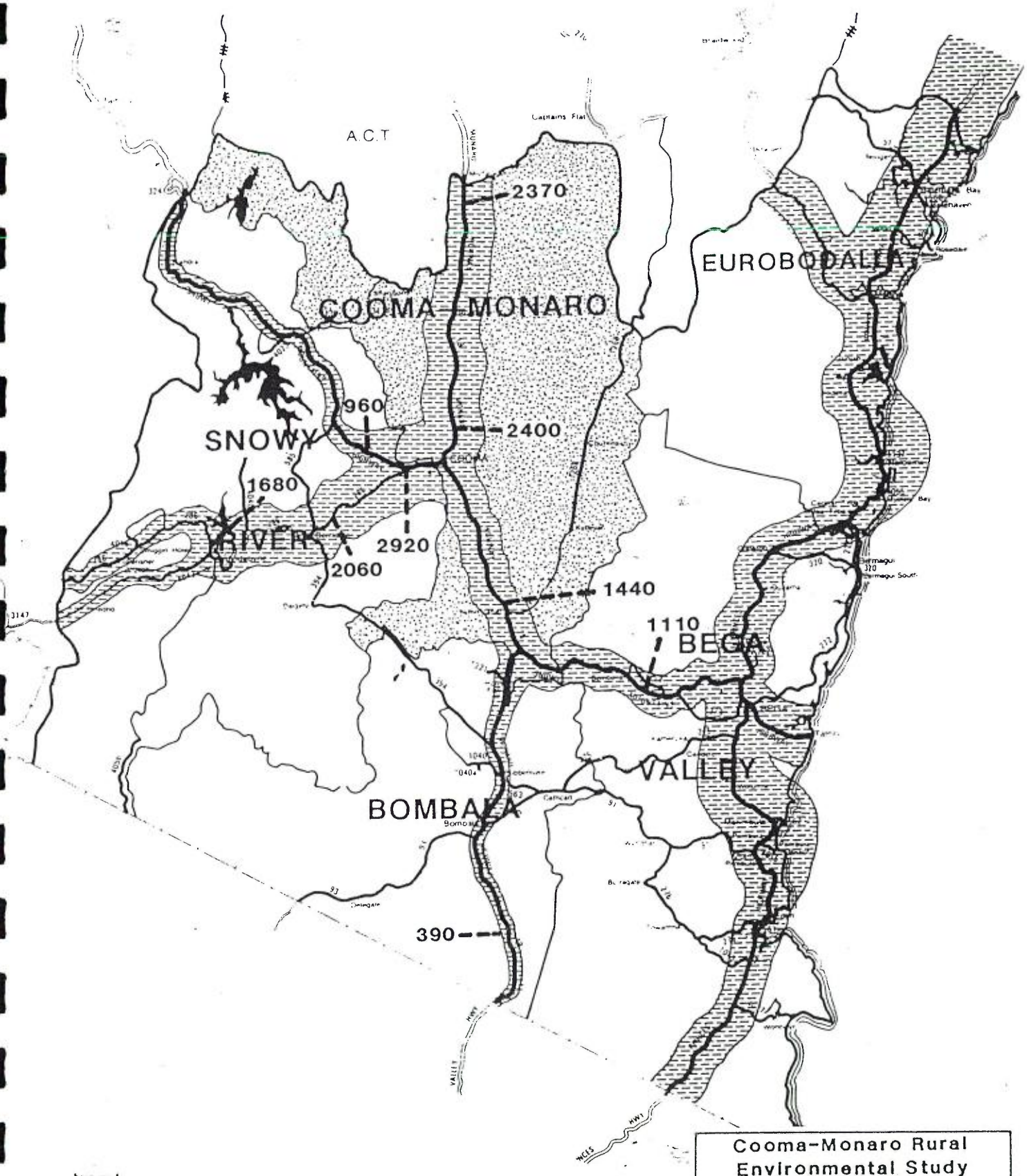
For these purposes, traffic volumes are assessed. Figure 6.2 illustrates traffic volumes on the main roads in the south coast - Snowy Mountains sub-region. The data available indicates the Monaro Highway contains by far, the bulk of traffic through the Shire and highlights the centrality of Cooma for traffic to and from the ACT, the snowfields and Bega Valley Shire.

Table 6.2 below shows the comparative traffic volumes from 1967 to 1982 at locations A - J in Figure 6.3.

Table 6.2 Traffic Volumes at Stations

Station	Location	A.A.D.T 1967	1970	1974	1978	1982
A.	At Yarrowlumla Shire Boundary	1390	1290	1830	2250	2370
B.	Bunyan at Cooma Cr Br	1410	1470	1890	2370	2400
C.	W-Bombala Street	8410	7720	10180	10020	9850
D.	E of Mr 286, Beridale Road	-	2190	2080	2770	2720
E.	West of Mr 286, Berridale Road	-	650	720	930	960
F.	Eucumbene Road	1340	850	1610	2520	2570
G.	S of Dangelong Street	720	1160	1130	2390	1480
H.	Nimmitabel	1320	1230	1310	1570	1440
I.	Bemboka	700	710	760	1180	1110
J.	Ando	310	330	440	460	520

Source: Department of Main Roads, 1982



REPRESENTATIVE OF TRAFFIC VOLUME

Figures indicate average annual daily traffic volumes representing the total traffic in both directions at each location in 1982

SOURCE: Department of Main Roads

Cooma-Monaro Rural Environmental Study

6.2

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TRAFFIC VOLUMES

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Certain factors emerge from these statistics although these cannot be considered in isolation.

- Traffic along the stretch of Monaro Highway north of Cooma has increased steadily.

- Traffic, west out of Cooma along the Snowy Mountains Highway has fluctuated, with marginal increases.

- Traffic past Berridale to the snowfields has increased.

- Traffic south of Cooma and at Nimmitabel along the Monaro Highway has not increased noticeably.

- Traffic along both Ando on the Monaro Highway and Bemboka on the Snowy Mountains Highway has increased steadily.

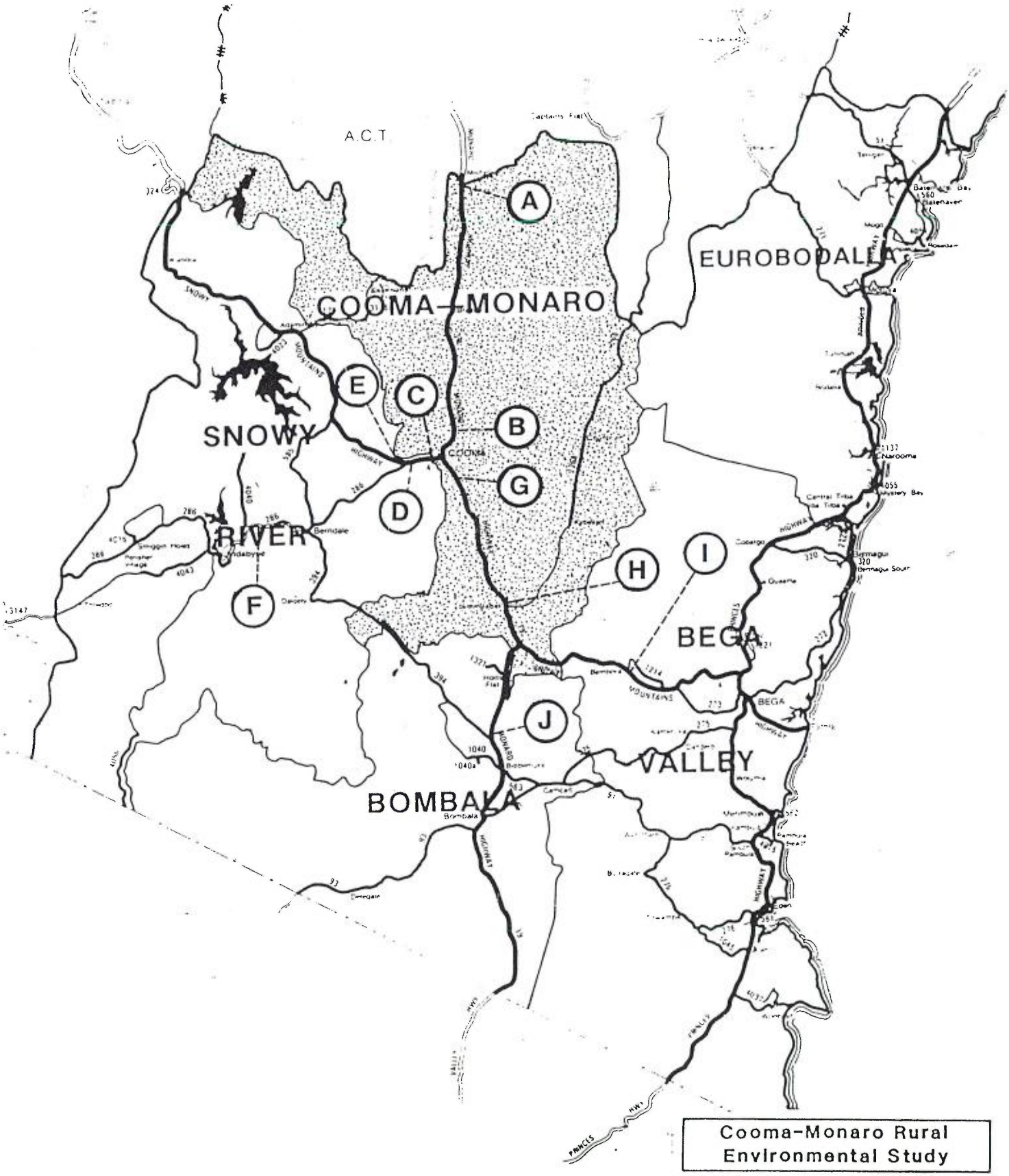
Other figures published by the Department of Main Roads (1982) do not show noticeable increases along Cooma's main streets. Unless traffic volumes increase dramatically, an alternative by-pass road around the town centre is not warranted. The provision of this in planning of the town centre needs to be evaluated carefully as the town's viability is to a large extent dependent on through traffic.

In the rural areas, traffic volumes are not of a level to suggest constraints on development because of road capacity, even allowing for a degree of winter peaking. This is as distinct from localised constraints based on safety.

Traffic Accidents

Traffic accident statistics published by the Traffic Authority of New South Wales indicate that in 1983-84, there were 214 accidents within the Shire. Of these, 45 percent occurred on the Monaro Highway, 12 percent on the Snowy Mountains Highway and the rest occurred on other roads within the Shire.

The location of accident occurrences are shown in Table 6.3 below.



Cooma-Monaro Rural Environmental Study

6.3

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TRAFFIC STATIONS

MASTERPLAN CONSULTANTS

Table 6.3 Traffic Accidents within Cooma Monaro

	1983-84	Quarters Ending 31st March, 1985	30th June, 1985
Billilingra	5	-	1
Bredbo*	10	1	3
Bunyan*	8	1	1
Chakola*	5	-	-
Cooma*	99	8	10
Michelago*	10	-	2
Nimmitabel	18	2	6
North Cooma*	6	-	1
Numeralla	3	3	-
Shannon's Flat	7	-	-
Other in Shire	43	8	10
Total	214	23	34

* Located on Monaro Highway between Michelago and Cooma
\- None recorded
Source: Traffic Authority of NSW

Cooma accounted for almost half the number of traffic accidents with the remainder spread over the rest of the Shire. Six of the traffic locations listed in Table 6.3 are on the "stretch" of the Monaro Highway between Cooma and Michelago. This is where 65 percent of traffic accidents within the Shire occur. Table 6.3, (while unavailable for a number of previous years) does imply more accidents occurred in autumn than in summer and that these differences are a reflection of seasonal traffic volumes.

The risks at "black spot" locations along the Monaro Highway are being reduced by road improvements and continued road surveillance by the Police, particularly during the ski season. This priority is noted by the State Government who have announced plans to spend $10m in an effort to reduce the time taken by motorists to reach the snow and to improve safety. Most of the money allocated is to be spent on the sketch of Monaro Highway between Canberra and Cooma.

Local Roads

The primary issue with local rural roads is the difficulty faced by Council in maintaining an adequate standard given overall lengths of road, rate and other fund restrictions, and the poor ground conditions in much of the Shire (which accellerates road failure and maintenance problems).

Encouragement of development in parts of the rural area may provide funds by way of development contributions to address this problem - subject to the level and timing of contributions, but offset by increased road usage. A strategy which concentrated development opportunities in a way which places least stress on the Shire's rural road system is preferred. This would include minimising lengths of new road unless they were designed to minimise added maintenance burdens.

A particular problem exists with Crown portions accessible only by unformed Crown roads. This can partly be addressed by requiring development consent for dwellings on unformed/unmade roads, enabling access improvements. A planning strategy which provided wider opportunities for small holdings may act to reduce demand for portions. However, the problem is unlikely to vanish and may only be effectively reduced with the co-operation of the Lands Department in closing such roads where possible.

The Department of Lands is currently developing a comprehensive inventory of Crown Land holdings and their characteristics, as well as a regional management approach, as a basis for policies on the use, retention and management of holdings. This includes a review of unformed Crown roads.

6.2 Community Services and Facilities

The range of community services and facilities available in the Shire are concentrated in Cooma. Although there are no publicly provided facilites in the villages, there are a number of halls provided, used and maintained by the fairly active communities who live there. The social facilities and services in Cooma are largely provided for by Federal, State and Local Government bodies with voluntary community groups making a substantial contribution, especially in the area of welfare. The existing facilities and services in the Shire are listed below:

Accommodation

(i) The CYTA Lodge provides lodge accommodation specialising in youth groups, with the Pine Lodge Hostel catering to sub-normal children.

(ii) The Salvation Army Hostel provides accommodation with self catering.

(iii) The Department of Housing is currently investigating housing problems in Cooma, particularly disadvantaged and emergency housing.

(iv) Sir William Hudson Nursing Home caters for the elderly.

(v) The Monaro Tenancy Scheme.

Community Groups and Welfare

(i) A number of Government services exist. The Department of Social Security provides unemployment and child care support services. Community services and employment opportunities are catered for by the Department of Youth and Community Services and Commonwealth Employment Service.

(ii) Other community groups include Community Health, Community Youth Support Scheme, Family Support Service, Home Care Service of NSW, Community Contact Service, the Salvation Army, St Vincents de Paul Society, Community Women's Association of NSW, Combined Pensioner's Association and recently formed, South Coast Regional Council of Parents and Citizen's Association.

Education

(i) Cooma has 2 pre schools and 1 family day care centre.

(ii) In Cooma, there are 2 State primary and a Catholic Primary School, a State and Catholic High School, a Technical College and an adult training

centre. There are also state primary schools at Nimmitabel, Bredbo, Numeralla and Jerangle.

(iii) School bus services cover a wide area extending to Dalgety, Perisher, Adaminaby and Thredbo in Snowy River Shire.

(iv) The Monaro Regional Library Agreement providing services to Cooma-Monaro, Bombala and Snowy River Shires has been the issue of some dispute between the district Councils. The State Government is keen to see this service maintained because the constituents, in terms of population in the Shires, is not large enough to maintain the type of library service that the present regional library agreement is able to provide. The inter-shire book mobile service operating between Bredbo, Berridale, Jindabyne, Nimmitabel and Adaminaby.

Health

(i) Cooma District Hospital caters to a whole subregion and has available 66 beds with an adjusted occupancy rate of 58%.

(ii) An aerial ambulance service operates, particularly for accidents in the Snowy Mountains.

Information

(i) Cooma Visitors Centre provides general tourist information and reports on road, snow and weather conditions throughout the year. The possibility exists of extending or rebuilding the information centre.

Media and Entertainment

(i) The local newspaper service is the Cooma-Monaro Express.

(ii) Radio stations consist 2XL and 2BA/CP. Television services include ABSN-O, ABSN-8, ABC, CTC-10 and SBS-TV.

Religion

A wide denomination is catered for with services offered by the Bahai Faith, Baptist Church, Church of England, Cooma Christian Assembly, Uniting Church, Jehovah's Witness, Mormon, Presbyterian/Lutheran Church and the Roman Catholic Church.

Service Clubs

(i) The service clubs include the Apex Club, Lions Club, Rotaract Club, Rotary, Soroptomists Cooma Chamber of Commerce and Snowy Mountains Tourist Association.

Sports and Recreation

(i) Facilities in Cooma include air tours, basketball courts, bowling greens, gliding centre, golf course, horse-riding school, snooker clubs, swimming pool, tennis courts and elsewhere, sporting ovals, community tennis courts, golf course and a bowling green in Nimmitabel.

Adequacy of Existing Facilities and Services

A detailed assessment of the adequacy of service provision in the rural areas of the Shire is beyond the scope of this study. It is clear that given the concentration of community services and facilities in Cooma, people in the rural areas face potential problems of social isolation, travel time and travel costs disadvantages. With the socio-economic characteristics of the rural population and the dispersed settlement pattern, the assessment and provision of particular services may be required. Improved access to Cooma may be the greatest community benefit for rural dwellers.

The South Coast Regional Office of the Department of Education in their submission to this study is of the opinion that existing educational facilities will more than adequately meet likely demand in the Shire over the next ten years.

The Department of Sport and Recreation has indicated however that a shortfall in recreational facilities exists in the Shire. These include an indoor recreation complex, an athletics track, and additional playing fields and amenities.

6.3 Water Resources

The majority of the Shire is located within the Murrumbidgee River Basin which envelops the Murrumbidgee River and extends as far west as Balranald as shown in Figure 6.4. The portion extending from Nimmitabel southwards is in the Snowy River Basin. Main waterways in the Shire are the Murrumbidgee, Bredbo, Numeralla and Maclaughlin Rivers, and the Bobundarra Creek which extends from Jindabyne River in the south west towards Nimmitabel.

The climatic data in sub-section 3.1 indicated that the Shire received seasonal rainfall with variations within the Shire. As a consequence, adequate permanent water supply of acceptable quality can not always be assumed. Snowy River Shire, to the west Snowy Mountains Hydro-electric scheme in addition to electricity, provides water to the drier areas of southern NSW and northern Victoria.

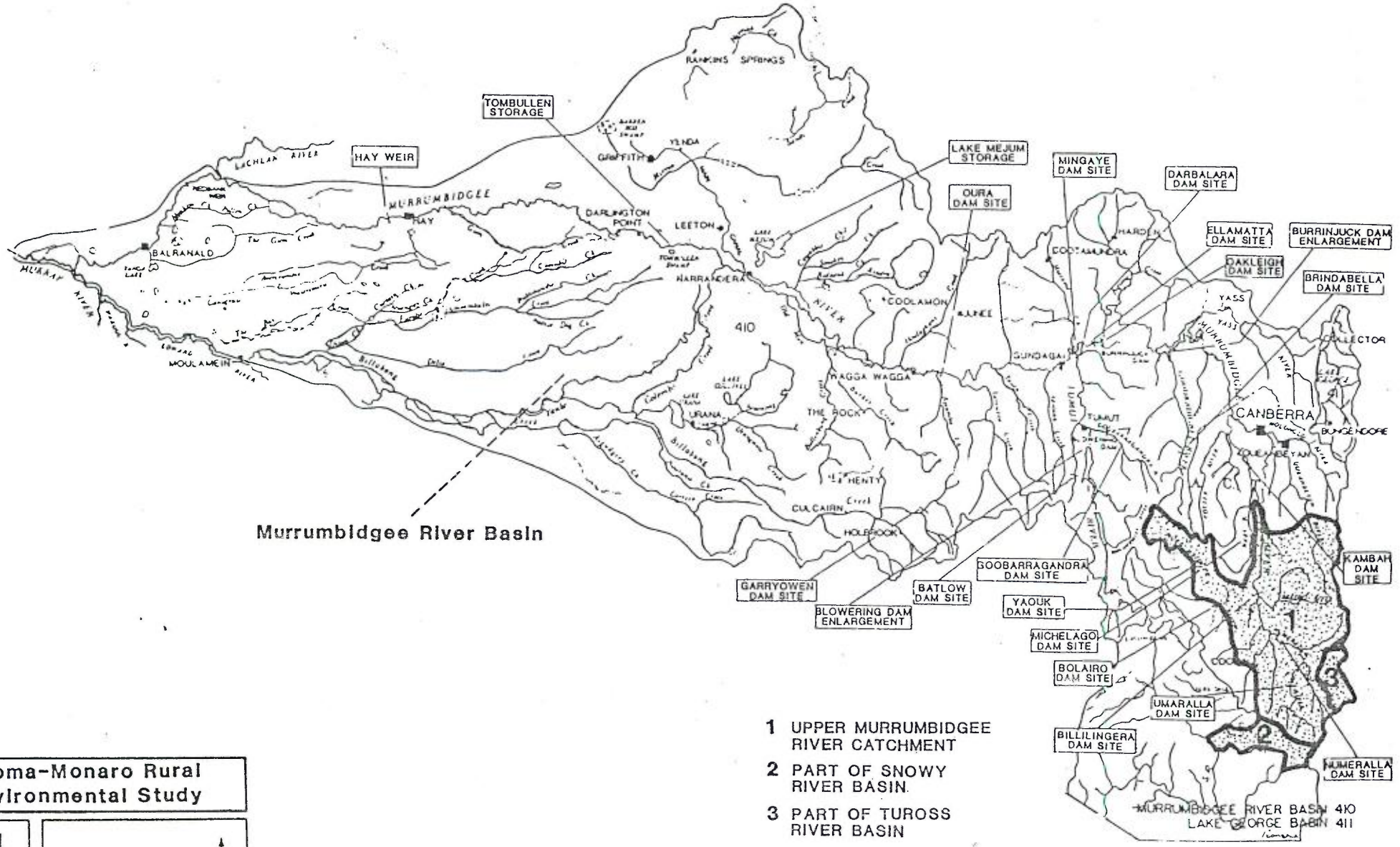
The following information on water resources of the Shire is based largely on the Water Resources Commission's submission to this study.

Surface Water

(i) Stream Flows

The Cooma-Monaro Shire contains portions of three river basins, which are the Murrumbidgee River Basin, Snowy River Basin and Tuross River Basin as shown in Figure 6.4.

The Murrumbidgee River in its headwater is regulated by Tantangara Dam, which is a work operated as part of the Snowy Mountains Scheme. The Murrumbidgee water is diverted via tunnels into Lake Eucumbene. Flows below Tantangara Dam are limited to spills which are rare, and releases for stock and domestic needs. Cooma takes some of its water supply from the Murrumbidgee River but releases are not made from Tantangara Dam for irrigation.



Cooma-Monaro Rural Environmental Study

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WATER CATCHMENTS AND BASINS

MASTERPLAN CONSULTANTS

SOURCE: Water Resources Commission

(ii) **River Gauging Stations**

The Commission has operated a number of gauging stations in the Shire. These stations are used for assessment and management purposes. Details on catchment areas and periods of operations of these gauging stations within and surrounding the Shire are listed in Technical Appendix 3. Their approximate locations are shown on Figure 6.5.

Stream flow data for the Commission's stations can be obtained as computer printouts, which are available at cost on application to the Commission.

Stream flow records can be useful in delineating potential flood prone lands and in assessing stream potential for urban water supply.

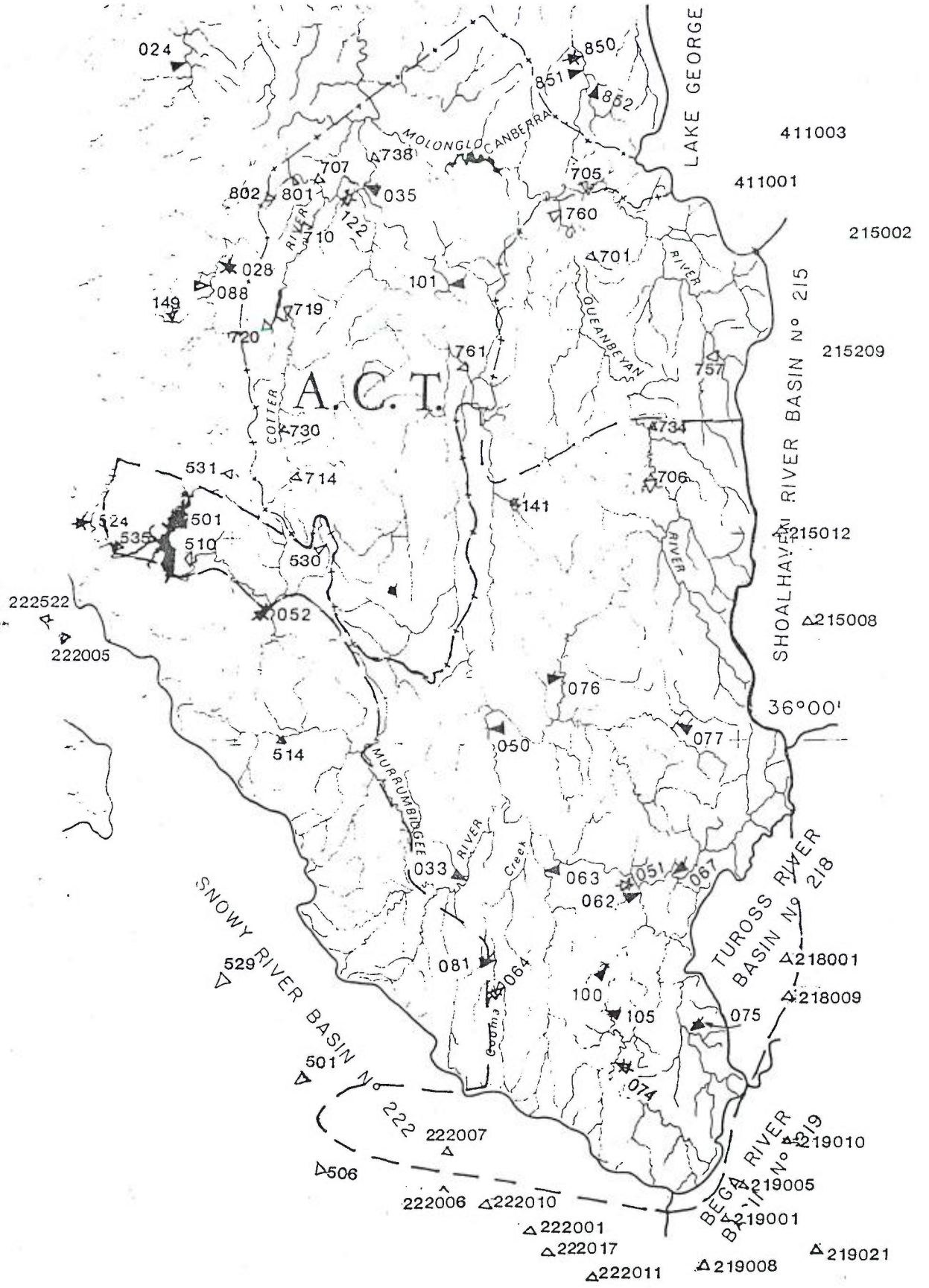
(iii) **Licenses**

Details on the number of irrigation licenses, area authorised for irrigation, area actually irrigated and water diverted for the 1983/84 season are given in Table 6.4 overleaf.

Groundwater

Figure 6.6 illustrates the availability of groundwater in the Shire. The eastern and southern portions of the Shire have good quality groundwater resources while the northern and north-western sectors have lower quality groundwater resources which are however suitable for livestock, some domestic and limited industrial uses, and for some irrigation under favourable conditions.

The Water Resources Commission notes that fractured rocks provide the dominant mode of occurrence of groundwater in about half the State. Of the four geographic zones, the Central and Southern Tablelands concerns the Shire, although there is relatively little demand for groundwater, being in the elevated southern alpine region. The central part of the Shire is in a rain shadow belt where there is relatively high demand for water and some irrigation.



At January 1985

SOURCE: Water Resources Commission

Cooma-Monaro Rural Environmental Study

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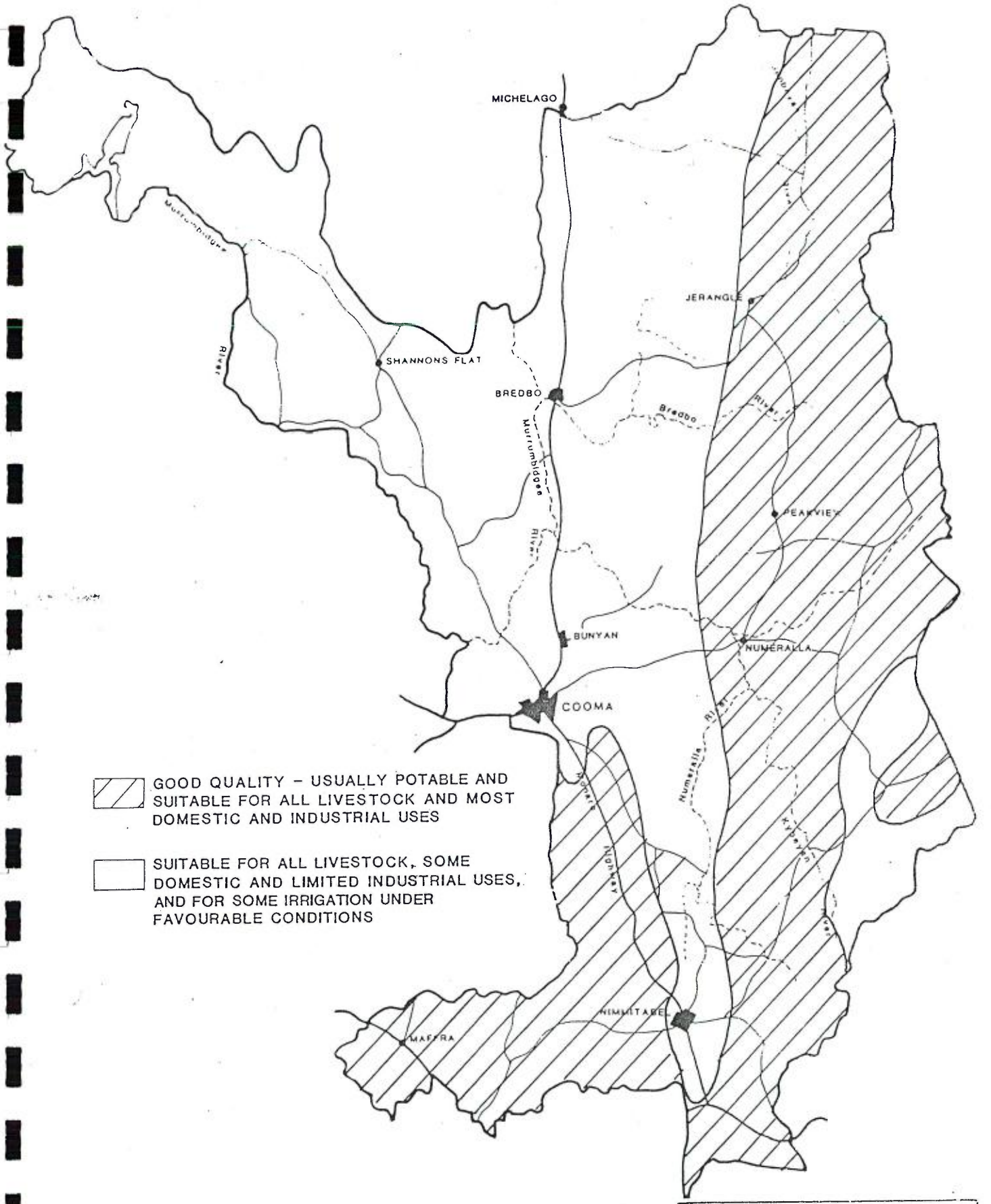
WATER RESOURCES COMMISSION RIVER GAUGING STATIONS

MASTERPLAN CONSULTANTS

TABLE 6.4 WATER USE - SHIRE OF COOMA-MONARO

	As At 30.6.84						
	No. of Irrigation Licences and Authorities	No. of Water Supply Licenses and Authorities	No. of Other Licenses and Authorities	Area* Authorised For Irrigation (HA)	Area* Actually Irrigated (HA)	Water* Diverted for Irrigation (ML)	Water* Diverted For Water Supply (ML)
Murrumbidgee River	28	3	-	1,094.5	493.0	1,294.0	776.2
Bredbo River	7	-	-	103.5	55.5	50.6	-
Cowra Creek	-	1	-	-	-	-	0
Michelago Creek	1	-	-	105.0	0	0	-
Lea Tree Creek	1	-	-	4.0	0	0	-
Pilot Creek	1	-	-	4.0	0	0	-
Barkersdale Creek	-	-	1	-	-	-	-
Numeralla River	26	2	1	1,287.5	118.0	122.5	0
Unnamed Watercourse (Numeralla R. Catch.)	-	-	1	-	-	-	-
Big Badja River	5	1	1	59.5	0	0	-
Cooma Creek	12	-	1	94.0	12.5	33.0	-
Kybeyan River	1	-	-	11.0	0	0	-
Rock Flat Creek	1	-	-	20.0	0	0	-
Tuross River	1	-	-	40.0	0	0	-
Maclaughlin River	-	1	-	-	-	-	0
Bobundara Creek	2	-	-	46.5	20.0	17.3	-
TOTAL FOR SHIRE:	86	7	4	2,775.0	669.0	1,517.4	776.2

* Figures are for the period 30.6.83 to 30.6.84.
Source: Water Resources Commission



Cooma-Monaro Rural Environmental Study

6.6

SCALE 1:500,000

0 2 4 6 8 10KM

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GROUNDWATER AVAILABILITY

MASTERPLAN CONSULTANTS

SOURCE: Water Resources Commission, NSW

NOTE: This map is a broad representation and is not intended to refer to individual properties

The groundwater is generally of excellent quality, having less than 500mg/l of salinity. The supplies from bores are generally useful for stock and domestic purposes, but where yields in the upper part of the range are obtained, they could be used for minor irrigation.

As a large part of the area is mountainous and uninhabited not many bores have been sunk. Only 34 bores have been registered in the Shire.

Recharge to groundwater occurs mainly by rainfall directly or water infiltrating downwards into the rock openings from the surface. The movement of groundwater generally follows that of surface water, (i.e. down gradient) although much more slowly. Discharge is mainly by groundwater flow (base flow) into the watercourses. Storage of groundwater in the Shire would be small and consequently no estimates have been made.

Pollution hazards to the rock formations are small due to their low permeability. The effects of any pollution would be local as the polluted water moves only slowly.

Rivers

According to the Water Resources Commission, there are currently no sand or gravel extraction operations in any of the rivers in the Shire that hold a permit under Section 23A of the Rivers and Foreshores Improvement Act (1948). Under this Act, the prior permission of the Commission is required before making any excavation in the bed of a river or within 40 metres of either bank. If large scale extraction occurs, bank stability or the riverine environment may be adversely affected. Councils and other statutory authorities however do not need to obtain prior permission.

Dam Sites

The Water Resources Commission has identified a number of possible dam sites in the Shire, as shown in Figure 6.4.

It has advised that as it is unlikely that any proposals for dams at these sites will be developed in the forseeable future, existing rural zonings should be preserved as a minimum level of protection. In the Commission's view, intensive development should be restricted in these areas so as to avoid excessive costs and social hardship, should a dam be constructed on any of these sites in the future. However, this will not always be practicable for a variety of reasons, not the least of which is uncertainty.

Water Requirements and Supply

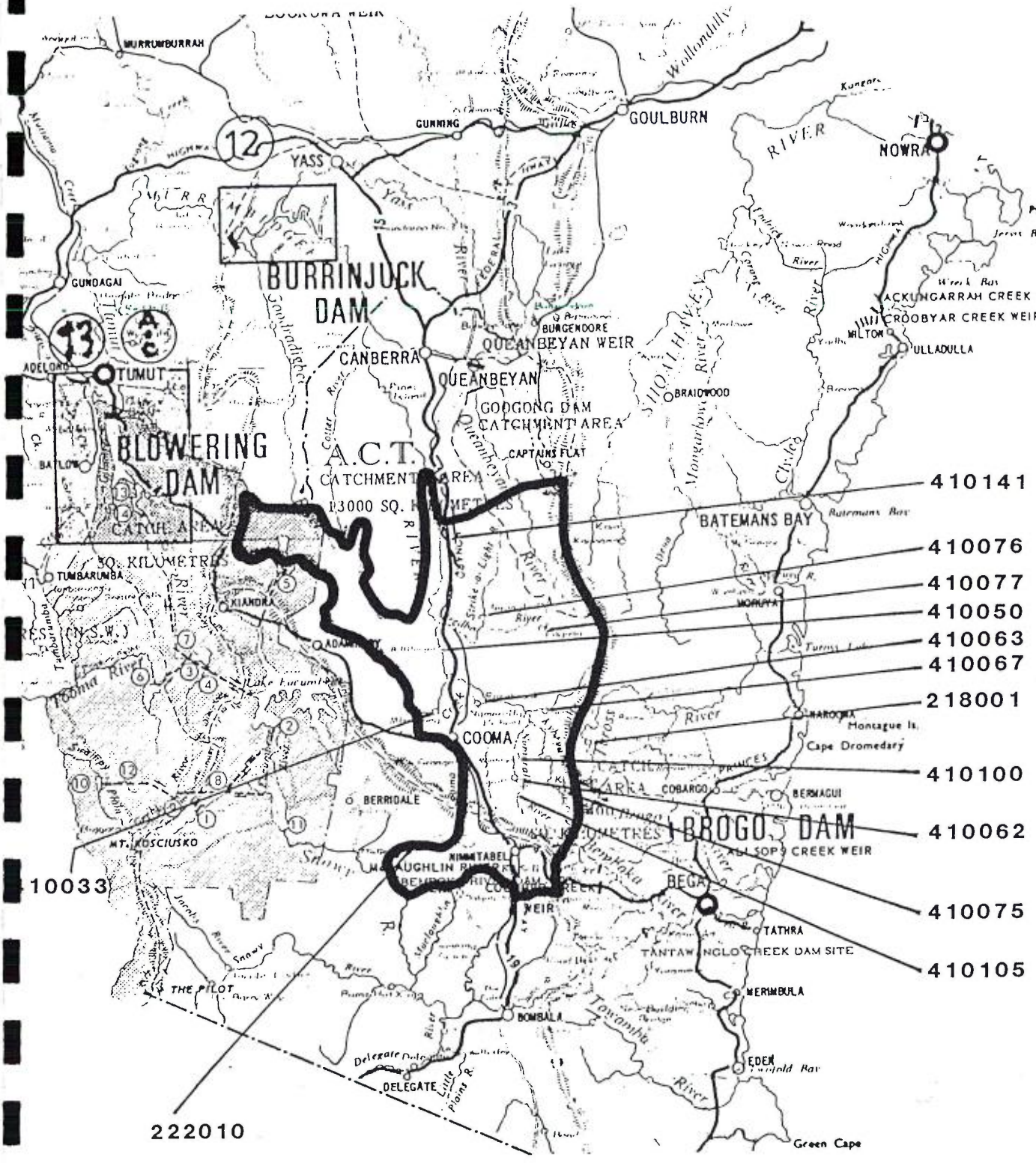
At present, the water consumption of the Shire (according to the Bureau of Statistics), is approximately 2,900 ML per annum, of which 2,000 ML is for domestic supply and the rest is for stock supply.

Cooma's principal water supply is obtained from the Murrumbidgee River which lies to the north of the town and approximately 170m below the town's elevation. The quantity and quality of water supply is considered to be adequate for immediate forseeable growth in Cooma, but this is subject to investigation of pipe sizing and terrain difficulties in the town's industrial areas. There are problems with water pressure in areas above 870m elevation, and residents would need to import domestic water about once in every two to three years. Council's interim policy on household water supply by roofwater catchment relate to those who live in the Cooma - Bredbo rainshadow area. No allowance is however made for garden and other useages. Water supply is thus an important consideration in the formulation of any land use policies.

Water Quality

In general no detailed water quality investigations in relation to land use have been undertaken. The data collected by the Water Resources Commission have been part of a long term assessment of water resources in the area. (See Technical Appendix 4 and Figure 6.7 for details).

The following comments are general and not suitable for assessing specific action without further investigation:



Cooma-Monaro Rural Environmental Study

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WATER RESOURCES COMMISSION STATIONS

MASTERPLAN CONSULTANTS

SOURCE: Water Resources Commission

(i) Murrumbidgee River Catchment

. Murrumbidgee River above Mittagong Crossing

The waters are low in salinity and generally low in turbidity. The few nutrient data indicate that while there is sufficient nutrients to support moderate amount of algal growth, they are not at levels to cause concern.

. Numeralla River Subcatchment

Waters in this catchment are generally low in salinity and turbidity. Occasional high turbidity values in the Numeralla River indicate that water quality may be affected by erosion. Similarly high turbidity values in Rock Flat Creek indicate that further investigation is required. The wide range of pH values in this creek also indicate that nutrient enrichment and excessive algal growth may be occurring.

. Murrumbidgee River at Billilingra

Generally there is low salinity with low turbidity. A wide range, as high as 8.9, in pH values may indicate that nutrient enrichment with excessive algal growth may be occurring.

. Bredbo River Subcatchment

Water quality in the catchment is generally good. The problems associated with a goldmine tailings dam have now been largely controlled by diversion of stormwater around the dam.

. Micaligo Creek

The few available data do not indicate any water quality problems.

(ii) **Snowy River Catchment**

. **Bobundara Creek**

The salinity of waters in this creek appears to be due to the presence of magnesium and calcium carbonates, possibly of natural origin. There do not appear to be major water quality problems apart from periodic problems with effluent from the Nimmitabel sewerage treatment plant.

(iii) **Tuross River Catchment**

. **Tuross River above Tuross Vale**

The quality of waters is good with generally low salinity and turbidity.

The available data does not indicate any major water quality problems of waters in the Shire. The occasional high turbidity values and high pH values indicate that further investigations are required to determine whether these are due to land use practices or natural causes.

Implications for Development

Available water resources are adequate for the needs of the Shire, but supply is constrained by economics of provision in a difficult terrain.

A strategy for the provision of water supply to the main settlement will need to be developed concurrently with urban growth. With the prohibitive costs of pumping to elevated areas, the Public Works Department has advised that in opening new areas for subdivision, elevated sites for service reservoirs should be reserved and residential development be precluded above specified contours. Supply of water to rural areas of the Shire will continue to rely on rainwater tanks, ground water, farm dams and access to streams. An adequate all year supply cannot be guaranteed given the Shire's location in a rainshadow belt.

Reticulated water supply to rural residential development will only be possible in limited situations, mainly around Cooma. The criteria used in assessing appropriate subdivision size should include the ability of the land to provide adequate water (e.g. for farm dams) and to absorb wastes. The latter is to allow for water quality protection both within any holding and downstream.

Terrain, location and layout are as important as lot size in the protection of water quality within and downstream of rural subdivisions. Stored waters, natural watercourses and waterbodies within the Shire could be protected by the imposition of set-back distance for building development, or foreshore building line provisions.

Given the Shire's generally high risk from soil erosion and potential problems with water supply, Council could consider the use and encouragement of **super-absorbent powders** in maximising plant growth. The following is taken from an article by Barrie Gallacher in "Landscape Australia", August 1984 (See Technical Appendix 5). Super-absorbent powders are compounds which absorb and hold between 300 to 1000 times their own weight in water, slowly releasing this moisture for use by plants. They basically increase aeriation in clay soils, improve moisture retention in sandy soils and because of lack of moisture stress, they improve plant growth.

Benefits to Local Councils, farmers and foresters include:

- reduced maintenance costs and more efficient use of labour,
- existing trees can be treated but this tends to be labour-intensive although necessary in times of droughts, and
- improved tree seedling survival, improved crop yields and germination ensured in marginal moisture conditions.

Super-absorbents have the potential to be used in the Shire, particularly in locations where drip irrigation and other forms of watering are impractical.

6.4 Waste and Refuse Disposal

Sewage Disposal

Only Cooma and Nimmitabel have sewage treatment works (see Figure 6.8). Cooma's sewerage system consists of two sewage treatment plants; one located at Cooma Creek, the other to the north of Yallakool Road, Cooma North. The Central Cooma system includes two pumping stations with limited capacity to service land outside defined urban boundaries.

In the rural areas of the Shire, septic tanks are the predominant means for the disposal of sewage.

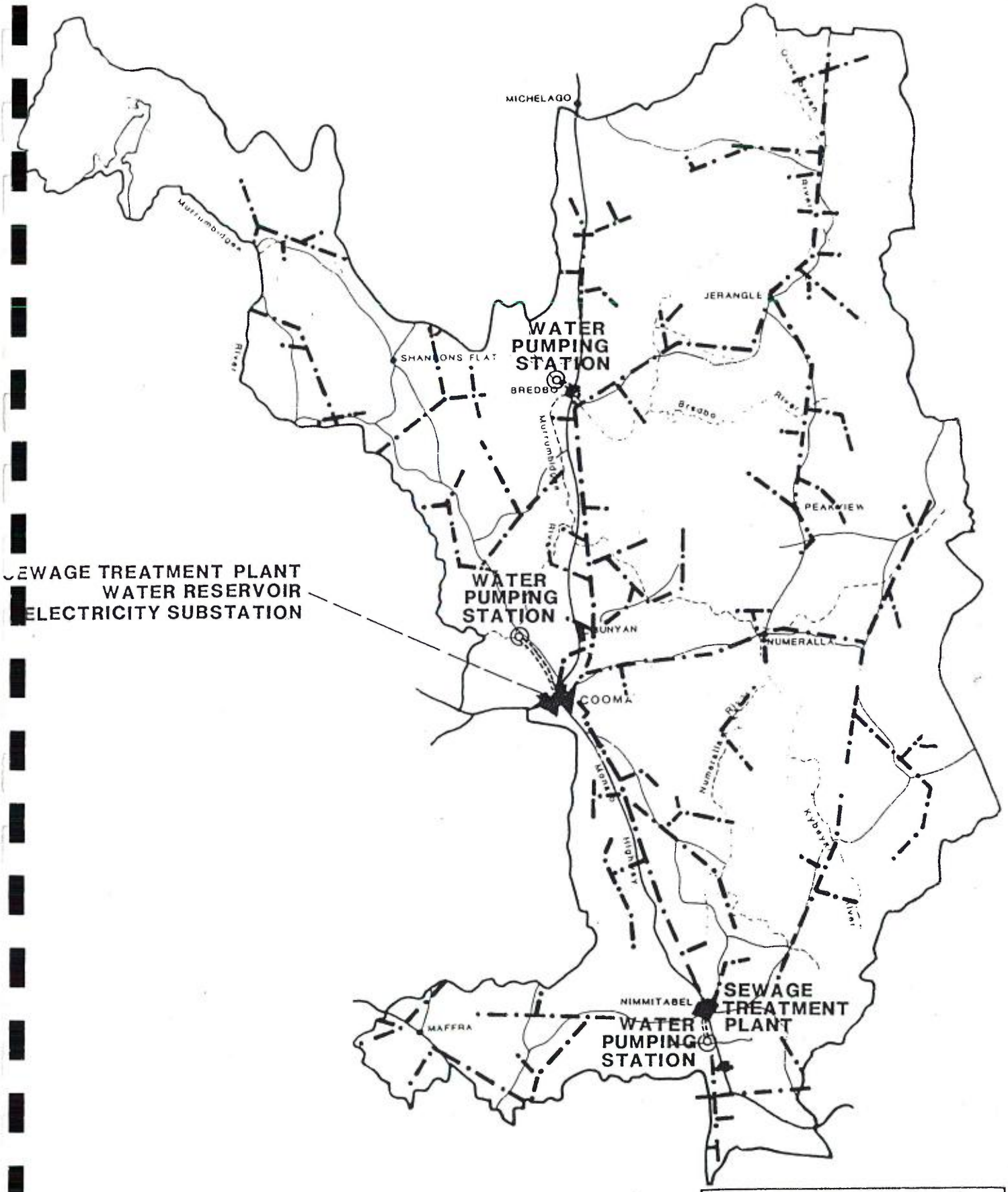
The Cooma - Environs Report (1985) noted that for rural - residential and "hobby" farm purposes, all but the highland stony areas were capable of absorbing sewage on-site within lots of around 2 ha and upward. Special care would need to be exercised in areas abutting water supply catchments and also in certain heavy clay areas on the Monaro Plains. There may be a need for DAST (Domestic Aerobic Sewage Treatment) systems where water quality is an issue.

Consideration of the requirements for septic disposal will influence the lot size, and possibly the disposition of allotments in rural small holdings areas.

The Public Works Department has recommended the retention of a buffer zone of at least 400m around sewerage works, partly to screen them from feral pigs and goats.

Refuse Disposal

Rural properties generally have their own on-site means for garbage disposal, but poor management in some cases is contributing to a problem with feral animals. Existing and prospective development around Michelago has created the need for upgraded disposal facilities there, although the locality split between two Councils complicates the funding of such a facility increased development is localised parts of the rural area may generate demand for garbage services. This should be considered at the development application stage, and a contribution required unless reasonable alternatives are available.



Cooma-Monaro Rural Environmental Study

6.8

SCALE 1:500,000

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WATER, SEWERAGE AND ELECTRICITY SERVICES

MASTERPLAN CONSULTANTS

NOTE: This map is a broad representation and does not cover all electricity services in the shire.
Diagrammatic representation only.

6.5 Electricity

The Electricity Commission's Cooma Substation provides bulk electrical energy to the Monaro County Council which in turn services the commercial, residential and rural areas within the Shire. The Electricity Commission has advised of their intentions:

- reconnect the Cooma - Bega No. 98A line to operate at 132KV;

- a new 132KV transmission line from Royalla to Cooma to be commissioned in late 1986. (It is doubtful if any further major transmission line routes could be established into Cooma Substation because of development around this site);

- a likely new substation at Nimmitabel because of expected development to the west and south west (The site would probably be adjacent or near to the lines presently going to Bega and the Snowy Mountains). Initially the station would operate as a switching station to connect an additional 132KV line to the Cooma - Bega transmission line. All this development is outside the study area with the additional line servicing the Jindabyne area. This work is not required before mid 1991.

- if further development in the region occurred, a new 330KV line would be established from either Canberra or Royalla to the Nimmitabel site. On present forecasts, this would not be required until at least the mid to late 1990's. This major bulk energy injection would furnish sufficient capacity to sustain the 132KV system well into the next century. However, to maintain system reliability in the event that this 330KV line was removed from service by say a lightening strike or other fault, an additional 330KV line would be required;

- this additional 330KV line would then be formed by uprating existing lines. Either the Royalla or Canberra line could be reconstructed to generate at 330KV. The route would then possibly bypass Cooma to intersect the Bega and Brown Mountain lines, one of which would be reconstructed to form the remainder of the line to Nimmitabel. The other line would need to be a 132KV line. This indicates the ultimate development of Cooma Substation could involve three 132KV lines.

The last three points are tentative plans subject to continuing evaluation. The long term effects are that sections of easement to the north and south may require widening to accommodate the possible upgrading of existing lines.

Apart from the visual impact of electricity transmission lines, the possibility of using the space below the lines needs to be considered.

Recent discussions between South Tablelands County County and the Monaro County Council have determined that the STCC will retain responsibility for electricity distribution within the franchise area which is generally north of the Inglelara Creek, east of the Monaro Highway and within the parishes of Michelago and Tinderry. The existing electricity supply lines are not capable of supplying subdivisions in the vicinity of "Wandella" and "Karinya Plains", and between "Barona" and "Willandra" on the Monaro Highway.

The Monaro County Council has advised:

- as the Shire has the scope for significant development, there should be a provision for the extension of power lines to supply electricity to newly created subdivisions;

- to avoid future problems with siting approvals, cost sharing and efficient utilisation of assets, developers should be responsible for making power available to all lots created by subdivision. (This could be high voltage supply in the case of larger holdings down to individual low voltage connections for small average blocks).

Most of the area in Cooma can be serviced with electricity by way of rural spur lines from the State grid network (Land Evaluation Study, 1985, p17). At this stage, it is inconclusive where capacity is a constraint to development in the Shire. With the Snowy Mountains Electricity Scheme nearby and the State's (Electricity Commission) network, the provision of electricity would not seem to be a problem.

6.6 Telecommunications

Telecom Australia has advised that the location of Telecom Automatic Exchanges and radio repeaters, etc has already been planned for in the Shire. It also advised that the only additional work that will be undertaken will be the provision of underground cables as required.

There has been no indication that the system's capacity poses significant development constraints.

7.0 DEVELOPMENT AND CHANGE IN SHIRE

7.1 Population Characteristics

This section examines the characteristics and distribution of the Shire's population and reviews demographic trends and short term projections produced by the NSW Population Projections Group. Data provided by the Australian Bureau of Statistics needs to be treated with some degree of caution as they include residents not living in the Shire. In 1981, the number of non-residents amounted to 13.5% (1317) of the recorded population. Table 7.1 below shows the distribution of population within the Shire.

Table 7.1 Population Distribution - Cooma-Monaro Shire, 1981

	No.	%	(Non-Residents in Shire)
Cooma	7978	82.0	(1232)
Nimmitabel	261	2.7	
Rest of Shire	1498	15.3	(85)
	9737	100.0	(1317)

Source: Bureau of Statistics

Cooma constitutes by far (over four fifths) the majority of the population with the remainder spread over the villages and rural areas of the Shire.

Age Structure

Table 7.2 compares the population age structure of Cooma-Monaro Shire and the two main towns, to that of NSW in 1981.

Table 7.2: Age Structure - Cooma-Monaro Shire (%) - 1981

Age	Cooma		Nimmitabel		Cooma-Monaro Shire		NSW
	No.	%	No.	%	No.	%	%
0 - 14	2,134	26.7	66	25.3	2,621	26.9	24.5
15 - 29	2,058	25.8	55	21.1	2,411	24.8	24.8
30 - 44	1,589	19.9	51	19.5	1,998	20.5	20.6
45 - 59	1,248	15.7	47	18.0	1,534	15.7	15.6
60 +	949	11.9	42	16.1	1,173	12.1	14.5
Total	**7,978**	**100.0**	**261**	**100.0**	**9,737**	**100.0**	**100.0**

Source: Australian Bureau of Statistics

Cooma-Monaro Shire is, apart from the young (0 - 14) and retired (60+), fairly representative of the NSW population age breakdown. Cooma has a comparatively high percentage of young people with fewer elderly. The Snowy Mountains Scheme has to an extent distorted the Shire's base population. This is quite unusual in a rural area and may reflect a relatively high rate of out-migration amongst retirees. The relatively youthful population in Cooma may indicate that the level of retirement to urban areas is relatively low. Employment opportunities for younger people are greater than normal due to the Snowy Mountains Engineering Corporation (SMEC), the Snowy Mountains Hydro Electric Authority (SMHA) and the developing tourist industry.

Family Structure

The structure of households in the two main towns and the Shire are shown in Table 7.3.

Table 7.3: Family Structure - %, 1981

	Cooma	Nimmitabel	Cooma-Monaro Shire	NSW
Single (Head)	25.8	21.8	24.9	21.0
Head/Dependants	6.7	4.6	6.3	4.0
Head/Spouse	21.1	17.2	21.1	23.0
Head/Spouse/Dependants	29.6	32.1	30.3	28.0
Other	16.8	24.3	17.4	24.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: Australian Bureau of Statistics

The stereo-type traditional family (head/spouse and head/spouse/dependents) forms just over a half of all households in the Shire. A quarter of households consist of single (head) households with only a very small number of single parent families in the Shire. The number of single (head) households in the Shire is above the State average and this could have been due to single employees in the Snowy Mountains Authority or a distortion caused by the seasonal influx of visitors.

7.2 Population Changes

The Muncipality of Cooma and Monaro Shire were amalgamated to form Cooma-Monaro Shire on 1st January 1981. Table 7.4 below shows that the population of both Cooma and Monaro fell substantially between 1966 and 1971, due in part to the completion of the Snowy Mountains Scheme in that period. Over the 1970's population was stable, although between 1981 and 1984, the ABS reported some decline in population levels.

Table 7.4: Population Change in Cooma-Monaro Shire

	1966	1971	1976	1981	1984[a]	% Change 1966-84
Cooma Municipality	9,106	7,788	7,353	7,978	-	
Monaro Shire	2,047	1,792	1,681	1,759	-	
(Non-Residents in Shire)	-	-	(770)	(1,316)	-	
Total Cooma-Monaro	**11,153**	**9,580**	**9,034**	**9,737**	**9,450**	**-15%**

Source: Australian Bureau of Statistics
a ABS estimated figure.

Table 7.5 illustrates the pattern of immigration to and from the Shire during the years 1976-1981.

Table 7.5: Origin and Destination of Migrants 1976-1981

	Immigration	Emigration	Net Migration
Sydney	580	603	- 23
Central Western NSW	411	463	- 52
South Eastern NSW	107	141	- 34
Other NSW	321	616	- 295
Victoria	127	159	- 32
ACT	150	389	- 239
Other States and Territories	123	283	- 160
Overseas	234	-	234
Total	**2,054**	**2,653**	**- 599**

Source: Australian Bureau of Statistics

In net terms Cooma-Monaro lost close to 600 people over a five year period. Of those residents who left, Sydney gained over twenty per cent, Central Western Statistical District (17 percent) and the ACT (14 percent). Sydney, however, provided the major source of migrants (over 28 percent). Overall, the ACT and non metropolitan areas of NSW and other states (particularly Queensland) received relative strong net population movements from Cooma-Monaro Shire.

The age characteristics of migration to and from Cooma-Monaro Shire are shown in Table 7.6 below.

Table 7.6: Age Distribution of Migration (1976-1981)

Age Group	Immigration	Emigration	Net Migration
5 - 14	467	551	- 84
15 - 24	418	723	- 305
25 - 34	553	582	- 29
35 - 54	446	523	- 77
55 - 64	107	146	- 39
64 +	61	127	- 66
Total	**2,054**	**2,665**	**- 601**

Source: Australian Bureau of Statistics

The table reveals that a large proportion of the net loss in residents occurred amongst young adults moving away for further education or in search of employment. Only 8.2 percent of those who moved to the Shire were over 54 years of age indicating the low attraction of the Shire for retirement. In fact the area is experiencing a net loss of retired population to other areas.

7.3 Population Forecasts

The NSW Population Projections Group has prepared a series of population projections for Cooma-Monaro Shire as part of projections for non-metropolitan Local Government Areas in NSW (Table 7.7). These are the only population projections available for the Shire. Population projections on large scale National and Regional levels are noted for their uncertainty and this is even greater for local government and smaller statistical areas. A difficulty in interpreting population figures for the Region is that census counts are undertaken over the winter sports season and therefore include a high proportion of tourist and non-permanent residents. The short term forecasts do not envisage noticeable increases in the population. Snowy River Shire, next to Cooma-Monaro, is expecting some growth with some possible accompanying effects on Cooma-Monaro.

An analysis of the population data presented earlier, indicates that the general population decline experienced over the last 15 - 20 years has stabilised. Projections by the NSW Population Projections Group for the Shire indicate a minor increase.

Table 7.7: Population Projections - Cooma-Monaro Shire (1981-1988)

Area	1981 *	1982 *	1983	1984	1985	1986	1987	1988	% Change 1981-88
Low	9,250	9,350	9,400	9,400	9,400	9,300	9,300	9,300	0.5
Medium	9,250	9,350	9,400	9,400	9,400	9,500	9,500	9,500	2.7
High	9,250	9,350	9,400	9,500	9,500	9,600	9,600	9,600	3.7

Source: NSW Population Projections Group, 1985
* Estimated Resident Population

Because of the snow fields and the associated winter sports industry, the high numbers of visitors have distorted the census figures in Cooma-Monaro, with the NSW Population Projections Group estimating the census count to be some 43 percent higher than the estimated resident population in Snowy River Shire. The ABS Census figures showed that in 1981, non-residents accounted for about 14% of the Shire's population.

Factors Influencing Future Population Change

There are many uncertainties in forecasting growth for the Shire due to the many external influencing factors. Likely pressures for growth include:

- rural residential spillovers particularly from the ACT market;
- spillover from Snowy Mountains ski industry;
- rural retreats; and
- continued gradual adjustments to the rural sector and subsequent population changes.

These will be covered in greater detail later but suffice to say the adjoining areas to the Shire will continue to affect population and development.

The New South Wales Population Projections Group's (1985) view is that:

'The growth rate in the south eastern region has been most pronounced in the coastal areas of Bega Valley and Eurobodalla with some growth in the Snowy River Shire. Population growth has accelerated in Queanbeyan and continued fairly strongly in the lower South Coast subdivision. There is every likelihood of this growth persisting as the South Coast is providing retirement areas for Canberra and Victoria. Growth in the region is expected to concentrate on the coastal areas, Snowy River and Yarrowlumla Shires'.

The areas most likely to experience change in Cooma-Monaro are those on the fringe of areas undergoing substantial changes. These areas include the ACT, Snowy River Shire and some urban pressure from northern Victoria. Due to urban pressures in the 'growth areas', there will be spillover effects, a most likely one being the stimulation of growth in the fringe areas of Cooma Monaro adjoining the ACT, Yarrowlumla and Snowy River Shire. Yarrowlumla, to the north of Cooma and east of the ACT is expected to increase in population as a result of Canberra commuters seeking a rural lifestyle. Pressures for growth and the identification of these growth areas will be examined in greater detail in the following section.

7.4 Rural Land Activity and Influences

This section examines broad patterns in the subdivision of land in the Shire and construction of dwellings. To enable the identification of development trends the Shire has been divided into five study units. These are shown in Figure 7.1.

The northern unit encompasses those parishes just over an hours' driving distance of Canberra and Yarrowlumla Shire with those areas closest to the highway likely to experience pressures for change.

The western unit consists of the hillier and more isolated regions of the Shire with government reserves (Koscuisko National Park and Scabby Range Nature Reserve) located in the extreme areas of the Shire. The altitude and cool climate generally restrict development here.

Cooma-Monaro Rural Environmental Study

7.1

SCALE 1:500,000

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RURAL DEMAND STUDY UNITS

MASTERPLAN CONSULTANTS

The majority of the Shire's population is located in the central unit, largely in the main town of Cooma. Cooma forms the economic, social and community base of not only the Shire but the Koscuisko sub-region.

The eastern parishes are located over 20km from Cooma and the Monaro Highway. A substantial portion of the eastern unit consist of government reserve lands that extend into Bega Valley Shire.

The southern parishes adjoin Bombala Shire which is on the NSW-Victorian border. The Monaro Highway traverses the southern unit through Nimmitabel to Bombala Shire and Victoria.

Rural Subdivision Activity

Table 7.8 contains a list of rural lots created by subdivision in the Shire. Rural subdivision is concentrated mainly around Cooma; the northern parishes of Micaligo and Tinderry; and the Central parishes of Bransby and Gungoandra.

Table 7.8 Lots Created by Subdivision in Cooma-Monaro Shire[a]

Parish	1981	1982	1983	1984	1985
Big Badja	2	-	-	-	3
Billilingra	-	-	6	-	-
Binjura	10	11	6	5	6
Binjura/Woolumla*	-	-	4	-	-
Bransby/Gungoandra*	2	-	23	3	-
Brest	-	-	6	-	2
Bulgundramine	-	4	2	-	-
Bunyan	-	-	2	-	-
Callaghan	-	2	-	-	2
Cochran	4	-	-	-	-
Cooma	21	24	7	9	6
Cooma/Binjura*	5	-	-	-	-
Cosgrove	2	5	3	-	-
Dolundale	-	3	4	2	-
Duncan	-	-	1	-	-
Good Good	-	-	-	-	2
Gladstone	-	2	2	-	-
Glenbog	-	-	2	2	-
Holland	-	2	-	-	-
Jinjera	-	-	-	3	-
Maffra	-	-	-	4	5
Micaligo	2	13	-	14	-
Milford	-	-	2	-	-
Montagu	-	3	-	-	-
Murrumbucka	-	2	-	-	2
Nimmitabel	4	-	2	-	2
Rivers	-	-	-	-	2
Rose Valley	-	-	2	-	-
Rowland	-	1	12	-	-
Stannard	-	-	2	-	-
Throsby	-	-	-	2	-
Umaralla	2	6	3	4	-
Undoo	-	-	1	-	-
Winifred	-	-	2	-	-
Woolumla/Bunyan*	3	1	3	4	-
Woolumla/Umaralla*	4	-	-	-	-
Yaouk	-	-	4	2	-
York	-	-	1	-	-
	61	79	102	52	32

Note:

a Does not include easements, boundary adjustments, realignments, sale by portions, de facto/no consent lots and roads.

* Lots occurring where distinction between Parishes has not been made

Source: Cooma-Monaro Shire Council records

Overall for the whole Shire during the period 1981-1985, there were 337 building applications received by Council. These comprised 316 for new dwellings and 21 for flats of these 185 were for the rural areas of the Shire.

Total rural dwelling approvals, together with rural lots subdivided for the study units are shown in Table 7.9.

Table 7.9: Rural Building/Rural Dwelling Approvals by Study Unit (1981-1985)

Area	Rural Dwellings Approved	Rural Lots Subdivided	Ratio of Dwellings to Lots Subdivided
North	45	64	0.70
South	29	32	0.90
East	5	29	0.17
West	11	34	0.32
Central	87	165	0.52
Shire Total	177	324	0.52

Source: Cooma-Monaro Shire Council Records.

In the 5 years between 1981 and 1985, some 177 rural dwellings have been approved in the Shire. About half of these were in and around Cooma. Of the remaining areas, the Northern parishes experienced a relatively large share of building even though it amounted to under 10 new houses annually. In general, dwelling construction in rural areas has been quite limited over the period shown. Overproduction of lots in the early 1980's can at least partly explain the low ratio of dwelling construction to subdivision rates.

About 65 new rural lots are on average created by subdivision, sales by portions, de facto etc. each year. As in the case of dwelling construction, subdivision has been concentrated around Cooma with the northern rural area experiencing the second largest number of rural subdivisions (lots) although the absolute number has not been great.

Over the 5 years, on average, one house was constructed for every 2 lots created. The ratio varies markedly between areas from .17 in the eastern rural areas to as high as .70 and .90 in the northern and southern areas. While some would argue that a surplus of lot production over house construction is indicative of speculative or investment activity, this may also occur due to:

- subdivision of land for rural purposes,
- purchase of land in advance of house construction, possibly for retirement, and
- subdivision for non dwelling purposes.

The very high rate of building to subdivision in the Northern parishes does suggest that there is a reasonably consistant level of demand for rural homesites and hobby farms originating from the ACT.

Further information on the pattern of subdivision in each study area by the size of lots produced is shown in Table 7.10.

Table 7.10: Rural Lot Subdivision Activity in Cooma Monaro Shire

Area	1981	1982	1983	1984	1985	Total
Under 40 hectares						
North	2	-	-	-	-	2
South	2	-	-	4	-	6
East	-	-	3	-	-	3
West	-	-	2	-	1	3
Central	36	37	19	13	12	115
Total	38	37	24	17	13	129
40 ha and over						
North	2	15	25	20	-	62
South	-	6	10	4	7	27
East	2	4	14	2	5	26
West	6	7	13	2	3	31
Central	9	10	16	7	4	47
Total	19	42	78	35	19	193

Source: Cooma-Monaro Shire Council Records.

Rural lot subdivision activity under 40 hectares is overwhelmingly concentrated in the Central parishes, around Cooma. Easy accessibility to Cooma seems to be the main attraction for small rural lot subdivision.

Vacant subdivided rural land is not necessarily sterilised from agricultural use by absentee owners. In many cases land is leased to surrounding farmers. Examination of the distribution of subdivided lots by size (Table 7.10) reveals that over 55% of all lots subdivided were under a thousand sq metres. This reflects urban subdivision in Cooma.

Table 7.11 Subdivision Activity: Lot Sizes (1981-1985)[a]

	1981	1982	1983	1984	1985	Total	% of Total
Lots less that .1 ha (Urban Lots)	133	20	16	2	7	178	-
.1 - .5 ha	15	18	13	3	6	55	17.1
.5 - 10 ha	11	13	6	10	6	46	14.3
10 - 40 ha	9	8	8	4	2	31	9.7
40 - 50 ha	8	26	52	20	11	117	36.3
50 - 100 ha	7	6	13	9	4	39	12.1
100 +	4	8	12	8	2	34	10.5
Total Rural	54	79	104	54	31	322	100.0

a Represents approvals only and does not include easements, boundary adjustments, realignments or sale by portions.

Source: Cooma-Monaro Shire Council Records

In terms of land consumption (excluding subdivisions of over 100 hectares) over the 5 years, lots subdivided in the 40-100 hectare size catagory would have covered some 8190 hectares (multiplying the number of subdivided lots in each size class by the mid point of that class). In comparison, subdivisions of .5 - 10 ha consumed around 230 hectares and those between 10 - 40 ha, 775 hectares. The essential point of these statistics is that the 40 hectare policy may have contributed to the subdivision of large areas by virtue of the designated minimum size. Since 1983, subdivision over 40 hectares has accounted for 70% of total lot production. This is examined in Table 7.11.

Subdivision activity, particularly for urban lots (under 1000 sq metres), peaked in 1981/82 and has been minimal in the 1983-1985 period. Activity picked up in 1986 when sale by portions peaked. It is possible that a considerable surplus of lots were produced in the early 1980's, particularly around Cooma, which were being absorbed by the market over the following years. Also some new areas constrained by water are now available with improvements. Due to the completion of the Snowy Mountains Scheme, many SMA houses (up to 50 in one year) fairly low priced have come on the market. Prices for residential lots in some parts of Cooma are virtually below replacement cost.

In terms of medium to large lot rural subdivision, (40 ha and over), the northern unit accounted for about a third; the central for a quarter with the remainder almost evenly distributed between the eastern, southern and western units.

Property Transfers

A number of parishes with known subdivision activity and further potential were examined in greater detail. Of particular interest was identifying the origin of buyers and sellers of rural land in the Shire. Table 7.12 is a summary of some of the findings.

Table 7.12 Property Transfers in Selected Parishes (1983-1985)

Origin of Buyer	Locality		
	Micaligo/Tinderry[a] No.	Bransby No.	Binjura No.
Local (Cooma-Monaro)	-	3	34
ACT/Queanbeyan	21	20	2
Yarrowlumla/Snowy River Shires	4	-	3
Sydney	2	18	7
Other NSW	1	2	2
Other	1	-	-
Total	29	43	48

a Parishes combined.
Source: Cooma-Monaro Shire Council records

In the northern parishes of Micaligo and Tinderry, buyers were more than likely to come from adjoining ACT and Queanbeyan than elsewhere. Apart from the attraction of being on the fringe of these areas, a predominance of sellers of rural lots from the ACT could partially account for this trend.

Buyers of rural lots in Bransby (Central Northern Cooma-Monaro) were evenly divided from the ACT/Queanbeyan and Sydney. Again, an active Sydney-based developer accounted for the strong interest from Sydney.

Rural lots in Binjura, to the north west of Cooma, were more likely to be bought by residents in Cooma (over 70%) with only a very small of buyers from the ACT/Queanbeyan. The relatively long distance and the attraction of other areas most likely accounts for the weak showing by residents of ACT/Queanbeyan in the area.

Prices

Statistics on land prices were obtained from two sources; a survey of notices of transfers held by Council, and statistics contained in the Valuer General's Publication, "The NSW Real Estate Market, 1985". Data from both sources need to be treated with some caution as the sample of transactions surveyed from Council records for a given property type and year are sometimes small while the Valuer Generals' statistics relate to subjective assessment of the value of a typical property. Historic prices shown below are compared to current assessments of values provided by the survey of real estate agents in the next section.

Table 7.13: Vacant Property Prices, Cooma-Monaro Shire

	1983 $	1984 $	1985 $
- Vacant Residential Lot - Cooma			
- North $/Lot	12,000	13,000	13,000
- South $/Lot	16,500	17,500	17,500
- 2ha Rural Homesite - Cooma $/ha	12,500	14,000	14,000
- 10-20 Hectare Hobby Farm Site $/ha	2,330	2,370	3,190
20-40 Hectare Vacant Rural $/ha	1,641	1,308	1,709
Over 40 Hectare Rural Property $/ha	469	571	838
Grazing Properties* $/ha	-	-	200 - 500

* With improvements, prices vary significantly depending on soils and productivity.

It is clear from the table that prices vary significantly depending on the size of the land holding. Generally the price per hectare increases as the property size falls, with rural homesites near Cooma commanding, on average, around $14,000 per hectare in 1985. One reason for this price structure is that virtually all smaller rural blocks (on which building approval can be obtained) are very close to Cooma. It is likely that blocks of similar size in remote areas would not command such prices. Real estate agents also reported that prices for rural homesites and hobby farms are largely based on the capacity to build and not necessarily land size.

Prices for viable grazing properties are between $200 and $500 per hectare depending on their location, improvements, terrain and soils. Current prices reflect income potential. Although not shown in the table, statistics compiled by the Valuer General revealed that farm prices virtually doubled between 1980 and 1984, although they have remained static since. The market in the area is predominantly for larger grazing properties as carrying capacities (and hence incomes) are not high. Smaller properties therefore cannot provide other than a partial income.

Influences on Rural Land Activity in the Shire

Rates of subdivision activity are not substantial (only 65 on average per year for rural areas of shire) although there seems to be a fair amount of sale by portion activity in the Shire. Rural residential activity remains basically the primary component of rural growth. This section examines the influences and like patterns of rural land activity in the Shire.

It is clear that the 40 hectare policy has contributed to the subdivision of larger than necessary areas by virtue of the designated minimum size. The State Government has recognised this as the revised draft Koscuisko Regional Environmental Plan has amended this standard.

Subdivision activity in the Shire (particularly the northern fringe areas) will continue to be largely influenced by Canberra and the rest of the ACT. It has been well documented by various sources that Canberra has significant social, economic and physical impacts on its surroundings. This impact has been

highlighted in an extract from the NCDC's (National Capital Development Commission) submission to the Parliamentary Joint Committee on the Implementation of the Metropolitan Policy Plan for Canberra (September, 1985). Based on current estimates by the NCDC and the Department of Environment and Planning, Canberra's June 1985 population of 251,000 is expected to grow to 350,000 by the turn of the century. The NCDC noted that Shires in the South Eastern region (including Cooma-Monaro) are increasingly coming under pressure for rural small holdings by ACT residents. As the preceding section showed, there is a definite relationship between Canberra based landowners and subdivision activity around Micaligo, Tinderry and around Bredbo.

While accessibility to Canberra is a dominant factor in determining the direction and extent of subdivision activity, it has been documented that pressures for land use change have been felt up to 160 km away from Canberra.

It has also been put forward that as accessibility in the South Eastern region improves and as the price of land increases within the ACT, the attraction of freehold rural land (inhibited only by their proximity) will continue. Cooma-Monaro, it seems, will receive only a small slice of rural land demand as the main interaction of Canberra is with the Shires of Gunning, Yass and Yarrowlumla, the City of Queanbeyan, the South Coast and to a smaller extent Snowy River Shire.

Canberra's desire lines (as documented in various publications) are and most likely will be Shires to the north (Yass and Gunning); east (Queanbeyan and Yarrowlumla); and south along the Coast (Eurobodalla and Bega Valley). A study by Wellings, Smith and Byrnes for the DEP (1985) noted that the rate of creation of small average holdings in Yarrowlumla has exceeded that in any other Shire close to or contiguous with the ACT since the late 1970's. The NCDC submission expects that there will be increasing demands for land, housing and supporting facilities on the South Coast by Canberra residents.

While indications are increasing subdivision of and population on rural land around the ACT, Cooma-Monaro, a little further away, should continue to expect a relatively small flow of overall demand. Improved access to the Shire and to the recreational snowfields will be large determining factors in future rural subdivision. The flow of activity and people will not all be one way as Canberra

and the ACT offers many attractions (non-rural employment opportunities and retail, medical, educational, cultural and entertainment facilities).

Areas in the Shire that are most likely to undergo pressures for change from the ACT include the northern parishes especially Micaligo and Tinderry; around Bredbo and Jerangle; some pressure in the north west if Boboyan Road leading from the ACT to Shannon's Flat is upgraded; in the central parishes around Cooma, particularly Binjura and Umaralla; possibly some at Nimmitabel, with likely pressures from Bega Valley. Based on past and likely demands, the indications are that demand in these areas will not be substantial.

7.5 The Market for Rural Holdings

Rural Small Holdings in the Shire

This section examines the market for rural small holdings including hobby farms, rural retreats and rural residential properties. The discussion is based on a survey of real estate and stock and station agents in the Cooma Monaro area. A copy of the questionnaire used for the survey is in Technical Appendix 6 - in separate report.

All agents reported that the level of enquiry and sales of small rural holdings was reasonably strong. The major areas of demand were for small lots near to Cooma and around Michelago. Buyers often tended to either prefer a smaller lot within easy commuting distance of either Cooma or Canberra/Queanbeyan or a more isolated, preferably wooded larger parcel.

Characteristics of land that were seen as most attractive by potential buyers of rural residential lots and hobby farms in approximate order or preference were location, permanent water supply, cleared land and some capacity for grazing or cultivation. Other characteristics such as being located on a sealed road, having a school bus service, being close to either the coast or the ski fields did not rank highly on a consistant basis (although no doubt they are of considerable importance to some buyers). Buyers of rural retreats also ranked water supply as an important consideration, although as would be expected, tree cover, relative isolation and views were quite important. For town dwellers, fire wood sources was also an important consideration.

However, as experience indicates, one could expect these values to change in time. For example, it has been found that many people who move from urban to rural areas often expect a full range of urban services and raise serious objections when they do not receive them.

Most agents suggested that the demand for rural living would rise in the future as population particularly in Canberra continued to grow. Areas most suitable in catering for this demand were around the Village of Michelago, timbered areas of Jerangle, Peak View, Numeralla, Kybeyan and west of the Murrumbidgee River, and between Cooma and Michelago. It was suggested that further small lot subdivision be allowed around Cooma.

According to the questionnaire, the major problems brought about by rural residential development (rural small holdings etc) were the inadequate control of weeds and rodents, feral animals, roads, garbage disposal, and in some areas the increased cost of viable agricultural land (see Section 7.6 (iii) for a further discussion). On the question of road standards, most argued that the need for sealed roads (in more isolated areas) unduly increased the price of producing lots, and in many cases rendered subdivision non viable. The need for better road conditions closer to major settlements or serving more extensive subdivision was not questioned. In addition to the questionnaire survey, it would be reasonable to assume that the demand for rural land in the Shire is influenced by higher prices for smaller lots compared to larger holdings. The demand for rural land has been generally for small land holdings and hobby farms.

Demand for Rural Holdings around the Town of Cooma

As the preceding sections indicates, the demand for rural holdings around Cooma has been relatively strong compared to other parts of the Shire. The demand for rural land in Cooma has been covered in the **Land Evaluation Study: Environs of Cooma** (April 1985) report by Council's Town Planning Department in some detail. The following is reproduced from the report, although the table has been somewhat modified by amalgamating Technical Appendix 5 of that report.

"The demand for rural residential lots in the surrounding district is described by local agents as related to the proximity of the recreational areas such as the snowfields and to the availability of reasonably scenic, essentially 'rural' (i.e. spacious) lots within easy travel distance of Cooma. The size of the demand is reflected in the number of lots created in the past five years within or adjacent to the study area (Table 7.14). The majority of these lots are of the order of 10ha in area, as this was the size of lots permitted in rural areas before 1982 and is a 'tradition' in this district. A specific zone north and west of Cooma (1(e)) carried a minimum subdivision standard of 10ha; reflecting this 'tradition'.

It is believed that virtually all the recently created lots of this type have been sold at least once. The level of residential development on these lots is relatively high. There is also evidence of a continuity of demand for small lots in the level of subdivision activity in the Shire generally. Table 7.14 shows the level of dwelling approvals in the study areas in nearby Bunyan Vale.

Table 7.14 Building/Dwelling Approvals in Rural Areas Surrounding Cooma

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Dwellings Approved	3	1	6	6	7	9	15	9	12	14
Lots Subdivided	-	3	16	9	6	29	6	25	8	6

Source: Land Evaluation Study, Cooma Environs.

The demand for lots is expected to be generally consistent with past trends. It will continue to compete for some sections of the market with land around Lake Jindabyne and areas closer to the snowfields and recreation fishing areas. Any areas selected for new rural residential release should preferably be:

- scenically attractive;
- relatively cheap (compared with areas closer to the snowfields and Canberra); and

. able to be designed to achieve a sense of privacy for dwellings in the countryside, without detracting from the rural qualities that attracted residents in the first place.

The policies and strategies of the Council should therefore reflect the above issues and requirements".

Factors Effecting Future Supply and Demand

The most widely used approached of approximating future demand for rural land are the "step-wise" techniques outlined in detail by the DEP in their 1985 study of rural residential demand. This approach estimates:

1. population likely to move to rural areas,
2. the number of dwellings required for that population,
3. the number of lots which might remain vacant, and
4. determines land requirements based on the nature and size of lots.

As can be seen, population forecasts provide the basis for projecting rural land needs. It usually involves extrapolating past patterns of growth or change over the medium to long term with dwelling types, locations and subsequently land requirements derived from them. There are a number of limitations of this approach when used in an area such as Cooma-Monaro. They concern:

. suitability of the models used; and
. the possibility that demand is oversimplified or examined only partially.

On the first point, forecasting population levels for areas with a small population relies on the quality of the information base particularly the likelihood of people moving between areas.

Migration patterns are the most variable and difficult to predict. Unless specific information is available on determinants of population moves, such as available employment, migration assumptions usually rest upon past trends or external influences such as the growth of Canberra and qualitative judgements of how much population growth may spill over into neighbouring shires.

Forecasts of population in rural areas where growth has been varied in recent years rests on the rate of migration. People moving to rural areas in Cooma-Monaro Shire do so for a variety of reasons including employment opportunities, the recreational potential of an area, or even because of the lack of development or relative isolation. Unfortunately, limited knowledge of the behavioural motives behind such moves reduces forecasts to really only a scenario based on a given set of existing or expected circumstances. These difficulties are exacerbated when such projections are then allocated to areas within the Shire.

It therefore must be accepted that rural population projections are scenarios based upon a possible set of assumptions and useful only in the broader planning sense. Their usefulness in accurately trying to calibrate a residential release or rezoning programme is limited.

Another difficulty with population projections is one of causality, that is, population census figures used as a basis for projections are a consequence of many factors including the process of housing or land demand and supply over a given period. To simply project population and derive land needs ignores fundamental influences in the process, such as availability of land (supply), prices, and choice to name a few. This is especially the case in rural areas where demand has to a large extent been constrained by existing planning controls over the supply of land. Therefore, as with the 40 hectare policy, planning controls largely determine supply in terms of location, lot size and production cots.

As a consequence, the use of population forecasts as the determinant of demand tends to oversimplify the market process. In addition to population growth, a range of other factors can be identified which contribute to the demand and supply of land, and subsequently determine the rate of population change in an area.

Economic Conditions

The demand for land in rural areas is sensitive to general economic conditions. These contribute to the general cycles in the market, as they control the willingness or ability of people to purchase land. Allied to economic conditions

are influences such as the cost and availability of finance. Interest rates may increase the real cost of land and housing purchases, although their relationship to the rate of inflation needs to be considered. As mentioned in the section on agriculture, economic conditions within the agricultural sector will influence the supply of allotments, especially concessional allotments, when funds are required by the farming community to subsidise operations. Similarly, when markets for agricultural commodities are depressed, values for rural properties fall, increasing the viability of subdivision.

Legitimate Demand

Current policy statements of the Department of Environment and Planning distinguish between legitimate and illigitimate demand, the former being the demand for rural land for genuine uses which is defined to include immediate residential or rural uses or purchase associated with future intentions to occupy, possibly following retirement. Illigitimate demand was associated with speculation or investment. It is virtually impossible to distinguish clearly between certain types of demand as there are inevitably lags between purchase and dwelling construction. A major problem associated with rural subdivision is not so much the fact that subdivision occurs, but rather the construction of dwelling in a small site increases the value of the land far in excess of its vacant value for rural uses. However, the holding of vacant land for investment purposes does not necessarily mean that it is taken out of production.

Recent changes to the taxation system will also have some effect on the demand for land for speculative purposes.

Cost Factors

If Council were to increase or decrease development standards and contributions, land production costs would alter and subsequently affect the prices at which subdividers would be willing to supply land. Therefore changes in development costs will alter effective demand.

Competition and Supply

The demand for land in one area of the Shire is to some extent determined by availability and prices in other areas. Land markets do not follow local government boundaries and the demand for land in Cooma-Monaro will at least be partially determined by the price and availability of land in nearby shires.

There is growing evidence* that demand for land is related to marketing on the part of the subdivider, previous levels of development and characteristics of the product that may differentiate it from others. It is not usually possible for potential buyers of land to survey the total market as the supply of land is geographically dispersed. This is particularly the case of buyers who may live in larger urban areas and want land for recreation, retirement or investment. The possibility of "capturing" a market through effective promotion or advertising (which rests on a lack of knowledge of other areas) may be very important in the success or otherwise of rural subdivisions.

7.6 Conflicts between Agricultural and Residential Land

Introduction

Figure 1.1 highlighted the conflicts between agricultural and residential land use. As the demand for rural land increases, the likelihood of conflicts between established agricultural use and new forms of land use create major local problems, as they have done in many areas of NSW.

As well became apparent in this section the objectives of various private and public groups may be at odds concerning the use of agricultural land. On the one hand the owners of land have an understandable wish to maximise the economic potential of their land and accordingly drive the benefits of doing so. Unfortunately the use of land tends to result in a range of side effects, some more obvious such as increased soil erosion or traffic levels and some less obvious such as the possible loss of land as a basic agricultural resource through subdivision or pressure on local government finances through an increased demand for services.

* See Murphy P. "The Supply Side of Resort Land Subdivision" in Mercer, D. **Leisure and Recreation in Australia**, Sorrett, 1977.

The issues or the impacts are by no means absolute. There is considerable debate concerning the actual effects of subdivision in rural areas on the various environmental, economic and agricultural issues canvassed in this section. It is however important that they be identified so as to enable a framework to be developed enabling planning response which where possible meets the needs of each group.

(i) **The Need to Protect Agricultural Land**

Land capable of agricultural production (Classes 1, 2 and 3 by the Department of Agriculture) occupies only a very small proportion of the Shire's lands and the area under production has fallen in recent years. The Department of Agriculture has argued that the protection of prime agricultural land can be justified in terms of protecting a natural resource and hence a source of export earnings, or for more altruistic reasons, in order to meet increasing global food requirements.

The broad area nature of agriculture means that in general, the greater the holding size, the greater the agricultural efficiency in economic and production terms. The main threat to this is subdivision into holdings too small to allow the economies of scale required for efficient, sustainable and increasingly capital intensive agriculture. What has often been the case is that land with some productive potential has been turned into subcommercial agricultural holdings.

Rural lands once subdivided may be difficult to re-amalgamate into adequate size agricultural holdings due to overcapitalisation.

These arguments are compelling in a general sense but need to be balanced against the following:

(a) Land, once subdivided is not necessarily lost to agricultural production, as new forms of agriculture are sometimes introduced, or land held by absentee owners might be leased back to agriculturists. In the case of Cooma-Monaro Shire, the capacity for new forms of agriculture are limited apart from further grazing.

A number of studies have been conducted concerning the impact of subdivision on agricultural production. Studies in the Armidale/Tamworth areas and central Victoria (Davidson, 1979) have revealed that production on hobby farms was similar to that of commercial agriculture. Hobby farmers often make substantial capital improvements to properties, reducing labour inputs and sometimes increasing productivity on more marginal lands. Due to the nature of lands in Cooma-Monaro, demand has been geared towards rural residential subdivision with relatively little hobby farming.

(b) the degree to which subdivided land is improved often determines the magnitude or permanence of the threat to long term agricultural potential.

(c) subdivision in Cooma-Monaro under the 40ha policy to date does not seem to have had a significant impact on the value of agricultural production, however a number of major properties such as Dromore and Numeralla stations have been dispersed by sale by portions.

(d) There are only small areas of land (Classes 1, 2 and 3 by the Department of Agriculture) most suited to agriculture (cultivation and grazing) in Cooma-Monaro Shire. There are extensive remaining areas of marginal agricultural (grazing) use which would have little impact on production efficiency if subdivided.

(ii) **Reduction of Agricultural Viability**

Rural residential subdivision has the potential to reduce the viability of agricultural activities in that it raises production costs (or introduces significant opportunity costs when the potential value of agricultural land for other uses is not realised).

Purchasers of small rural lots are willing to pay prices for land which are often higher than unit prices affordable by farmers based on the revenue earning potential of land.

Therefore the cost of land as a factor in production increases, limiting the ability of agriculturalists to expand production and substantially increasing the cost of entry into the industry. On the other hand, at the general level higher land prices:

- encourage the investment in higher intensity/yield agricultural activities;
- provide existing farmers with a significant capital asset to be realised some time in the future. The prospect of future capital gains (which might be higher than capitalised annual incomes) may result in farmers being willing to accept lower annual returns;
- concessional lot entitlements provide a cash injection during difficult periods and assist in the purchase of additional land and in improving existing properties; and
- results in the higher borrowing capacity against assets.

(iii) **Conflicts between Agricultural and Residential Land Uses**

Agricultural and residential land uses have the potential to generate conflicts when in close proximity. The major issues were outlined in the Cudgen-Duronbak Agricultural Land Feasibility Study (Tweed Shire - Department of Agriculture). Issues considered relevant to Cooma-Monaro Shire are listed below:

(a) Closure of saleyards because of noise and odour problems affecting nearby residents;

(b) Farmers complaints about packs of domestic dogs attacking livestock;

(c) Poisoning and contamination of livestock by householders disposing of refuse over fences;

(d) Landholder complaints about spillover effects on adjacent farms (weeds, straying stock, bushfire and erosion);

(e) Heavy road traffic generated by rural activities and extractive industries; and

(f) New neighbours objecting to normal agricultural practice such as use of pesticides or noisy operations.

A number of measures can be employed to minimise the potential for conflict. These range from the possibility of buffer zones, designating areas for rural residential development, to advice on the siting of dwellings and methods of minimising externalities.

The potential for conflict varies considerably between areas, types of agriculture and rural residential dweller. Lower intensity forms of agriculture, such as grazing, which are prevalent in Cooma-Monaro Shire would generally have a lower potential for conflict than those commonly found say in the North Coast.

(iv) **High Rates**

Land rates to local government are directly related to the unimproved capital value of land as estimated from time to time by the Valuer General. Rating valuations provided to Council by the Valuer General (V.G.) are usually based on the "highest and best use of the land", although where zoning controls are clear and intended to remain intact, for the long term valuations may reflect zoned potential.

Under Section 160C of the Local Government Act rate concessions are available to primary producers on application where rural land is, under a planning instrument, zoned or otherwise designated so as to permit:

(i) its use otherwise than as rural land; or

(ii) its subdivision into two or more lots under an area of 40 hectares.

Rate pegging limits the amount by which an individual owner's rates can increase, irrespective of increases in unimproved capital value. This tends to offset any adverse effects of zoning.

(v) **Land Management**

Land management practices which may effect other agricultural concerns include soil conservation practices, control of vermin and noxious weeds, fence maintenance and bushfire prevention. These have been noted in earlier sections. It is argued that small land owners particularly ex-urban residents, are often unaware of the need for controls or how to introduce them. The problem may be accentuated if land is controlled by absentee owners or if the supply of lots is such that buyers are forced to purchase larger parcels than they may actually need.

Controls over noxious weeds and animals currently exist under the Pastures Protection Act administered by the Pastures Protection Board (PP Board) and also the Local Government Act. The PP Board levy annual rates on rural landowners for administration and the provision of services and also provide rebates to vermin-free properties. Powers exist under both Acts to enforce the eradication of noxious weeds and vermin by way of fines and charging landowners the full cost of eradication. Absentee landowners were seen by Cooma Monaro Shire Council as being a problem when their lands were not maintained regularly. Where a threat to viable agricultural land was likely, the major problems were seen as:

- the relatively small maximum fines (under the Local Government Act),
- a general ignorance on the part of absentee landowners to the potential problems, and
- limited manpower within controlling bodies with which to police areas.

(vi) **Environmental Impacts**

Bushfires and grassfires pose risks to rural lands in the Shire as outlined earlier. With settlement in particularly fire prone areas, the likelihood in loss of human lives, capital improvements, and stock increases.

There have been complaints from landholders adjacent to government reserves (National Parks, State Forests etc) about noxious weeds and feral animals originating in those lands. While this is an issue beyond the scope of this study, it nevertheless should be considered in formulating policies on rural land.

The DEP in their Rural Lands Policy for the North Coast Region of NSW identify four main environmental considerations in non-urban areas: visual, habitat, pollution and heritage.

Rural environments, whether in agricultural use or in their natural state constitute an important resource to existing and future residents of Cooma-Monaro Shire from both aesthetic and economic viewpoints, e.g. treeless plains of the Monaro. There is a danger that these landscapes could be spoilt by development which is not carefully designed or located. The visual impact of poorly designed roads and dwellings and public utilities such as power lines on visually prominant areas such as ridges and headlands can be extreme.

It is often argued that agriculture is one of the many physical elements in a landscape capable of enhancing its quality through colour, form and orderliness. In areas where tourism is of significance, the preservation of such assets are of importance.

The conservation and even enhancement of the rural landscape is possible where care and commitment is shown by most land users. An awareness of the cause and effect relationship in decision-making, backed up with guidance on techniques and controls is sufficient to enable any community to manage its man made landscape. Agriculture is a changing facet in the countryside and historically has made greater change to the countryside than any other activity.

Indiscriminate subdivision of rural land can place increasing pressure on natural systems. The major types of disturbance are soil erosion, effluent disposal and altered drainage patterns. Two major industries, tourism and fishing (trout) rely on the unspoiled condition of local lakes, rivers and lagoons for their prosperity, thus providing a strong economic argument for environmental protection.

Closer settlement in rural areas need not lead to environmental degradation if proper evaluation of the land's capability to sustain land uses is made.

(vii) **Infrastructure Costs and Requirements**

The major issues arising from rural subdivision concern the provision of public infrastructure and services, particularly **who** should bear the costs and **how** these costs should be borne. In remote locations with sparse populations, these services and utilities usually cannot be provided cost effectively without incurring the problem of under-utilisation; the discounted cost of providing services or upgrading roads after subdivision usually exceed those which are incurred if servicing occurs at the time of subdivision; and the occurrence of scattered subdivision (termed leap frogging) adds to the broader public costs of roads, health, education etc.

7.7 Funding and Infrastructural Requirements

Local Government Funding of Infrastructure

The provision of public infrastructure and services, while a duty of local government has proved a source of continual conflict particularly when the costs exceed Council's reserves and resources.

Costs of capital works may be recovered in several ways:

(i) Construction by the developer or contributions to government covering the full costs of provisions;

(ii) As had occurred in the past, an expanded rate base is used to finance capital expenditure; or

(iii) A combination of the above.

In order to broadly evaluate the options available to Council, income and expenditure statistics are presented for the years 1983 to 1985.

Table 7.15 Cooma-Monaro Shire Council - Revenue and Expenditure[a]

Revenue Expenditure	1983	$'000 1984(est)	1985
Administrative Services	859.3	895.6	906.0
Public Health and Welfare	152.6	161.9	166.3
Housing, Community, Library and Recreation	460.9	693.2	524.6
Garbage	153.9	160.6	148.8
Roadworks	1,273.2	2,157.6	1,714.0
Other	1,016.6	1,306.3	1,460.8
Revenue Income			
Rates	1,525.2	1,696.0	1,826.0
Government Grants	1,252.2	2,010.9	1,581.4
Visitors Centre	203.5	229.0	251.9
Administrative Services	111.3	115.9	111.2
Other	1,014.5	1,112.6	1,025.6

a Actual figures for 1983 with estimates only for 1984 and 1985.
Source: Cooma-Monaro Shire Council Estimates of Income and Expenditure for the Year 1985.

Roadworks as in most non urban areas form the largest item of expenditure in the Shire averaging around 36% over the last few years. Cooma-Monaro Shire Council's expenditure on Rural Roads and Unsealed Maintenance totalled $112,623 (1980); $117,484 (1981); $145,625 (1982); $177,505 (1983); $210,072 (1984); and $210,000 (1985 est). This represents an increase of 86.5% over the period or an average of 14.4% per annum. The total expenditure on roads and roadworks is directly related to Commonwealth road funding under the Australian Land Transport Program where funds are distributed to Local Governments according to a jointly agreed formula based on population and road length rather than the subjective needs-based approach.

Expenditure on other major items such as health, welfare, housing, community, library and recreation services fluctuates from year to year depending on capital expenditure budgets. In general, local government in NSW has not been involved to any major extent in these services, although pressures for increased funding at the local level are high, especially when state and federal funding is perceived to be inadequate.

Revenue is reasonably evenly divided between Rates, Government Grants and other Revenue (which includes reimbursements for certain road works). Rate revenue as a proportion of income has been falling most areas since the mid 1970's as the demand for local government services has increased and various factors have affected the revenue raising capacity of rating. Rate pegging, which was imposed in 1977 effectively tied increases in rates to politically acceptable levels, although costs and the demand for services continued to escalate. Other issues such as the deferment of property revaluation, rate exemptions and land tax have increased difficulties with using rates as a source of income.

In principle, the provision of basic infrastructure and facilities which have a life span of many years is best done by way of borrowings since such investment will benefit future ratepayers as well as present. Also, in the case of the provision of public goods such as roads, where their use and benefits are available to all ratepayers, it would appear to be more equitable to fund programs via general revenue or borrowings. However, the ability of council to rely on an expanding rate base to fund capital expenditure is limited for a number of reasons;

- As is clear from the table, rate revenue accounts for just over one third of income, hence increases would need to be subsidised from other sources.

- Virtually all rural road construction and related capital works are funded via grants and reimbursements. Rate revenue is generally applied only to maintenance.

- Council's ability to increase expenditure on roads is limited by its borrowing capacity and current commitments. In 1983 councils were able to borrow $1.8m as part of a general purpose borrowing allocation. Borrowings in excess of this amount must first be approved by the

Australian Loan Council which considers the relative needs of each application as well as the borrowing capacity of each council as indicated by the Debt Service Ratio (DSR, ratio of borrowings to income).

- Cooma-Monaro Shire council's draft estimates (at 19.12.85) showed a deficit of $32,006 and over the year, increased general rates by the maximum amount allowed (i.e. 8%) to maintain existing levels of service.

- The problem of debt servicing remains a constant problem. In 1985 and 1986, the works programme has been financed from existing reserves with the reserve being repaid over a period of years. Increases in interest rates affects capital reserves.

- The financing of works will become increasingly difficult as interest rates rise and repayment periods fall.

- Expectations within rural communities for improved roads and services have increased significantly, especially when new residents have moved from metropolitan areas.

- The responsibility on local government to control land development in rural areas is maximised when the financial responsibility for providing infrastructure and services is with Council.

Contributions to the Provision of Infrastructure

In the case of direct provision of infrastructure by the developer it is clear that the buyer of subdivided land bears the capital costs. Ongoing costs are borne out of their contribution to the rate base or general taxation. Assuming that development standards and contributions attracted by councils are representative of standards demanded as well as real costs, many of the objections to rural residential subdivision are unfounded. There is however some debate over whether cross-subsidisation does occur for the maintenance of these services.

The major difficulty apart from problems of actually estimating the real costs to government of subdivisions, is the most equitable and politically acceptable method of introducing contributions. The two alternatives are:

1. a flat or overall contribution estimated on the basis of average costs and applying equally to all subdivided lots; or

2. a rate based on the estimated cost of road upgrading or, additional services required following a particular subdivision.

Both approaches have their limitations. A flat rate tends to discriminate against subdivisions which generate little in the way of additional costs, especially since these properties are likely to have relatively high rateable values. This effectively results in a degree of cross subsidisation and continues to encourage subdivision in more remote, higher public cost locations. The latter rate based on real costs effectively limits subdivision to areas where costs are covered by market prices. The implementation of such a policy has obviouis political difficulties where one group of landowners seem to be favoured over another and the opportunities for producing "low cost" land are decreased.

The DEP Rural Services and Servicing cost Study estimates that the cost of annual maintenance to rural roads carrying 500-1000 vehicles per day was $1,600 per kilometre in 1983. This figure was applied to road frontages within subdivisions to establish a per lot cost. The major difficulty with average figures is that they ignore the increased road usage on existing roads for which the marginal or extra cost to Council per additional vehicle will vary considerably depending on existing levels of use and road conditions. For example, extensive subdivison, increasing traffic on unsealed existing shire roads is likely to generate significantly higher costs to Council by way of increased local pressure for regular grading and ultimate sealing, improved road standards and safety features to accommodate additional traffic levels, upgrading of creek crossings to enable all weather access, etc than might be expected from subdivision fronting major sealed trunk roads. This tends to suggest that rates be based on user costs rather than averages for the shire.

The introduction of a flat rate contribution based on average costs does have some attraction as it is easier to administer.

The ability of Council to enforce reasonable all-weather access in respect of building applications for new dwellings in rural areas is in jeopardy following recent Land and Environment Court decisions (Mannering V. Cooma-Monaro Shire Council 1985) which determined that means of access were clearly a matter of relevance to town planning or subdivision control but not a matter of relevance to building control.

The 1983 Rural Services and Servicing Cost Study also examined costs associated with rural subdivisons in a number of local government areas. The major conclusions were:

- Many councils now adopt the above policy of requiring developers/ purchasers to meet the full capital costs of subdivision and capital costs for additional services provided by local government.

- Servicing costs increase proportionately with distance from urban centres and decrease as the density of subdivision increases.

- Cross subsidies exist for some services in some areas. These include electricity, telephone connection, postal services and school buses.

- Isolated subdivisions, particularly concessional allotments, often do not meet their full "up front" and ongoing costs and hence attract cross subsidisation.

The major considerations for local government concerning contributions under s.94 are for road upgrading, water supply where applicable, recreation facilities, fire protection, weed control, waste disposal (where appropriate) and certain community services. The major capital and recurrent item of local government expenditure in rural areas is of course road upgrading and maintenance, although the other services are becoming increasingly important to rural communities.

In using s.94 as a method of obtaining funds for the provision of rural roads and services there are several issues which need to be considered. These are-

1. that contributions be related to demand created by the particular development, which should be quantified by Council;

2. that recurrent costs, such as the provision of services are excluded from s.94;

3. that monies be applied within a reasonable period, and benefit the contributor.

Council's Engineering Department have recently completed a major evaluation of the existing rural local road network. This study has identified works required to bring each road up to acceptable engineering standards based on existing levels of use. Works are programmed over years. While existing deficiencies in the road system cannot be used as a direct mechanism with which to levy S94 contributions, it is also important to consider the ultimate demand which might be placed on a given piece of road, and whether the road's "catchment" will ever provide enough user demand to enable the recovery of the capital costs of upgrading.

A more fundamental problem exists in differentiating between capital and recurrent costs.

Also s.94 contributions must be expanded within a reasonable time of subdivision occurring. This is especially the case where subdivisions are small or by way of concessional allotments. In such cases consideration needs to be given to whether contributions should be discounted to allow for the time lag in provision.

Estimating Costs of Specific Developments

This section outlines a procedure by which developments could be assessed to derive a realistic estimate for contributions. It represents a comprehensive method of assessment based on an analysis of areas within the Shire.

1. **Definition of geographic unit for consideration.** Areas would be defined on the basis of topography, road catchments, existing towns and villages and services such as schools. This would provide the basic population group or cluster of freehold land to which demand could be quantified and needs assessed.

2. **Evaluate existing infrastructure and services** including roads, schools, recreation facilities, welfare services and other public utilities such as power, and their levels of utilisation. This effectively provides the base case reflecting existing users.

3. **Forecast total development potential** within the area by accounting for
   (a) Density of subdivision
   (b) type of development (i.e. tourist oriented etc.)
   (c) Resident profile.

4. **Estimate required improvements** and additions to infrastructure, costs and the time scale for provision.

5. **Distribute capital costs over the ultimate population** with adjustment for:

   (a) Time frame over which the number of users expand and the facilities are to be provided.

   Some discounting of the 1985 $ per allotment contribution would therefore be in order.

   (b) allow for funding from other sources such as state government.

   (c) In the case of roads, some allowance is necessary to cover the benefits derived by other existing and future residents or tourists not liable to contributions.

Such a procedure would, depending on the availability of data, provide a detailed area assessment of infrastructure related demands on which realistic contribution can be levied. Simpler approaches are possible, although their adequacy in the

long term is uncertain, given the provisions contained with s.94 of the Environmental Planning and Assessment Act.

Conclusion

There is no easy answer to the problem of matching the increasing demand for rural roads and services to their provision, especially since community expectations tend to be increasing. Council depends largely on external sources of funds for road improvement, and population growth within individual rural areas over the longer run is uncertain, especially since pressure for development will to some degree depend on improvements to roads and services.

In all but the highest demand areas of ther Shire, contributions under s.94 which make adequate allowances for the above factors would provide on an annual basis only a small part of funds for expenditure on roads and services, especially given the levels of expenditure required to meet existing deficiencies.

This being the case, it is unrealistic to assume that contributions in rural areas, can result in a significant improvement in roads or other services and it may be in Council's interest to encourage development in better served areas. Contributions assessed on the above criteria are likely to significantly increase costs of subdivision in more remote locations, although it is likely that these areas will have other constraints such as high bushfire risk and costs of utilities, such as power. Although there is likely to be community resistance to increased costs of subdividing more isolated areas, especially since this represents low cost land, the rezoning of large areas of land in other parts of the Shire and around villages should ensure that land in all price levels should be available.

8.0 DEVELOPMENT POTENTIAL AND STRATEGIC OPTIONS

8.1 Potential Development Opportunities

A planning strategy for the Shire should be based on a reasonable balance of probabilities about future development pressures. A local environmental plan derived from such a strategy needs to address the details and implications of probable development, as well as provide flexibility to deal with the unexpected or unusual situation. As discussed in the introduction to this report, the sole function of a local environmental plan is as a basis for consideration of future development applications. If there is no economic rationale for development there is little purpose in having a plan, other than perhaps as a means of discouraging more extreme proposals with serious public cost or environmental consequences.

In broad terms the main probable influences on the rural areas of the Shire are likely to be:

(a) Pressure from the expansion of Cooma, mainly associated with the town's potential as a tourist stop, in turn associated with expansion of activity in the snowfields. This pressure may be reduced if development in the Snowy River Shire proceeds in accordance with opportunities provided under the Koscuisko Regional Plan.

The recently reported Sydney-Canberra-Melbourne high speed train link, would, if it proceeds, exert considerable influence on Cooma which is currently proposed as a stopping point. This would generate growth associated with construction and maintenance, and would create opportunities for tourist activity in Cooma as well as transit of tourists to the snow and south coast.

(b) Pressure from the expansion of Canberra, particularly along the desire line between the ACT and the snowfields. This pressure is already being experienced in the Michelago - Bredbo and Jerangle - Captains Flat areas, and is likely to continue there.

In terms of pressures from the ACT generally, it would appear that Cooma-Monaro Shire is at the fringes of current demand, with greater pressure being experienced along the desire lines to Sydney and the Coast, from the Yass area around to the Braidwood/Queanbeyan areas. On the one hand, pressure on Cooma-Monaro may increase as currently preferred locations develop or fill up or lose some of their attraction. On the other hand suppression of growth of the public service for economic policy or political reasons, or the regionalisation of public service functions, may act to dampen ACT growth pressures.

(c) A secondary and longer term influence of ACT growth may be experienced in the Yaouk/Shannons Flat area, with the planned improvement of road links to the ACT.

(d) In the medium to long term, pressure may be experienced in the Nimmitabel/Brown Mountain area for tourist and rural residential use. This would be associated with:

(i) the desire line from Cooma to the coast,

(ii) a desire line from the ACT to the coast, particularly if Eurobodalla Shire begins to lose its attraction through development,

(iii) a desire line from Bega Valley Shire to the ACT and the snowfields. This may strengthen given the attractions and range of development opportunities in the Bega Valley Shire, although growth in that shire and any associated expansion of services may tend to reduce the attraction of Canberra.

(e) Possible long term pressure in the Maffra area, associated with a desire line between the coast and the snowfields, and possible overflow pressure from Snowy River Shire. Whether this eventuates will be conditioned by the capacity of the snowfields and the ability of Snowy River Shire to absorb associated development pressures. It is not an issue that needs to be pursued at this stage.

(f) The sum of "miscellaneous" local developments including resource based activity such as mining and extractive industry; possibly some minor expansion of agricultural activity; rural subdivision and dwellings for family or similar reasons; specialised rural tourist developments (e.g. associated with fishing, horse riding, etc.); rural retreat development; possible industrial development; other theoretically possible "one-off" developments; and a range of public works and utilities.

With the possible exception of mining and extractive industries, it is difficult to predict whether such development will occur and if so of what type, where and when.

In summary, the future development possibilities or opportunities in the Shire's rural areas are largely influenced by factors outside the Shire.

8.2 Context of Development

Apart from external influences on potential development discussed above, and general economic conditions which may dictate whether or not development proposals arise, there are a series of other contextual issues which may influence a development strategy. These include:

(a) Agricultural Future

As discussed previously, the potential for expansion, diversification or intensification of agricultural activity is limited by climate, soils, soil erosion risks, and distance from markets. Given buoyant market conditions in wool and livestock, it is probable that some intensification would occur, although the extent to which new land would be brought into production is unclear. It is a reasonable presumption that given the area's agricultural history most of the land in the Shire capable of being farmed has already been improved. In other words, farmers know their business.

A small proportion of arable land would have been lost to farming through subdivision and building. This is difficult to calculate with any precision. With a

healthy market, some land which has traditionally been regarded as marginal may be able to be improved for production - for example by applying "agroforestry" techniques in the interests of soil conservation. It is unlikely this would be extensive given the general rural outlook and the risks involved in major capital expenditure on improvements. More likely, increased production in response to market conditions could be achieved through application of modern management techniques using the capacity within existing farms.

A more likely scenario would be based on expectations of depressed or at best fluctuating markets, in the context of increasing production costs, and increased competition. A net increase in the area of land actually used for farming would be improbable. Under this scenario a process of farm adjustment, and increased pressure for development in rural areas for farm liquidity might be expected.

(b) **Owners' Attitudes**

A limited process of consultation with representatives of local rural groups took place in the early stages of this study. While this could not be taken as necessarily representing all local rural opinion, there were a number of common strands:

(i) a general wish not to see too much change in the rural countryside - particularly on the Monaro and in the east of the Shire (Numeralla - Kybeyan), and in the form of ribbon development.

(ii) a wish to have the opportunity to develop at some time in the future where economic or other conditions might dictate. This also related to a farmer's ability to raise loans against the capitalised value of development potential.

(iii) related to (ii) was a wish for any planning controls to be less intrusive and arbitrary than those contained in the original draft Kosciusko draft regional environmental plan. There was support for the Livestock and Grain Producers' Association policy that agricultural land use not be regulated by planning controls.

(iv) concern about the 40 hectare policy producing allotments that were unmanageable.

In the light of experience in other shires and the similarity of rural opinions from place to place, these opinions can be taken as a general guide to the sort of planning strategy that is likely to be more acceptable to the local community. To the extent that the planning legislation is concerned about public participation in the planning process, these opinions carry weight.

By way of comment, the apparent contradiction between a wish to keep things as they are and a wish to be able to develop, is not necessarily so. The way in which a development fits on its site and in its context can be managed so that a degree of change can occur without it being readily apparent. Also, the ability or opportunity to develop does not necessarily mean development will occur. As mentioned above the opportunity provides a form of security without needing to be realised.

In a broader sense, the attitude of land owners is a fundamental limiting factor on a planning strategy. Notwithstanding any logic or incentive, a strategy to encourage development will achieve nothing if owners do not wish to develop. Similarly a restrictive strategy will not necessarily discourage owners who wish to develop.

(c) **Rate Pegging**

Without wishing to enter into a debate about Council rates generally, the simple fact is that rate pegging has the effect of avoiding costs due to rates on land value reflecting development potential. Because the amount by which an individual rate assessment can rise is restricted, a "higher order" zoning does not penalise an owner who does not wish to develop. This creates a degree of flexibility in zoning. In other words the traditional argument that a zoning increased rates and forced farmers to develop, does not apply (at least to the extent rate pegging continues).

In any event, a proper evaluation of the impact on land values of a "higher order" zoning, which took into account development costs and the size of the market is

likely to demonstrate that the basic value of rural land does not significantly increase.

A further consequence of rate pegging is that Councils are being forced to promote and encourage subdivision and other development in order to expand their rate base. This isn't necessarily a problem where public costs and environmental issues are adequately covered. However, given the cost/revenue squeeze faced by virtually all councils, there are risks that appropriate control can be reduced.

A more specific issue in the context of Cooma-Monaro Shire is the financial constraint on the Council's ability to maintain and upgrade rural roads to a good standard. Because Council cannot fund all necessary road works through traditional sources and because development contributions under section 94 are limited in their application, a development strategy for the rural areas should seek to concentrate development opportunities to areas serviced by roads that have the capacity to absorb additional traffic and where the potential market is likely to allow a developer to recover the costs of internal roads and off-site road upgrading.

(d) **State Government Departmental Policy**

A local environmental plan is constrained by policies of State Government departments. These tend to be the sum of policies aimed at protecting aspects of the physical environment, minimising public costs, and at promoting economic development and tourism.

Rural land is subject to policies aimed at:

(i) Protecting prime crop and pasture land from fragmentation, particularly through dwelling development. This is intended to support agricultural production,

(ii) avoiding development of land with high risk of soil erosion, flooding, bushfires and land slip,

(iii) avoiding ribbon development and creation of access to arterial roads,

(iv) Protecting aboriginal archaeological relics and sacred sites,

(v) Protecting economically recoverable mineral resources,

(vi) Avoiding demands for inefficient public expenditure (particularly extension of school bus services and telephone), and

(vii) protecting scenic and nature conservation areas.

Traditionally, these sorts of policies have acted as exclusion rules - that is, development is prohibited where the **principle** of development is seen to carry a risk to an aspect of the environment. The distrust of councils by State Government agencies tends to preclude realistic solutions which accommodate development which has an economic rationale, and which can effectively respond to environmental conditions.

Further there is a tendency for state agencies to require consistent approaches between local government areas. This helps them in dealing with other Councils. In practice this denies a Council the opportunity to develop approaches which are appropriate to its own economic, political and environmental circumstances. In the case of Cooma-Monaro Shire, there may be pressure to adopt a similar approach to that in the draft Kosciusko Regional Environmental Plan. This is discussed later.

(e) **Policies of Other Councils**

There is some suggestion that at least part of the reason people from the ACT are choosing to live in Cooma-Monaro Shire, is to avoid the strict building requirements of the National Capital Development Commission - in particular a requirement that houses be architect designed. Similarly, the development policies of other Shires will have an influence on development pressures in Cooma-Monaro Shire. If other Shires restrict rural development opportunities, then a greater than normal proportion of development may occur in Cooma-Monaro Shire. The reverse also applies, while, if all Council's have a comparable approach, the market is likely to work more "normally".

That is not to suggest that the Council needs to be loose in its approach if it wishes to attract development. Rather, development may be attracted by a supportive and reasonable attitude, and a willingness to negotiate for and to try and find workable solutions.

8.3 Physical Environmental Constraints

Land within the Shire does not have uniform characteristics. A planning strategy in addressing a particular locality, needs to recognise the differences within that locality, which will mean that development opportunities and development economics will not necessarily be the same from one property to the next. In the final analysis it is the way in which a particular development responds to its site conditions that is critical. This cannot be spelt out in detail in advance, although a set of basic principles can be derived which will act as a "brief" to intending developers.

Physical environmental constraints in combination with other factors for most of the Shire, tend to be mutually reinforcing. For example, in the Monaro, a combination of agricultural value, fire risk, erodability, poor septic absorption conditions, the rain shadow effect, and attitudes against extensive building suggest a strategy to limit development opportunities. In other parts of the Shire unlikely to experience significant development, pressures possible development is likely to be a case by case response to particular site conditions.

The following factors derived from the discussion earlier in this report represent the main physical constraints or influences on prospective development. While there is no ranking intended, the consultant's opinion is that the first five factors are the most significant. Relative significance will vary from site to site.

(a) Water Supply

The rain shadow in the central spine of the Shire imposes constraints on housing development without supplementary sources of supply (bores, farm dams). Where areas are to be subdivided lot sizes and site conditions should provide for farm dams for supplementary domestic supply, possible use in fire fighting and stock watering.

(b) **Soil Erosion**

In most areas of the shire, development involving clearing or earthworks will need to be designed and carried out in a way that minimises the erosion risk. Council may need to negotiate with the Soil Conservation Service to ensure that advice can be readily provided to intending developers, and to Council on proposals likely to involve problems.

(c) **Access**

While access is as much an economic issue as anything else, it is also directly related to physical conditions. Basically roads are more difficult to construct and maintain compared with many other Shires, because of physical conditions. Development preferably should be concentrated in areas where there is better access and it is feasible to upgrade existing roads, and new public roads should be minimised. Development proposals in other situations should be conditioned by requirements for an appropriate standard of road which will not increase future maintenance costs.

(d) **Bushfires**

There are limited options for development that would be free of any fire risk. Fire risk and difficulty of access would suggest that development should be restricted in more steeply sloping timbered country, but equally pressure is not likely to be significant, and solutions are possible (as Council has already experienced). Elsewhere in the Shire fire risk should see a balance between keeping rural residential properties small enough to enable them to be properly maintained, but not so small that fire risk through semi urbanisation is increased.

(e) **Agricultural Suitability**

Varied land quality provides opportunities for development in areas likely to experience demand without impinging on arable land. This may not always be possible, and as a general principle development should minimise intrusion onto better quality land. Intrusion includes other impacts of development on farming,

including control of noxious plants and animals, avoiding complaints or constraints on farming practices, maintenance of fences, control of soil erosion etc.

(f) **Water Catchment Areas**

The catchment area of the Googong Dam, and the general catchment area of the Murrumbidgee River require a degree of protection. The Googong Dam catchment is unlikely to experience significant pressure for change, and controls available under catchment areas protection legislation should be adequate. Similarly, the legislation should be adequate for most parts of the Murrumbidgee Catchment, although potential intensification of development around Cooma and Michelago/Bredbo may require additional considerations. In the Jerangle - Captains Flat area, the Water Resources Commission have not opposed limited dwelling development in this part of the Googong catchment.

For the most part, the need for soil erosion control works will satisfy water quality objectives. Development consent for potentially polluting agricultural activity (e.g. intensive piggeries) as well as uses such as garbage tips, would enable consideration of potential water pollution risks.

(g) **Extractive Resources**

The general principle of ensuring surface development does not sterilise economically recoverable mineral and extractive resources, is reasonable at the broad level. However, in practice, it can lead to attitudes which preclude otherwise reasonable development where the actual winning of minerals is uncertain (e.g. because of economic and market conditions).

The existence of mining leases in the Michealgo/Bredbo area, and around Cooma, highlight this potential problem. Equally it could be argued that other constraints in these potential development areas, particularly sections of better agricultural land, and the limited size of potential demand, mean that development is not necessarily a threat to extractive resources. In essence it comes down to evaluating the situation in individual applications. The principle should be highlighted, so that potential developers can address it in their proposals.

(h) **Flooding**

While flooding is a risk to rural development, it is considered to be a relatively minor and avoidable one. A preference for non-agricultural development being located on land of lesser agricultural quality would have the effect of pushing development away from flood plains. Potential nuisance flooding along drainage lines as distinct from main streams, is a factor to be considered in development design.

(i) **Land Slip**

A policy to minimise development and clearing on slopes prone to soil erosion, would have the effect of minimising risks associated with land slip. Given the complex geology of the Shire, there are likely to be instances elsewhere where slip may be a hazard. Again this is a matter to be addressed in development applications, and Council may need to require geotechnical analysis for buildings in areas where there is a potential risk.

(j) **Septic Absorption Capability**

Much of the shire has soil conditions that are unsuited to conventional septic disposal of domestic waste. This may require larger allotment sizes for rural residential development, to allow for transpiration beds, or requirements for domestic aerobic sewage treatment systems such as Envirocycle or Biocycle.

(k) **Visual Quality**

The most prominent aspects of the Shire's rural landscape are the treeless plains of the Monaro, and the timbered slopes and ridges which provide a scenic backdrop to many areas.

As discussed earlier, a series of issues (agricultural quality, local attitudes, septic absorption problems, fire risk etc) combine to suggest a policy of limited change to the Monaro. In other words visual quality is likely to be maintained without any specific policies to that end.

Council might consider making a tree preservation order to protect the few trees in the area. It could also consider investigating ways in which further trees could be sustained. This could include selection of species capable of withstanding cold ground temperatures, and the use of super absorbent powders to retain moisture (see Technical Appendix 5).

The wooded slopes and ridges are similarly not likely to be exposed to major development or clearing pressures. This is because of soil erosion and bushfire risks, access constraints, and agricultural economics. If consent was required for clearing of land classified as having a high soil erosion risk (Class VII and VIII under the Soil Conservation Services Classification), it would be unnecessary to deal specifically with visual issues.

8.4 Conservation Issues

Key nature conservation issues relating to water catchments, and the Monaro and the wooded slopes and ridges are addressed above in Section 8.3. Other conservation issues related to areas of wildlife habitat, national park fringes, aboriginal archaeology wetlands and historic buildings:

(a) Wildlife Habitat

While no detailed study of native fauna and birdlife has been conducted as part of this study, it is apparent from available evidence that existing undeveloped areas of the Shire have a value as wildlife habitats.

Likely development pressures will tend to be focussed outside these areas, closely linked to existing access corridors. Consequently, there is little apparent risk to existing natural areas, and little to be gained by superimposing nature conservation restrictions on top of other physical constraints. While nature conservation in itself would not be without local support in principle, there is understandable concern about unnecessary regulation, and a risk that over time specific conservation objectives will be taken out of proportion.

It is conceivable that there will be occasional development proposals in potential "habitat" areas (e.g. that otherwise can respond to erosion, access and fire

constraints). In this event, possible impact on nature conservation values would be considered in dealing with appreciations.

(b) **National Park Fringes**

It is common practice for areas adjoining National Parks to be given a form of buffer zone treatment, argued on the basis of protection against the spread of exotic plants and feral animals, and on visual grounds.

Against this, there is strong local opinion that National parks are the source of problems for adjoining private land. These include being the source of bushfires, and feral animals. Restrictions on baiting of wild dogs in National Parks in the interests of protecting native animals, are seen to foster breeding and to consequently increase risks to native animals. Policies against the fencing of National Parks are seen to encourage the spread of pests to private property and farmland. These views are disputed by the National Parks and Wildlife Service, particularly in relation to fire risk.

The simple fact is that land use planning does not provide an answer. Rather plans of management for National Parks need to address the containment of problems that may arise within parks, and similarly the treatment of park edges.

In the circumstances of the Shire, there is not a strong case for restrictions on private and adjoining National Parks. Again this is largely because most of this land is unlikely to change or be cleared, and because agriculture is not based on cultivation, the risk of introduction of exotic species is limited. Control or spread of noxious weeds is a potential problem, although it is largely confined to those parts of the Shire away from National Park boundaries. (Noxious weeds are more a problem exacerbated by the 40 hectare policy which has produced allotments too large to be effectively managed by non-farmer or absentee owners).

(c) **Aboriginal Archaeology**

On the assumption that the highest probability of aboriginal archaeological relics would be along watercourses, policies aimed at protecting agricultural land and avoiding flood risks, would act to limit change of these areas.

Short of a comprehensive archaeological study which is beyond the scope of this project, protection of identified relics can be covered by the National Parks and Wildlife Service under its legislation. Council may need to exercise its judgement in individual cases, to require specific surveys.

In view of the limited knowledge of the aboriginal archaeological values of the Shire and the highly likely probability (according to the NPWS) that archaeological values would be significant, the NPWS recommends that Council employ a professional archaeologist to conduct a detailed study of the area. This would require liasion with the NPWS and relevant Aboriginal Land Councils. Equally it could be argued that given the limited prospect of change over much of the Shire, the scale of threats is low. There is little apparent advantage to the Council in conducting such a detailed study, nor any obvious reason why the NPWS should not conduct it themselves.

(d) **Wetlands**

Wetland areas are mainly in the form of elevated swamps in the eastern part of the Shire. They are unlikely to face significant pressure for change, although protection of wetlands may become an issue in the longer term with any development in the Nimmitabel/Brown Mountain area.

(e) **Historic Buildings**

It is suggested that the buildings identified in Section 5.1.2 be listed in the LEP as items of the local environmental heritage, and subject to the standard heritage provisions. This would give Council the discretion to deal with proposals should these buildings be subject to change. Council might also consider whether the Heritage Act needs to be invoked where it would provide access to subsidies for restoration or other concessions.

The likelihood of change to nominated buildings is more related to local tourism initiative than probable development pressures.

8.5 Villages

Of the existing villages in the Shire, Bredbo and possibly Bunyan are the most likely to be faced with short term development pressures, largely on the strength of the ACT/Cooma/snowfields desire line. Bredbo would appear to have adequate room for expansion within existing village zone boundaries, although these could be modified to pick up adjoining small holdings that are capable of being developed under existing holdings provisions. Flooding constraints can be addressed in the normal course of development applications.

There is a possibility that Bredbo could expand to a size that would generate a demand for Council to increase services. Council may need to require basic development contributions, and be prepared to increase the level of contribution if growth rates exceed "normal".

With Council's encouragement Bunyan is developing a specialised tourist oriented character with emphasis on craft industry. This could be reflected in a development control plan. The definition of village zone boundaries needs to take the flood risk into account.

Nimmitabel, Numeralla and Jerangle are unlikely to experience major short term growth, and appear to have adequate capacity for probable change. Again, village zone boundaries could be adjusted to include adjoining small holdings that are capable of being residentially developed, although there may be some resistance if this has the effect of altering rates on individual properties.

The "Four Mile" area has a roadside service function which could be recognised by an appropriate zoning. This may provide some incentive for access inprovements associated with any new development, although this would need to be balanced against Council's objectives to encourage tourist and motorist's services within Cooma. Informal discussions with Snowy River Shire which controls land south of the Highway at the "Four Mile", suggest that Council would not oppose a special zoning.

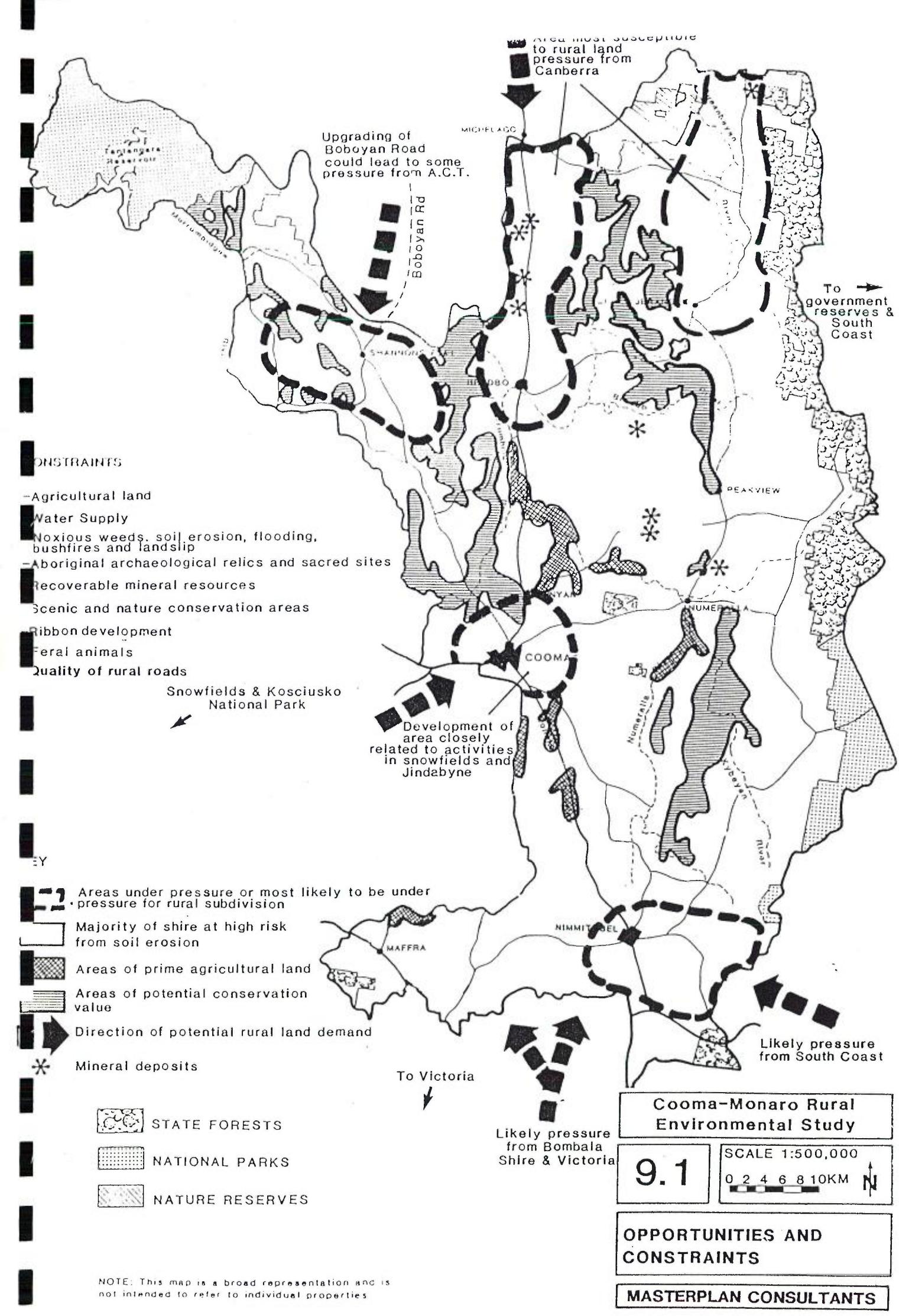
9.0 DEVELOPMENT AND CONSERVATION STRATEGY

The discussion in Section 8 is summarised in Figure 9.1 and brought together in the recommended strategy illustrated in Figure 9.2. The discussion in Section 10 adds further details by way of mechanisms by which the strategy can be implemented - subject to market conditions providing the impetus for development.

In essence the recommended strategy follows what appears to be the most probable development scenario, without excluding the potential for development which, for a variety of reasons, may arise outside that scenario. The critical issue is the way in which a development responds to the particular set of circumstances of its site and context. Most of the constraints to development in the Shire's rural areas have solutions - the question is whether those solutions can be economically sustained in a given set of market conditions.

In developing this recommendation, consideration was given to whether there were other options - either more general or more specific. While other strategies are possible there are a series of variables including market conditions, owners' attitudes and land characteristics that dictate against being more specific. The recommended strategy is possibly too broad in terms of the wish that many people have for a clear specification of rules, but is considered to be specific enough about the issues to enable prospective developers to adequately evaluate their options. If it was any more general, this degree of guidance may be reduced.

In essence the strategy places more emphasis on the development control process conpared to the planning or zoning process. It is the consultant's experience that firstly it is the development control stage that is in practice more relevant, and secondly that it is productive from both the applicant's and Council's viewpoint to foreshadow the issues that affect development (as distinct from translating those issues into conventional restrictions). In addition, it can not be assumed that the process of zoning land will necessarily lead to development, so that a strategy has to provide for choice and owners who do not wish to develop. Further, it is generally illogical to artificially constrain the supply of development opportunities because of the potential effects on prices, and the effects of withholding.


Area most susceptible to rural land pressure from Canberra
Upgrading of Boboyan Road could lead to some pressure from A.C.T.
Boboyan Rd
To government reserves & South Coast
Tantangara Reservoir
MICHELAGO
SHANNONS FLAT
BIBBENLUKE
PEAKVIEW
NUMERELLA
COOMA
Development of area closely related to activities in snowfields and Jindabyne
Snowfields & Kosciusko National Park
MAFFRA
NIMMITABEL
To Victoria
Likely pressure from Bombala Shire & Victoria
Likely pressure from South Coast
ONSTRAINTS
-Agricultural land
Water Supply
Noxious weeds, soil erosion, flooding, bushfires and landslip
-Aboriginal archaeological relics and sacred sites
Recoverable mineral resources
Scenic and nature conservation areas
Ribbon development
Feral animals
Quality of rural roads
EY
Areas under pressure or most likely to be under pressure for rural subdivision
Majority of shire at high risk from soil erosion
Areas of prime agricultural land
Areas of potential conservation value
Direction of potential rural land demand
Mineral deposits
STATE FORESTS
NATIONAL PARKS
NATURE RESERVES
NOTE: This map is a broad representation and is not intended to refer to individual properties
Cooma-Monaro Rural Environmental Study
9.1
SCALE 1:500,000
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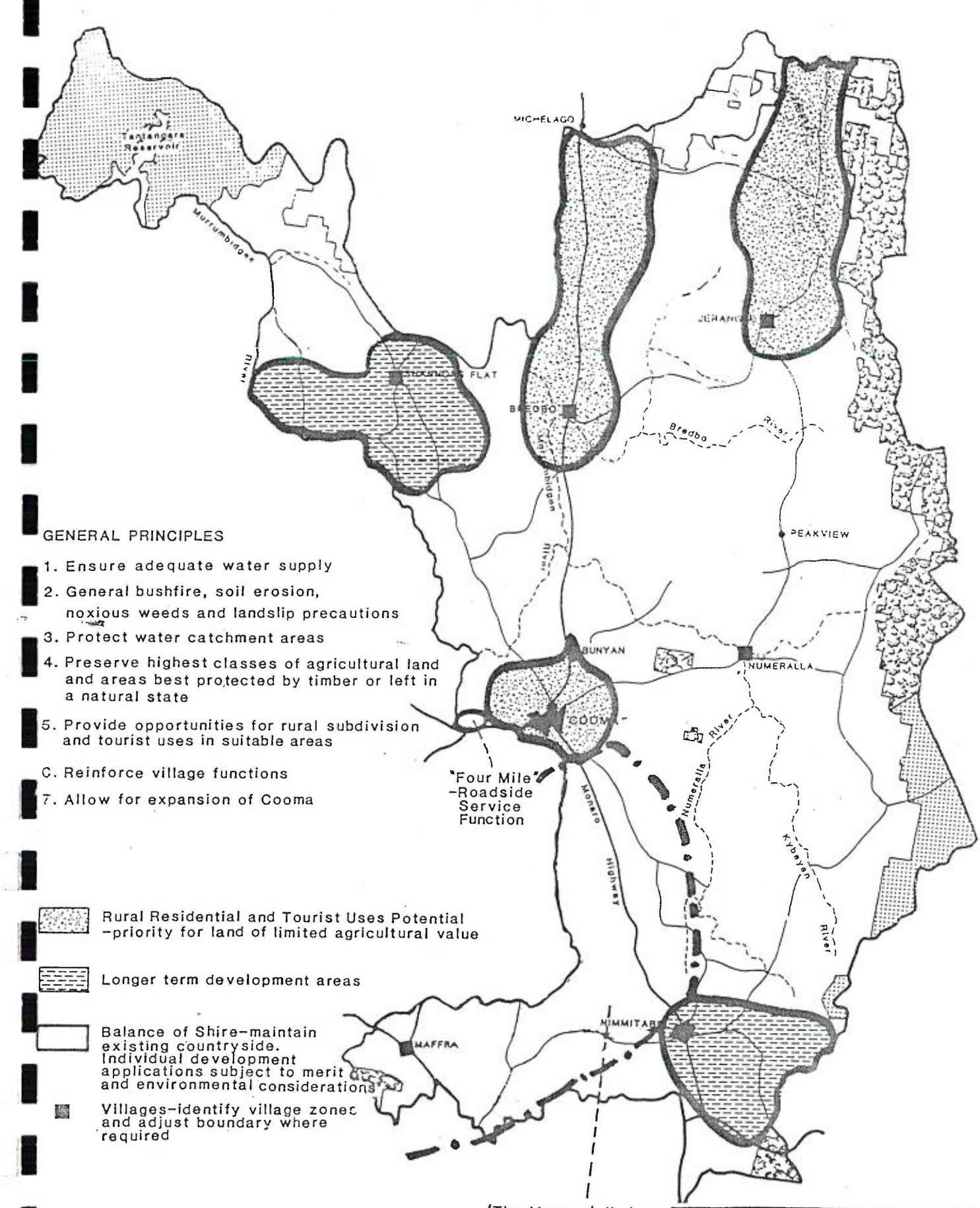
OPPORTUNITIES AND CONSTRAINTS
MASTERPLAN CONSULTANTS



GENERAL PRINCIPLES

1. Ensure adequate water supply
2. General bushfire, soil erosion, noxious weeds and landslip precautions
3. Protect water catchment areas
4. Preserve highest classes of agricultural land and areas best protected by timber or left in a natural state
5. Provide opportunities for rural subdivision and tourist uses in suitable areas
6. Reinforce village functions
7. Allow for expansion of Cooma

Rural Residential and Tourist Uses Potential -priority for land of limited agricultural value

Longer term development areas

Balance of Shire-maintain existing countryside. Individual development applications subject to merit and environmental considerations

Villages-identify village zones and adjust boundary where required

'The Monaro'-limited development opportunities due to agricultural value, fire risks, erodability, poor septic absorption and rain shadow effect

STATE FORESTS

NATIONAL PARKS

NATURE RESERVES

NOTE: This map is a broad representation and is not intended to refer to individual properties

Cooma-Monaro Rural Environmental Study

9.2

SCALE 1:500,000

0 2 4 6 8 10KM

N

DEVELOPMENT AND CONSERVATION STRATEGY

MASTERPLAN CONSULTANTS

10.0 IMPLEMENTATION

10.1 Introduction

The draft LEP which follows from the strategy seeks to provide broad guidance for developers, and to provide Council with a framework for dealing with applications, which addresses those policies of State Government Departments the Council is required to work within.

10.2 Aims and Objectives

In general terms the broad objectives which might be suggested for future planning include:

- simplified administration;
- encouragement of growth and development in a manner which reflects land characteristics and which maximises the efficiency of pblic expenditure;
- reinforcement of existing social and community networks;
- maximising options, individual choice and flexibility.

These broad objectives can be further refined into the following suggested aims for a Local Environmental Plan:

(a) to provide flexible planning controls to assist the council in its administration of planning;

(b) to enable the council to prepare development control plans to introduce more detailed policies and guidelines;

(c) to maintain and promote commercial agriculture;

(d) to recognise the role of the main villages in the Shire;

(e) to provide a range of housing opportunities, including rural residential development in the vicinity of Cooma;

(f) to ensure that the Council has adequate power to deal with inappropriate development, particularly development likely to degrade land;

(g) to ensure that development does not have the effect of placing financial burdens on ratepayers, particularly in relation to road upgrading and maintenance;

(h) to ensure that development occurs in a manner which reflects and respects the opinions of the rural community;

(i) to ensure that development occurs in a manner which minimises risks due to environmental hazards, and minimises risks to important elements of the physical environment; and

(j) to provide opportunities for the expansion of the tourism industry.

More specific objectives for residential zones are included in the draft LEP in Appendix 1.

10.3 Draft LEP

The Draft LEP takes the suggested objectives in Section 10.2 a stage further in providing the power or framework for these objectives to be met.

The primary example relates to opportunities for rural subdivision for non agricultural purposes. Apart from existing zones which allow small rural holdings, (which zonings are proposed to be maintained) the draft plan proposes to enable small holdings development anywhere in the rural zone provided:

(a) the land is suitable, is not good agricultural land or exposed to avoidable hazards;

(b) the development will not adversely affect agricultural use of other land;

(c) public costs are minimised; and

(d) other normal development aspects are considered.

This approach avoids the arbitrariness of zonings for small holdings, places emphasis on the real issue which is how a development works in its context, and enables the market to respond to demand when and where required (and if the costs can be sustained). If the land is suitable and the potential consequences of development have been addressed, then there is little risk. In particular the LEP sets out for intending developers a list of issues that they need to take into account in making proposals, which tends to ensure that Council gets acceptable proposals presented to it - (as distinct from proposals which comply with numerical standards but which create problems because the real issues have not been addressed). (Consideration could be given to a provision requiring consultation with the Department of Agriculture, to enable specialist advice on agricultural implications of specific proposals).

In those parts of the Shire where more intensive development is not preferred - such as on the Monaro or in the more steeply sloping timbered areas, the combined effect of the criteria in the LEP, market characteristics, and the availability of alternatives, should preclude undesirable development. If development has to take place in these areas the LEP should act to minimise any adverse effects.

The structure of the LEP follows current drafting conventions. Apart from operating clauses, and zonings to reflect fixed elements such as state forests, the bulk of the Shire is proposed to be covered by a general rural zone. This is supported by a series of clauses which cover the main principles or issues development is likely to raise. The clauses are largely self explanatory.

Apart from general flexibility and emphasis on development principles, the main effects of the suggested approach would be:

(a) removal of the Highway frontage strip zone. Generally, this zone serves little useful purpose and can complicate zone boundary definition in S.149 Certificates. The proposed LEP provisions and established consultation procedures provide adequate safeguards; and

(b) removal of the current 4(b) zone. Again, this is a zone which serves little apparent purpose. It is irrelevant to land transferred to private ownership, while a rural zone will not prejudice any land management objectives of the Land Board Office.

The LEP does not contain a number of detailed provisions found in the present controls. Some of these are covered by the model provisions which are incorporated in the LEP by reference. Others are replaced by more general provisions in the LEP (e.g. such as the fixing of building lines) and others have been omitted as unnecessary.

The LEP is relatively short by many comparisions and relies on Development Control Plans for detail.

10.4 Development Control Plans

Further detail by way of policy or standards could be considered by Council in a development control plan. At the broadest level this could include a DCP based on the Development and Conservation Strategy (Figure 9.2), which among other things expresses a preference for distribution of future rural small holdings development.

Other details which might be considered include:

- rural allotment sizes, and other subdivision aspects
- heritage items
- a review of rural road standards and priorities, in the light of possible distribution of rural development
- ways in which the special "craft" functions of Bredbo might be encouraged
- general guidelines for rural subdivision and building development, based on Victorian models.

The basic advantage of this approach is that rules can be provided for those who need them, but any anomalies or exceptions to rules can be readily accomodated by Council without undue statutory processes involvement of other agencies.

10.5 Other Action

There are other issues that emerge from this report which Council might consider outside the formal planning process. These include:

(a) considering the use and encouragement of super-absorbant powders in maximising plant growth, particularly where drip irrigation and other forms of watering are impractical;

(b) continuing to press the Government to increase funding for eradicating and controlling noxious weeds in the Shire;

(c) requesting the National Parks and Wildlife Service to undertake an archaeological survey of the Shire;

(d) assessing the regional tourism development strategy plan of the Snowy Mountains region and its implications for development in the Shire; and

(e) providing advice to new rural residents along the line suggested in Appendix 2.

10.6 Financing

Implementing the recommendations in this report are not in themselves likely to generate requirements for Council funding of major capital works and services. However, there are a number of aspects of potential future development and change within the Shire that have financing implications that need to be considered. The most significant of these relates to rural road upgrading.

In the context of rate pegging legislation, general resistance in the community to rate increases, and the increasing demands on Council's limited financial

resources, there are difficulties in managing substantial loan repayments, notwithstanding an enhanced rate base through further development.

A further potential constraint lies in the probability of substantial cuts in capital works spending associated with Commonwealth and State Government budget cuts.

A development strategy which sought to concentrate new development on existing roads, and to minimise the creation of new local roads, should operate to improve this situation in the long term. Development contributions towards road upgrading can operate to achieve improved conditions for existing and new road users, although there is a potential problem if lags mean increased road usage before sufficient funds are accumulated from contributions for effective works programmes.

The gradual enhancement of the Council's rate base through development is likely to assist the Council in keeping up with demands, however, it would appear that the probable rate and distribution of development are likely to be such that additional funding towards road works and other current needs as a direct result of development is unlikely to be either substantial or of major effect. The resolution of this issue is outside the scope of this report or an LEP.

BIBLIOGRAPHY

Australian Bureau of Statistics, "Tourist Accommodation in New South Wales", "Handbook of Local Statistics, New South Wales", 1970, 1980-84, "Integrated Agricultural Commodity Census", 1983-84.

Bega Valley Shire, "Rural Lands Environmental Study", Jackson Teece Chesterman Willis and Partners Pty Ltd, May 1985.

Bureau of Agricultural Economics, "Commodity Statistical Bulletin", January 1986. "Quarterly Review of the Rural Economy", Volume 8, Number 1, February 1986. "Situation and Outlook - Meat, 1985". "Situation and Outlook - Wool, 1985".

"Cooma-Monaro Express". (Local newspaper - various editions).

Cooma-Monaro Shire Council. "Land Evaluation Study, Environs of Cooma", Town Planning Department, April 1985.

Costin, Alec Baillie. A Study of The Ecosystems of the Monaro Region of New South Wales with Special Reference to Soil Erosion, Soil Conservation Service of NSW, 1954.

Department of Agriculture and Department of Environment and Planning, "Rural Land Use Planning: Cooma and Yass, Proceedings and Services", July, 1984.

Department of Environment and Planning, "Development of a Model for Estimating the Demand for Land for Rural Residential Subdivision", 1985.

Department of Environment and Planning, "Kosciusko Regional Environmental Study (Snowy River)", DEP, Sydney, 1983.

Department of Environment and Planning, "Seminar on Rural Planning for the Riverina and Murray Regions of New South Wales", September 1984.

Department of Main Roads (NSW), "Traffic Volumes and Supplementary Data, South Coast Division", 1982.

Dovey, E., "Murrumbidgee Gorge Nature Reserve Proposal", Internal Report to NPWS, 1984.

Flood, J., The Moth Hunters, Aust. Inst. of Abor. Studies, 1980.

Forestry Commission of NSW. "Management Plan for Badja Management Area", 1983. "Management Plan for Quenabeyan Management Area", 1984.

Gallacher, Barrie, "An Alternative Water Management Technology for Landscaping" in Landscape Australia, August, 1984.

"Implementation of the Metropolitan Policy Plan for Canberra", Submission No. 1 to the Parliamentary Joint Committee on the ACT, 23rd September, 1985. (Extract from Official Hansard Report).

JTCW Planning Pty Ltd, "Shire of Parkes Planning Report", December 1985.

Lance, A. and P.J. Hughes, (1983), An Archaeological Survey of the Proposed Snowy Mountains Hydro-Electric Authority Head Office Complex, Cooma, NSW. ANU Archeological Consultancies, 1983.

Murphy, P. "The Supply Side of Resort Land Subdivision" in Mercer, P. Leisure and Recreation in Australia, Sorrett, 1977.

Neal, Lauri. Cooma Country, The Cooma-Monaro Historical Society, 1976.

Northcote, K.H. (et al), A Description of Australian Soils, CSIRO, Australia, 1975.

NSW Population Projections Group, "Population Projections for Non-Metropolitan Local Government Areas in New South Wales, 1983-1988", Sydney, 1985.

Parkham, G.H., Geology of New South Wales, Mercury Press, Hobart, 1969.

Soil Conservation Service, "Technical Manual for Cooma", 1977.

Tourism Commission of New South Wales, "Tourism Trends in New South Wales, A Comprehensive Report", June 1984.

The Valuer-General's Department, "New South Wales Real Estate Market", September 1985.

Water Resources Commission, "Groundwater in New South Wales", 1984. "Groundwater in New South Wales - Supplementary Maps", 1984.

COOMA-MONARO SHIRE COUNCIL

DRAFT

COOMA - MONARO LOCAL ENVIRONMENTAL PLAN NO. 1989 (RURAL)

EXPLANATORY NOTES

P89.541

INTRODUCTION

Issues surrounding planning controls for rural land have been under discussion and debate in the Shire for the past 4 years or so. A consultants study commissioned by Council was the subject of a series of public meetings, and the Council for some time has been negotiating with the Department of Planning on principle and details.

A key issue in community discussions has been a wish to avoid arbitrary restrictions on development, at the same time as controlling inappropriate development.

The Draft LEP on exhibition involves the following changes to the existing set of zonings and standards -

- consolidation of planning instruments into the one document;
- general updating in the light of new definitions and current drafting requirements;
- an increase in the basic minimum area for rural subdivision involving a dwelling from 40 hectares to 600 hectares, associated with an expansion of opportunities to subdivide small holdings for rural dwellings, and a relaxation of restrictions on eligibility for those dwellings;
- an increase in the area specifically zoned for rural residential development generally in the vicinity of Cooma;
- replacement of the existing Scenic Protection Zones with general provisions dealing with consideration of potential impacts of development in steep scenic areas. These provisions have also been extended to the Murrumbidgee Gorge area;
- replacement of strip zones on main roads with a general provision dealing with traffic safety issues.

In considering the Draft Plan, it is important to recognise that it only has an effect if a development application is made. An LEP is the general framework in which development applications are considered, and has little if any effect beyond that. The Council has the power to approve development that is inconsistant with development standards in an LEP (under State Policy No. 1), and even though the draft plan is intentionally flexible, it may be amended as required by a later LEP.

It is also stressed that the Draft LEP is only a draft, and is open to amendment before it is finalised and gazetted. The draft is on exhibition to enable community comment and objection, and the Council will consider these comments and objections and make

amendments before finalising the draft. It is however, pointed out that Council's ability to change the draft could be limited by the Department of Planning's policies. The Department is required to endorse any changes of the Council before recommending to the Minister that the plan be gazetted.

The plan has no legal effect until it is gazetted, although the Council is required to consider it in dealing with development applications in the interim.

ZONES

The maps on exhibition show the pattern of proposed zonings as referred to in the land use table and special provisions in the instrument. (The urban areas of Cooma are not included and are being addressed in a separate LEP). The zones are -

. 1(a) Rural Zone - This is the predominant zone in the shire and is similar to the existing 1(a) zone except for the proposed changes to minimum areas and "concessional allotment" opportunities.

. 1(c) Small Holdings Zone - This zone specifically provides for rural residential and other types of small holdings development. It is primarily concentrated around Cooma and the villages, because of existing similar zonings, access to services in some areas, and an objective to limit potential impacts on agriculture and rural roads. No statutory subdivision size is proposed, this issue being addressed as Council policy in Development Control Plans.

. 1(f) Forestry Zone - covers existing State Forests, and enables forestry activities without development consent (The Forestry Commission is subject to separate environmental impact assessment procedures).

. 2 Village Zone - covers the existing villages in the rural parts of the Shire.

. 5(b) Railways Zone - covers railway land.

. 8 National Parks and Nature Reserves Zone - covers existing National Parks.

The cross hatched areas on the maps are related to clause 13 of the draft instrument. Development applications in these areas would be subject to additional specific considerations relating to scenic and landform factors.

LEP INSTRUMENT

This section gives a brief description of the purpose and application of each clause in the draft LEP instrument.

Clause 1 - The official title of the LEP

Clause 2 - The general aims of the LEP are set out as a guide to the application of the plan. These aims are complemented by the objectives of individual zones. These statements of purpose are matters to be considered by Council in dealing with development applications.

Clause 3 - Describes generally the land covered by the plan, as shown on the maps.

Clause 4 - Provides that existing statutory plans would be replaced when the draft LEP is gazetted.

Clause 5 - Sets out definitions of terms used in the draft plan, in addition to standard definitions adopted by clause 6. Attention is drawn to the definition of "existing holding" which is applied as the basis for subdivision and dwelling opportunities in the 1(a) zone.

Clause 6 - Adopts the model provisions with some variations. The Model Provisions are a set of standard definitions and clauses which are in a separate document to reduce the bulk of individual LEP's.

Clause 7 - Gives Council the responsibility of determining development applications.

Clause 8 - Describes the zones used on the maps.

Clause 9 - Sets out the structure of the land use table which follows as part of the clause. Note that zone objectives are matters to be considered in development applications.

Table

The 1(a) zone permits a wide range of land uses, but the zone is primarily intended to reflect existing rural enterprise. Other permitted uses may arise, and may be able to be accommodated an individual sites;

- The 1(c) zone similarly permits a range of land uses, including those that are common in urban fringe areas where the bulk of these zones are located. The predominant purpose of the zone is however, for dwellings on large allotments - whether or not there is also some form of hobby farming.

- The 1(f) zone covers existing State Forests and the range of other activities normally found in them.

- The Village Zone permits a wide range of land uses other than those which might be objectionable to village residents.

- The Railways zone, and National Parks Zone reflect what can occur under the respective legislation governing the authorities concerned.

Note that the fact that a particular land use may be permitted in a zone does not necessarily mean it will occur or that it would be acceptable in every case. It is also noted that basic development in zones can occur without development applications.

Clause 10 - Sets out a set of general principles that would be considered for that development in the 1(a) zone that needs a development application. The principles are generally concerned with the interests of established rural producers, environmental impact, and impacts on rural roads.

Clause 11 - Provides for proposals which are either small holdings subdivisions or other developments may change the character of rural areas to be advertised for comment before applications are determined. Council has the discretion to advertise other proposals.

Clause 12 - Seeks to clarify the situation with land clearing, both by specifying the type of clearing that does not require development consent, and requiring development applications for clearing on land with high erosion hazards. Existing laws, such as catchment areas protection, would not be affected.

Clause 13 - Sets out the additional criteria for considering development applications on the land shown cross-hatched on the map. This land includes that identified as being of scenic importance.

Clause 14 - Requires development applications for subdivision, other than certain minor categories

Clause 15 - Sets out basic information to accompany development applications for subdivision in the 1(a) zone.

Clause 16 - Sets out the basic criteria for subdivision in the 1(a) zone. Allotment size is not restricted unless a dwelling is involved in which case the minimum area of 600 hectares would apply. This clause is one of a set (Clauses 15-21) which deal with a range of issues associated with subdivision and dwellings in the 1(a) zone.

Clause 17 - Deals with opportunities for small holdings to be excised from existing holdings, for the purpose of dwellings. The clause -

. increases the opportunities for concessional allotments from a maximum of 3 to a maximum of 10, depending on holding size,

. removes the restriction on who is eligible to live in the dwellings,

. puts a maximum 10 hectare size on the allotment for a dwelling, in response to issues created by 40 hectare allotments often being too large for effective management.

Clause 18 - covers subdivision of 1(a) zoned land for permitted development other than agriculture or dwellings, (subject to qualifications).

Clause 19 - Requires the Council to consult with the Department of Agriculture on development applications involving dwellings on land defined as prime crop and pasture land by the Department. This only applies to the exceptions referred to in Clause 18.

Clause 20 - Sets out the range of circumstances in which dwellings can be approved in the 1(a) zone.

These include -

. existing holdings
. land of more than 600 hectares
. land subdivided for dwellings under this plan or previous previous controls
. Crown Portions (subject to qualifications)

Clause 21 - Enables additional dwellings in 1(a) zones for farm employees

Clause 22 - Sets out basic criteria for allotment size and subdivision design in the 1(c) zone. The LEP does not specify any statutory minimum areas, as these are likely to vary in 1(c) zones in different parts of the Shires. Council has a number of development control plans specifying allotment sizes in different parts of the 1(c) zone, and development control plans will be prepared on the remaining areas. The advantage of this approach is that standards can be readily varied by the Council, if necessary.

Clause 23 - Deals with "dual occupancy" developments in line with general policy applying throughout the state. This applies in all zones where dwellings are permitted. Note that there is an option for the second dwelling to be detached.

Clause 24 - Sets out criteria for development adjoining main or arterial roads. This clause seeks to deal directly with potential issues that such development may raise, and incorporates prohibitions of particular types of development that the traffic authorities consider to be inappropriate adjoining arterial roads. Developments fronting main or arterial roads would normally be considered by the local Traffic Committee.

Clause 25 - Specifies the criteria which Council would consider in fixing a building line to a road, rather than specifying an arbitrary setback.

Clause 26 - Sets out the criteria for advertising structures. In general advertisements in rural areas would be limited to those related to the use of the land, or those providing information to tourists or motorists.

Clause 27 - Lists the factors Council would consider in dealing with development applications on flood prone land.

Clause 28 - Provides that basic public works can be carried out in all zones.

Clause 29 - Deals with the situation of Railway land in the Shire that cannot be readily defined on the large scale rural maps. It also requires development consent for any advertising structure on railway land.

Clause 30 - Enables other laws, covenants etc to be overcome if they are inconsistent with the plan.

Clause 31 - This clause modifies the clause in the Model Provisions which empowers the Council to adopt Tree Preservation Orders, by more comprehensive exclusion of situations covered by other legislation.

Clause 32 - Enables the Council to in effect make minor adjustments to zone boundaries where necessary, e.g. having regard to the physical characteristics of land.

Clauses 33-35 - General provision identifying additional factors to be considered by Council in dealing with development applications affecting local heritage items. Proposals involving the demolition of local heritage items would be advertised for comment. This would not affect any item covered by the Heritage Act. Heritage items already identified are listed in Schedule 1. The definition of additional local heritage items is a matter for Council to consider in a development control plan.

Clause 36 - Sets out the criteria Council would consider in dealing with a development application on land subject to bushfire hazards.

Clause 37 - Deals with the potential problem of new development adding to existing problems with the standard and maintenance of rural roads, by specifying additional criteria to be considered by Council in dealing with development applications.

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT
1979

COOMA-MONARO LOCAL ENVIRONMENTAL PLAN 1989 (RURAL)

I, the Minister for Planning, in pursuance of section 70 of the Environmental Planning and Assessment Act 1979, make the local environmental plan set out hereunder.

Minister for Planning

Sydney, 1988

Citation

1. This plan may be cited as "Cooma-Monaro Local Environmental Plan 1989 (Rural).

Aims, objectives etc.

2. (1) This plan aims:

(a) to provide flexible planning controls to assist the council in its administration of planning;

(b) to enable the council to prepare development control plans to introduce more detailed policies and guidelines;

(c) to maintain and promote commercial agriculture;

(d) to recognise the role of the main villages in the Shire;

(e) to provide a range of housing opportunities, including rural residential development in the vicinity of Cooma;

(f) to ensure that the council has adequate power to deal with inappropriate development, particularly development likely to degrade land;

(g) to ensure that development does not have the effect of placing financial burdens on ratepayers, particularly in relation to road upgrading, maintenance and services.

(h) to ensure that development occurs in a manner which reflects and respects the opinions of the rural community;

(i) to ensure that development occurs in a manner which minimises risks due to environmental hazards, and minimises risks to important elements of the physical environment; and

(j) to provide opportunities for the expansion of the tourism industry.

(2) The objectives of the zones adopted by this plan for the purpose of achieving the aims in subclause (1) are set out in relation to those zones in the Table to clause 9.

Land to which the plan applies

3. This plan applies to land within the Shire of Cooma-Monaro indicated by black edging on the map.

Relationship to other environmental planning instruments

4. This plan repeals the Monaro Planning Scheme Ordinance and any such other local environmental planning instruments as, immediately before the appointed day, applied to the land to which this plan applies, but to the extent only to which those plans so applied to that land.

Interpretation

5. (1) In this plan, except in so far as the context or subject-matter otherwise indicates or requires-

"appointed day" means the day on which this plan was certified under Section 65 of the Act.

"alter, in relation to a heritage item means-

(a) the making of structural changes to the outside of the heritage item, or

(b) the making of non-structural changes to the detail, fabric, finish or appearance of the outside of the heritage item, not including the maintenance of the existing detail, fabric, finish or appearance of the outside of the heritage item.

"community centre" means a building or place used to provide facilities comprising or relating to any one or more of the following-

(a) a public library;

(b) public health services;

(c) rest rooms;

(d) meeting rooms;

(e) indoor recreation;

(f) child minding facilities; or

(g) any other like purposes;

"council" means the Council of the Shire of Cooma-Monaro;

"demolition" in relation to a building or work, means the damaging, defacing, destruction, pulling down or removal of the building or work in whole or in part;

"demolition, in relation to a heritage item means the damaging, defacing, destruction, pulling down or removal of the heritage item, in whole of in part;

"existing holding" means any area of adjoining or adjacent land to which this plan applies held in the same ownership on and from the appointed day and includes such an area-

(a) from which land has been excised for a public purpose after that date;

(b) affected by a subdivision for the purposes of boundary adjustment after that date; and

(c) that has been transferred in its entirety to another person after that date;

"extractive material" means sand, gravel, clay, turf, soil, rock, stone or any similar substance, but does not include any pure metal or any substance extracted for the purpose of refinement to obtain a metal or mineral;

"heritage item" means a building, work, relic, tree, or place of heritage significance to Cooma-Monaro Shire described-

(a) Schedule 1; or

(b) a development control plan adopted by council pursuant to section 72 of the Act.

"heritage significance" means historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance;

"item of the environmental heritage" means those buildings, works, relics or places of historic, scientific, cultural, social, architectural, archaeological, natural or aesthetic significance for the Shire of Cooma-Monaro identified in a development control plan;

"reception establishment" means a building or place used for the purpose of wedding receptions, birthday parties and the like, but does not include a refreshment room or hotel;

"recreation area" means-

(a) a children's playground;

(b) an area used for sporting activities or sporting facilities; or

(c) an area used to provide facilities for recreational activities which promote the physical, cultural or intellectual welfare of persons within the community, being facilities provided by-

(i) the council; or
(ii) a body of persons associated for the purposes of the physical, cultural or intellectual welfare of persons within the community,

but does not include a racecourse or a showground;

"relic" means any deposit, object or material evidence relating to the settlement (including aboriginal habitation) of the area of Cooma-Monaro Shire which is 50 or more years old;

"the map" means the series of maps marked "Cooma-Monaro Local Environmental Plan No. 42"

(2) In this plan, except in so far as the context or subject-matter otherwise indicates or requires-

(a) a reference to a building or place used for a purpose includes a reference to a building or place intended to be used for the purpose;

(b) a reference to a map is a reference to a map deposited in the office of the council; and

(c) a reference to land within a zone specified in the Table to clause 9 is a reference to land shown on the map in the manner indicated in clause 8 as the means of identifying land of the zone so specified.

Adoption of Model Provisions

6. (1) Subject to subclause (2), the Environmental Planning and Assessment Model Provisions 1980 (except for the definitions of "extractive material" and "map" in clause 4(1), and clauses 8(7), 15, 29, 33 and 34) are adopted for the purposes of this plan.

(2) For the purposes of this plan, the adoption of the Environmental Planning and Assessment Model Provisions, 1980, shall be read as if-

(a) the definition of "arterial road" in clause 4(1) referred to a "broken black line" instead of a "continuous red band on white";

(b) subparagraph (c) of clause 35 did not apply to a home occupation which employs persons other than a resident; and

(c) clause 8 of Schedule 1 does not except the widening of a road on land acquired by the council for that purpose.

Consent authority

7. The council shall be the consent authority for the purposes of this plan.

Zones indicated on the map

8. (1) For the purposes of this plan, land to which this plan applies shall be within a zone specified hereunder if the land is shown on the map in the manner specified hereunder in relation to that zone-

Zone No. 1(a) (Rural Zone) - black edging and lettered "1(a)"

Zone No. 1(c) (Rural (Small Holdings)Zone) - black edging and lettered "1(c)"

Zone No. 1(f) (Rural (Forestry)Zone) - black edging and lettered "1(f)"

Zone No. 2 (Village Zone) - black edging and marked "2"

Zone No. 5(b) (Special Uses (Railways) Zone) - black edging and lettered "5(b)"

Zone No. 8 (National Parks and Nature Reserve Zone) - black edging and marked "8"

Zone objectives and development control table

9. (1) The objectives of a zone are set out in the Table to this clause under the heading "Objectives of zone" appearing in the matter relating to the zone.

(2) Except as otherwise provided by this plan, in relation to land within a zone specified in the Table to this clause, the purposes (if any) for which-

(a) development may be carried out without development consent;

(b) development may be carried out only with development consent; and

(c) development is prohibited,

are specified under the headings "Without consent", "Only with consent" and "Prohibited", respectively, appearing in the matter relating to the zone.

(3) Except as otherwise provided by this plan, the council shall not grant consent to the carrying out of development on land to which this plan applies unless the council is of the opinion that the carrying out of the development is consistent with the objectives of the zone within which the development is proposed to be carried out.

TABLE

ZONE NO. 1(a) - RURAL ZONE

1. Objectives of zone

The objectives of this zone are-

(a) to enable the continuation of traditional forms of rural land use and occupation and the development of new or changed forms of agricultural enterprise;

(b) to enable other forms of development which are associated with rural activity, which require an isolated or rural location, or which support tourism; and

(c) to ensure that the type and intensity of development is appropriate in relation to the characteristics of the land, the rural environment, the need to protect agricultural activity from the effects of other development and the costs of providing public services and amenities.

2. Without consent

Agriculture (other than pig keeping establishments, feed lot establishments or poultry farming establishments).

3. Only with consent

Any purpose other than a purpose included in items 2 or 4.

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4. Prohibited

Motor showrooms; residential flat buildings; shops (other than general stores).

ZONE NO. 1(c) - RURAL (SMALL HOLDINGS) ZONE

1. Objectives of zone

The objectives of this zone are-

(a) to enable appropriately staged development for the purposes of small holdings or hobby farms to be carried out on land which is suitable for those purposes;

(b) to provide alternative forms of housing; and

(c) to enable other forms of development to be carried out on land within the zone if it is in keeping with the rural character of the locality and is compatible with existing or likely future small holdings or hobby farms.

2. Without consent

Agriculture (other than pig keeping establishments, feed lot establishments or poultry farming establishments).

3. Only with consent

Agricultural purposes other than those permitted without consent; bushfire fighting establishments; cemeteries; child care centres; community centres; dwelling-houses; educational establishments; forestry; general stores; home industries; home occupations; hospitals; picnic grounds; places of public worship; public buildings; reception establishments; recreation establishments; recreation facilities; retail plant nurseries; riding schools; rural industries; storage and servicing of motor vehicles and earth moving machinery associated with the occupation of the owner; tourist facilities; utility installations; veterinary hospitals; veterinary surgeons establishments; any other purpose which in the opinion of the council is appropriately located in a small holdings zone or otherwise located in the vicinity of the town of Cooma, and which is unlikely to adversely effect residential amenity.

4. Prohibited

Feed lot establishment; any purpose other than a purpose included in item 2 or 3. MINES EXT IND

ZONE NO. 1(f) - RURAL (FORESTRY) ZONE

1. Objectives of zone

The objectives of this zone are to enable the continuance or expansion of forestry and development for associated purposes.

2. Without consent

Agriculture; any purpose ordinarily incidental or subsidiary to purposes permitted in this item; camping grounds; forestry; gravel extraction on sites of less than 0.5 hectares; picnic grounds; roads; utility installations.

3. Only with consent

Extractive industries other than those permitted without consent; mines.

4. Prohibited

Any purpose other than a purpose included in item 2 or 3.

ZONE NO. 2 - VILLAGE ZONE

1. Objectives of zone

The objectives of this zone are to recognise existing villages and to enable future development appropriate to their function.

2. Without consent

Dwelling-houses (other than those on land having frontage to an unformed or unmade road, or on land without reticulated water and sewerage services).

3. Only with consent

Any purpose other than a purpose included in item 2 or 4.

EXTRACTIVE INDUSTRY

4. Prohibited

Feed lot establishments; institutions; junk yards; mines; offensive and hazardous industries; pig keeping establishments; poultry farming establishments.

ZONE NO. 5(b) - SPECIAL USES (RAILWAYS) ZONE

1. Objectives of zone

The objectives of this zone are to recognise railway land and to provide for appropriate operational and associated development.

2. Without consent

Railway purposes.

3. Only with consent

Nil

4. Prohibited

Any purpose other than a purpose included in item 2.

ZONE NO. 8 - NATIONAL PARKS AND NATURE RESERVES ZONE

1. Objectives of zone

The objective of this zone is to recognise existing National Parks and nature reserves.

2. Without consent

Aboriginal areas; historic sites, national parks; nature reserves; state recreation areas.

3. Only with consent

Nil

4. Prohibited

Any purpose other than a purpose included in item 2.

Development principles - Zone No. 1(a)

10. (1) In determining a development application on land within Zone No. 1(a) the Council shall have regard to-

(a) whether the development is likely to restrict or otherwise inhibit agricultural use of land, by way of fragmenting prime crop and pasture land or removing it from production or otherwise;

(b) whether the development is likely to assist the maintenance and expansion of agricultural enterprise by farm consolidation, property rationalisation, maintenance of equity or otherwise;

(c) whether adequate water is available to service the development;

(d) whether the development is likely to create unreasonable demands for the uneconomic provision of services, particularly the provision, extension, upgrading and maintenance of public roads;

(e) the risks to the development and the risks to other land as a consequence of the development, from natural hazards, particularly soil erosion and fire;

(f) whether the development poses an avoidable risk to land of environmental or conservation value;

(g) whether the development is likely to create a condition of ribbon development, related to traffic safety and the character of the countryside; and

(h) whether the development will substantially change the appearance and character of the countryside.

(2) In considering the matters referred to in subclause (1) the council shall take into account the significance of any probable effect, whether any potential adverse effect is capable of being minimised, and whether in the circumstances there are any benefits which compensate for any adverse effect.

Development that must be advertised

11. (1) Pursuant to section 30(4) of the Act the provisions of sections 84, 85, 86, 87(1) and 90 of the Act apply to and in respect of development which, in the opinion of the council, may effect the character and existing use of rural land, in the same way as those provisions apply to and in respect of designated development.

(2) Subclause 1 applies to development referred to in clause 17.

Clearing

12. (1) In this clause, "clearing" means the removal of trees and other vegetation, but does not include the clearing of regrowth from land previously cleared for agricultural use, or the cutting down of individual trees for farm purposes such as fencing or firewood, which may be carried out without the consent of the council.

(2) Subject to this clause, land within Zone No. 1(a), 1(c) or 1(f) may, excepting land subject to clause 13, be cleared for the purposes of agriculture, forestry, air navigation safety, land survey, fencing or bushfire hazard reduction without the consent of the council, and for any other purpose with the consent of the council.

(3) Nothing in subclause (2) authorises the clearing of land in contravention of any other Act or instrument made under an Act concerned with soil erosion, protection of riverbank vegetation or catchment areas or the like.

(4) A person shall not clear land within Zone No. 1(a) or 1(c) identified as Class 7 or Class 8 on a map prepared by the Soil Conservation Service of New South Wales (other than for the purposes of bushfire hazard reduction) without the consent of the council.

(5) In granting consent to an application for clearing referred to in subclause (4) the council may attach conditions to the consent intended to minimise the risk of soil erosion or other land degredation.

Environment Protection areas

13. (1) This clause applies to land marked with oblique hatching on the map.

(2) In considering any development application relating to land referred to in subclause (1), the council shall make an assessment of the impact which the development would be likely to have on the amenity, scenic character and environment of the locality and may impose conditions on any consent in relation to-

(a) the retention of existing trees in visually prominent locations or in locations which screen visually intrusive development;

(b) the retention of existing trees on land with a slope in excess of 1 in 6, or in areas of the floodplain considered by the council to be essential to the riverine environment;

(c) the minimisation of alteration to the natural land form by way of the construction of access driveways, roads, site excavation, filling and the like;

(d) the landscaping of key parts of the site or the planting of new vegetation to reduce the visual impact of buildings or to compensate for the clearing of the site or carrying out of earthworks for the purpose for which consent is sought.

Subdivision

14. (1) Subject to this clause a person shall not subdivide land to which this plan applies, except with the consent of the council.

(2) Land to which this plan applies may be subdivided without the consent of the council, where the subdivision is for the purpose of-

(a) boundary adjustments that do not create an additional allotment;

(b) consolidation of existing allotments under one title;

(c) road widening; or

(d) closure and transfer of unformed roads to adjoining property.

Subdivision General - Zone No. 1(a)

15. (1) This clause applies to land within Zone No. 1(a).

(2) A person who makes an application to subdivide land to which this clause applies, shall on the application form-

(a) state, in relation to each allotment created by the subdivision, the primary purpose for which that allotment is intended to be used;

(b) identify any allotment which is intended to be used primarily for the purpose of agriculture;

(c) identify any allotment which is intended to be used primarily for the purpose of a dwelling;

(d) identify any allotment on which it is intended to erect a dwelling and state whether or not the dwelling is the primary purpose for which the allotment is being created; and

(e) show the approximate location of any dwelling erected on the land at the date of the application.

Subdivision for the purpose of agriculture - Zone No. 1(a)

16. (1) This clause applies to land within Zone No. 1(a).

(2) The council may consent to the creation of an allotment of any area for the purpose of agriculture.

(3) The council shall not consent to the creation of an allotment for the purpose of agriculture if the allotment has an area of less than 600 hectares and there is a dwelling on the allotment.

Subdivision for the purpose of dwellings - Zone No. 1(a)

17. (1) This clause applies to land within Zone No. 1(a).

(2) Subject to this clause the council may consent to the subdivision of land from an existing holding to create allotments for the purpose of a dwelling-house.

(3) The total number of allotments that may be created under subclause (2) whether by one or more successive subdivisions shall not exceed-

(a) nil, where the existing holding has an area of less than 40 hectares;

(b) 3, where the existing holding has an area of 41 hectares or more but not more than 100 hectares;

(c) 6, where the existing holding has an area of 101 hectares or more but not more than 500 hectares;

(d) 10, where the existing holding has an area of more than 501 hectares;

provided that each allotment created has an area of not less than 2 hectares and not more than 10 hectares.

Subdivision for other purposes - Zone No. 1(a)

18. (1) This clause applies to land within Zone No. 1(a).

(2) The council may only consent to an application to subdivide land for purposes other than agriculture or a dwelling-where-

(a) the land to be subdivided is within class 4 or 5 as defined on the map prepared by the Department of Agriculture and deposited in the office of the council; and

(b) the area of each allotment to be created by the subdivision is appropriate having regard to the purpose for which it is being created.

(3) Nothing in subclause (2) prevents the council from granting consent to an application if it is satisfied that-

(a) where the land to be subdivided is within Class 3 as defined on the maps prepared by the Department of Agriculture, given no reasonable alternatives and the subdivision has been designed to minimise the impact on land used for agriculture;

(b) the subdivision will have minimal adverse effects on the agricultural use of other land (including any residual allotment);

(c) the size of the proposed allotments are appropriate to the purpose for which they are to be used; and

(d) the subdivision and any subsequent building development are unlikely to increase the risk of noxious plant or animal infestation of that land or land in the vicinity.

Subdivision - certain lands

19. Where land is proposed to be subdivided for the purposes of erecting dwelling-houses in accordance with the provisions of clause 18 and that land is identified as class 1, 2 and 3 as defined on the map prepared by the Department of Agriculture, the council shall consult with the Director General of Agriculture and shall consider the advice of the Director General in any subdivision consent.

Dwellings - Zone No. 1(a)

20. (1) This clause applies to land within Zone No. 1(a).

(2) Subject to this plan, the council shall not grant consent to the erection of a dwelling-house unless the land -

(a) has an area of not less than 600 hectares;

(b) comprises an allotment created by a subdivision in accordance with clause 17;

(c) comprises an allotment created by a subdivision in accordance with clause 18 and the council is satisfied that the use of the dwelling will be ancillary and subsidiary to the use of the allotment for the purpose it was created;

(d) comprises an allotment created by a subdivision to which the consent of the council was granted before the appointed day and on which a dwelling-house could have been lawfully erected under the provisions then in force; or

(e) comprises an existing holding on which there is no other dwelling-house and the council is satisfied that-

(i) the land is of sufficient size and soils are of appropriate quality for the effective on site disposal of domestic waste; and

(ii) the erection of a dwelling-house will not create or increase the demand for the uneconomic provision or upgrading of roads and other services to that land.

(3) Notwithstanding any other provisions of this clause, the council may grant consent to the erection of a dwelling-house on an allotment (including a Crown Portion) within Zone No. 1(a), that was lawfully created prior to 7th January, 1966 and which is not an existing holding provided that-

(i) the erection of a dwelling-house will not create any substantial conflict with the objectives of the zone;

(ii) the erection of a dwelling-house will not create or increase demand for the uneconomic provision of services to the locality;

(iii) the effect is substantially the same as if the land was subdivided under clause 16; and

(4) Where consent is granted under subclause (3) and the allotment has an area of less than 600 hectares in the case of land referred to in clause 17(3) the allotment shall be deemed to be an allotment created under clause 17(2) for the purpose of clause 16(3).

(5) Nothing in subclause (2) shall prevent the erection of a dwelling-house on land on which another dwelling-house is erected, where the dwelling-house is intended to replace the original dwelling-house and is not occupied until the original dwelling-house is demolished or its occupation has permanently ceased.

(6) In subclause 2(e) a reference to an existing holding includes reference to an existing holding which has been "partly subdivided only for one or more of the following purposes-

(a) any public purpose;

(b) the purpose of making minor adjustments to common property boundaries;

(c) the purpose of rectifying an encroachment on other land; or

(d) the purpose of amalgamating the existing holding with one or more other existing holdings, in whole or part.

Erection of additional dwellings - Zone No. 1(a)

21. (1) This clause applies to land within Zone No. 1(a).

(2) The council may consent to the erection of additional dwelling-houses where any such dwelling-houses are erected after the first dwelling-house is erected and are used exclusively to accommodate a person employed or engaged in the use of the land for the purpose of agriculture and where separate ownership of the proposed additional dwelling could only be achieved by a subdivision of the land.

(3) The council shall not consent to the subdivision of land on which an additional dwelling is erected in accordance with this clause except under this plan.

Development in Zone No. 1(c)

22. (1) Subject to this clause, a person shall not subdivide land within Zone No. 1(c) unless each proposed allotment has an area determined by the council having regard to-

(a) whether reticulated water services are able to be provided to the land at the full cost to the applicant, and if unavailable, the capacity of the land to provide an adequate domestic water supply;

(b) the ability of the land to accommodate septic tank disposal of household waste;

(c) the standard and capacity of public roads serving the land relative to the likely volume of traffic to be generated as a consequence of the density of the subdivision, and the means available to improve roads to a standard appropriate to the level of traffic likely to be generated;

(d) the availability of other utility services and social services relative to the likely demand for those services and the costs of their provision;

(e) the likely impact the subdivision and subsequent building development will have on other land;

(f) the nature and topography of the land as related to the density of subdivision;

(g) whether any source of pollution in the locality requires larger allotments to enable separation of dwellings from that source;

(h) the desirability of providing a range and mix of allotment sizes;

(i) the need to maintain a semi-rural character in the area; and

(j) the purpose for which the land is to be used after subdivision.

(2) In considering the design of a subdivision of land within Zone No. 1(c), the council shall have regard to-

(a) where the land may, in the opinion of the council, be suitable for long term urban development, whether the subdivision has been designed to facilitate its possible future resubdivision;

(b) whether it is possible to construct a dam on each allotment; and

(c) whether the subdivision enables the subsequent erection of dwelling-houses in a manner that appropriately relates dwellings to each other and to the topography of the land.

(d) whether the subdivision minimises the creation of vehicular access points to an arterial road.

(3) Notwithstanding any other provision of this clause, the council may grant consent to the erection of a dwelling-house on an existing allotment or portion of land within Zone No.1(c).

Dual occupancy

23. (1) In this clause-

"gross floor area", in relation to a building, does not include the width of any external wall of that building.

(2) This clause applies to all land on which a dwelling-house may be erected.

(3) A person may, with the consent of the council-

(a) alter or add to a dwelling-house so as to create 2 dwellings;

(b) erect a building containing 2 dwellings.

(4) Except as otherwise provided in this clause, the council shall not grant consent under subclause (3)-

(a) unless the area of the allotment is not less than-

(a) 600 square metres in the case of land within Zone No. 2,

(b) 4,000 square metres in the case of land within Zone No. 1(c).

(b) in the case of land within Zone No. 1(c) where more than one dwelling will have a gross floor area of more than 80 square metres;

(c) where the building will have more than 2 storeys; and

(d) where the granting of consent would result in more than 2 dwellings on the allotment.

(5) The council may grant consent to the erection of an additional dwelling which is not physically attached to an existing dwelling, where it is satisfied that the needs of the occupants of the land would be better satisfied, and the resulting development is comparable to that which could otherwise be approved under this plan. Such additional dwelling is to be erected on the same allotment or portion of land as the existing dwelling.

(6) The council may, in granting consent as referred to in subclause (3), impose a condition requiring-

(a) where the owner of the allotment is not a corporation - the owner; or

(b) where the owner of the allotment is a corporation - a director or an employee of the corporation,

to occupy one of the dwellings created pursuant to this clause.

(7) The council shall not issue a certificate of approval of a proposed strata plan (within the meaning of the Strata Titles Act 1973) in respect of land on which a building erected, altered or added to, pursuant to this clause is situated.

Development on main and arterial road frontages

24. (1) This clause applies to land-

(a) having frontage to a main or arterial road;

(b) which otherwise relies on a main or arterial road for its sole means of access; or

(c) which has access to a road which intersects with a main or arterial road, where the point of access is within 90 metres of the intersection of the road and the main or arterial road.

(2) The council shall not grant consent to the carrying out of development on land to which this clause applies, unless it is satisfied that-

(a) the development by its nature, intensity or the volume and type of traffic likely to be generated is unlikely to constitute a traffic hazard or to materially reduce the capacity and efficiency of the main or arterial road;

(b) the development is of a type, whether or not related to the characteristics of the land on which it is proposed to be carried out, that justifies a location in proximity to a main or arterial road;

(c) the location, standard and design of access points, and on-site arrangements for vehicle movement and parking ensure that through traffic movements on the main or arterial road are not impeded; and

(d) the development will not prejudice future improvements or realignment to a main or arterial road, as may be indicated to the council from time to time by the Department of Main Roads, or any associated intention of the Commissioner for Main Roads to declare part of the road as a freeway under Section 4 of the State Roads Act, 1986.

(3) Subject to this clause, the council may grant consent to development on land to which this clause applies which has frontage to a main or arterial road for the purposes of providing services to motorists, tourists and the travelling public, where the development comprises or is part of a planned roadside service area that has been located and designed so as to minimise interference with the free flow of traffic on the road and to minimise traffic hazards.

(4) Notwithstanding subclause (3), the council shall not grant consent to development for a purpose referred to in schedule 2 on land within Zone No. 1(a) or 1(c), which is within 400 metres of the alignment of Main Road 286, State Highway 19 or State Highway 4.

Building lines

25. Where land within Zone No. 1(a), 1(c) or 1(f) has frontage to a road, each building to be erected on the land shall be set back from the nearest alignment of the road at a distance determined by the council having regard to-

(a) the nature, scale and function of the building;

(b) the maximisation of sight distances for drivers using the road, including visibility of points of access to the road;

(c) the minimisation of distractions to drivers using the road; and

(d) any possible need to alter the road alignment in the future.

Advertisements

26. (1) Subject to this clause, an advertising structure shall not be erected and an advertisement shall not be displayed on any land within Zone No. 1(a), 1(c) or 1(f).

(2) The council may consent to the erection of a single advertising structure on land within Zone No. 1(a), 1(c) or 1(f) for the purpose only of displaying a notice related to the purpose for which the land is used.

(3) Nothing in this clause shall operate to prohibit the council or a person with the consent of the council from erecting advertising structures on land within Zone No. 1(a), 1(c) or 1(f) for the purpose of directing the travelling public to local tourist areas or facilities or motorists' services, or for the display on such structures of private advertisements of tourist facilities or motorists' services.

Flood prone land

27. The council may refuse consent to the carrying out of any development on land to which this plan applies which, in its opinion, will-

(a) effect the flood level at any point above or below the development;

(b) increase, to a substantial degree, the flow of water on any adjoining lands;

(c) cause soil erosion, siltation or destruction of river bank vegetation;

(d) effect the water table to any adjoining land; or

(e) adversely effect river bank stability.

Roads, drainage, recreation areas and parking

28. (1) Nothing in Part 2 shall prevent the council or require the council to obtain its own consent for carrying out development on land within any zone for the purposes of roads, stormwater drainage, recreation areas, landscaping, gardening, bushfire hazard reduction or parking.

(2) A person may, with the consent of the council, (except in the case of landscaping and gardening, which may be carried out without consent) carry out development on land within any zone for a purpose referred to in subclause (1).

(3) The reference in subclause (1) to the carrying out of development for the purpose of roads includes a reference to the winning of extractive material by the council for the purpose of road construction.

Railway land

29. (1) All land the subject of this plan which is owned, from time to time, by the State Rail Authority of New South Wales and used for railway purposes shall be deemed to be within Zone No. 5(b).

(2) An advertising structure may be erected on land within Zone No. 5(b) only with the consent of the council.

Suspension of certain laws, etc.

30. (1) For the purpose of enabling development to be carried out in accordance with this plan (as in force at the time the development is carried out), or in accordance with a consent granted under the Act.

(a) in relation to any development within any zone, the operation of any covenant, agreement or instrument imposing restrictions on the development; and

(b) in relation to development carried out in accordance with clause 17 section 37 of the Strata Titles Act 1973,

to the extent necessary to serve that purpose, shall not apply to the development.

(2) Nothing in subclause (1)(a) shall effect the rights or interests of any public authority under any instrument registered in the Land Titles Office.

(3) Pursuant to section 28 of the Act, before the making of this plan-

(a) the Governor approved of subclause (1); and

(b) the Minister for the time being administering the provision of the Strata Titles Act 1973 referred to in subclause (1) concurred in writing in the recommendation for the approval of the Governor of that subclause in so far as that subclause relates to that provision.

Preservation of trees

31. The powers conferred on the council in pursuance of clause 8 of the Environmental Planning and Assessment Model Provisions 1980 shall not apply to trees-

(a) in a State forest or on land reserved as a timber reserve within the meaning of the Forestry Act 1916, or on other Crown lands;

(b) required to be lopped in accordance with Regulation 38 or 39 of the Overhead Line Construction and Maintenance Regulations 1962;

(c) in any Water Catchment Area under the control of an authority responsible for the water supply; or

(d) in a proclaimed national park.

Variation of Zone boundaries

32. (1) Subject to subclause (2), development may, with the consent of the council, be carried out on land within 50 metres of the boundary of any zone for any purpose for which development may be carried out within 50 metres of that boundary on land within the zone adjacent to the zone within which the development is to be carried out.

(2) The council shall not grant consent under the Act to the carrying out of development pursuant to subclause (1), unless the carrying out of the development is necessary, in the opinion of the council, due to design requirements relating to the subdivision of land to which this plan applies.

(3) Where a zone boundary does not correspond with a cadastral boundary, the council may fix the zone boundary following a survey which identifies the characteristics of the land and the relationship of those characteristics to the objectives of the zones concerned.

(4) Where a zone boundary is fixed under subclause (3) land shall be deemed to be within the zone determined by the council in accordance with the survey.

Heritage items

33. (1) A person shall not, in respect of a building, work, relic, tree or place that is a heritage item-

(a) demolish, or alter the building or work;

(b) damage or remove the relic, including excavation for the purpose of exposing the relic;

(c) damage or despoil the place or tree;

(d) erect a building on or subdivide land on which the building, work or relic is situated or that comprises the place; or

(e) damage any tree on land on which the building, work or relic is situated or on the land which comprises the place.

except with the consent of the council.

(2) The council shall not grant consent to a development application under subclause (1) unless it has taken into consideration the extent to which the carrying out of the proposed development would affect the heritage significance of the item and any stylistic or horticultural features of its setting.

Development in the vicinity of heritage items

34. The council shall not grant consent to an application to carry out development on land in the vicinity of a heritage item unless it has made an assessment of the effect the carrying out of that development will have on the heritage significance of the item and its setting.

Heritage advertisements and notifications

35. (1) Except as provided by sub-clause (2)-

(a) the provisions of sections 84, 85, 86, 87 (1) 80, 90 of the Act apply to and in respect of

(i) the demolition of a building or work that is a heritage item;

in the same way as those provisions apply to and in respect of designated development; and

(b) where a person makes a development application to demolish a building or work that is a heritage item, the council shall not grant consent to that application until 20 days after the council has notified the Secretary of the Heritage Council of its intention to do so.

(2) Subclause (1) does not apply to the partial demolition of a heritage item if, in the opinion of the council, the partial demolition will be of a minor nature and will not adversely affect the heritage significance of the heritage item, in relation to the environmental heritage of Cooma-Monaro Shire.

Land subject to bushfire hazards

36. (1) The council shall not grant consent to the carrying out of any development on land to which this plan applies which is in the opinion of the council is subject to bushfire hazards until it has made an assessment of-

(a) the nature and degree of the hazard, relative to the appropriate measures available to reduce the hazard;

(b) in the case of a subdivision of land-

(i) whether the subdivision has been designed to enable the siting of any buildings to be erected on the land in areas of least risk

(ii) the necessity for the inclusion of a perimeter road in the subdivision, or on land adjoining the subdivision, for the purposes of providing a fire break and access for fire fighting vehicles; and

(iii) the necessity to increase the depth of allotments adjoining land which may be the source of bushfire hazard, whether or not defined by a perimeter road, for the purposes of providing a fire radiation zone;

(c) in the case of buildings-

(i) whether the buildings have been sited in a manner which reduces bushfire hazard; and

(ii) the necessity for fireproof building materials;

(d) the means of access for firefighting vehicles; and

(e) the means available to ensure that fire protection measures, including fire radiation zones and hazard reduction, are appropriately maintained, and

(2) The council may refuse consent to a development application where it is of the opinion that the development is inappropriate having regard to bushfire hazard effecting the land the subject of the application.

Adequacy of Rural Roads

37. Notwithstanding any other provision of this plan, the council shall not consent to development of land where, in the opinion of the council-

(a) the standard of public roads providing access to the land is inadequate for the additional traffic likely to be generated by or as a consequence of the development;

(b) the developmenet is likely to cause deterioration of the quality of rural roads beyond the council's capacity to fund road maintenance; and

(c) any additional funds for road improvements available as a consequence of the development are inadequate for the maintenance of rural roads to an appropriate and acceptable standard.

SCHEDULE 1

Heritage Items

Bunyan

. Old Farm House Complex * (c.1870, on Cooma-Canberra Road, 8km north of Cooma).

. Evergreen, formerly Squatters Arms Inn with Darn (c.1855).

. Dromore Homestead.

Nimmitabel

. Police Station and Lock-up * (Main Street).

. Public School * (1881, Wolfe Street).

. St Andrew's Roman Catholic Church * (1860's).

. St Peter's Anglican Church *.

. Former Mill * (1872).

. Former Post Office.

. Micalago Homestead complex.

. 'Carlaminda' Homestead complex.

. 'Dangelong' Homestead complex.

. 'Bolaro' Homestead complex.

. 'Bredbo Station' complex.

. 'Rose Valley' Homestead complex.

. The Old Mill site, Murrumbidgee River.

. 'The Wrens Nest'.

SCHEDULE 2

Bulk stores
Car repair stations
Caravan parks
Clubs
Commercial premises
Educational establishments
Hospitals
Hotels
Industries (other than home or rural industries)
Institutions
Junk yards
Liquid fuel depots
Mines
Motels
Places of public assembly
Places of public worship
Recreation establishments
Recreation facilities
Refreshment rooms
Retail plant nurseries
Roadside stalls
Saw mills
Service Stations
Tourist facilities
Transport terminals
Warehouses