Section 6.4 – Pests to be managed under the sustained control programme

Sub ID & Sub Point: 47/1
Submitter : Makarewa Catchment Liaison Committee
Provision : Section 6.4
Position : Support

Submissions[1] : Sustained control, mallard duck. Support that ducks be registered as a pest species for managed control to occur. ES when taking scheduled, regular water samples from waterways must be tested for both avian and bovine E. coli. E. coli is compromising water quality to unacceptable levels, more particularly in areas where there are high concentrations of ducks. Ducks must be able to be culled/managed when in such numbers that they are destroying crops in and around waterways

History of the Mallard duck

The Mallard Duck (Mallards) were introduced into New Zealand between 1870 - 1930, further more with successful hatchings from a game farm in Connecticut, USA. 30,000 ducks were released by acclimatization society up to 1974. Every season 6500 hatchlings are released[2] in Eastern Hawkes Bay, Auckland, Waikato and Wellington Fish and Game areas.

Distribution and Habitat

Mallards are a dabbling species. Since their introduction, they have interbred with the native Grey Duck[3] to the extent that grey duck is almost extinct. The Native Grey Duck is now only found in undisturbed waters with forest fringes, far away from human populations.

Mallards occur throughout all of New Zealand and on all vegetated subantarctic islands, Chatham Islands and Kermadec Islands and extending to Lord Howe Island (where many are now hybrids with Pacific black duck = grey duck). They are most numerous in pastoral environments and in and around urban areas.

Mallards utilize a wide range of habitats from urban streams and public parks to isolated lakes, drains in pastoral areas to most slow flowing rivers, lowland lakes and hydro-dams to alpine tarns, and estuaries.

They are most numerous in pastoral environments and in and around urban areas. Expansion, and displacement of grey duck, is ongoing in southern Westland and Fiordland. Elsewhere mallards have more-or-less completely supplanted grey ducks.

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[1] https://www.es.govt.nz/council/consultations/Documents/2019/Proposed%20Regional%20Pest%20Management%20Plan%20and%20Biosecurity%20Strategy/Regional%20Pest%20Management%20Plan%20-%20Summary%20of%20Submissions%20-%20ONLINE.pdf

[2] https://www.odt.co.nz/regions/central-otago/discussion-mallard-release

[3] http://nzbirdsonline.org.nz/species/grey-duck

The Mallard is a legal game bird that is hunted during the annual May-June waterfowl season. Fish & Game New Zealand[4] estimate that approximately 500,000 mallards are shot each year - this number undoubtedly including “Mallard-like” hybrids.

Note-able facts about Mallard Ducks

- Mallard Ducks can have two or more successful broods a year with clutches of 10-13 eggs.
- Ducks fledge at 7-9 weeks, and mature rapidly.
- Mallards can breed in their first year of life.
- Mallards average life span 5 - 10- years. (maximum up to 14 years)
- Survival of nesting rates are higher in southland than other parts of the country.
- December to March during their major moult you can see them in large flocks often on pastures, in maturing grain crops and cultivated paddocks with newly sown crops.

The Mallard Duck as we see them today have changed their lives to adapt quickly to their environment. Our Southland temperate climate means no need for migration, though they still move between breeding grounds and aquatic areas. Mallards prefer wetlands near water source with an abundant supply of food and cover.

Their preferred food is plant material including seeds, grains, grasses and clovers, tips of most aquatic plants, bread and some human food scraps. Animal foods, consumed whenever available, include a wide range of insect larvae and adults, freshwater snails and worms.

They can be found in many types of habitat throughout the country including lakes, rivers, streams, effluent ponds, swamp, marshlands and water reservoirs, sheltered bays and estuaries. Southland has all of these in abundance.

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[4] https://fishandgame.org.nz/game-bird-hunting-in-new-zealand/hunting-resources/mallard-duck-research

We propose Mallard ducks become listed as a registered pest. We also see the need of an efficient management program for these birds.

Changed habits and habitats

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They can be found in many types of habitats throughout the country including lakes, rivers, streams, swamps, marshlands and water reservoirs, sheltered bays and estuaries. Effluent and settling ponds are a new habitat for Mallards, often harboring thousands of birds in each. Southland has all of these in abundance.

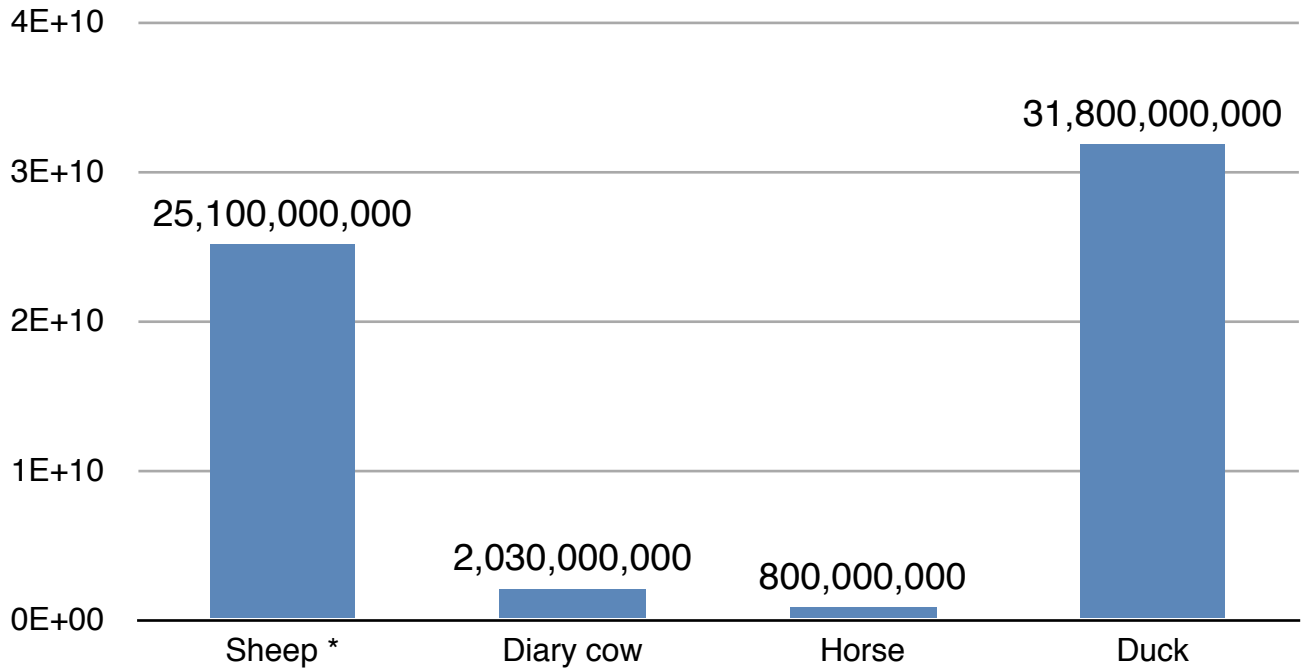
Numbers seem to be increasing

Mallards are considered by International Union for Conservation of Nature as an invasive species. Very adaptable and social, Mallard ducks seem to have changed their habits and are now flocking in unprecedented large numbers. Farmers have commented how entire paddocks have been black in colour and their crops or newly seeded pastures have been decimated before the ducks move on.

Mallards are the Main source of E. Coli in our waterways.

Our [waterways are consistently polluted E. coli.](#)[5] by ducks.

Table 1 - Concentration of E. coli in the faeces of various farm animals, Mean daily excretion of ogranisms



[Data source](#)[6]

From the above table we can see some sobering facts.
By law, most of these animals are excluded from direct access to waterways, by the way of the waterways being fenced off. Humans, are mostly educated to deficate in a manner that will not compromise our waterways.

* Lambs do excrete high amounts of E. coli, but lambs access to water is very controlled. Lambs E. coli only reaches waterways in some major rain events and only in small amounts.

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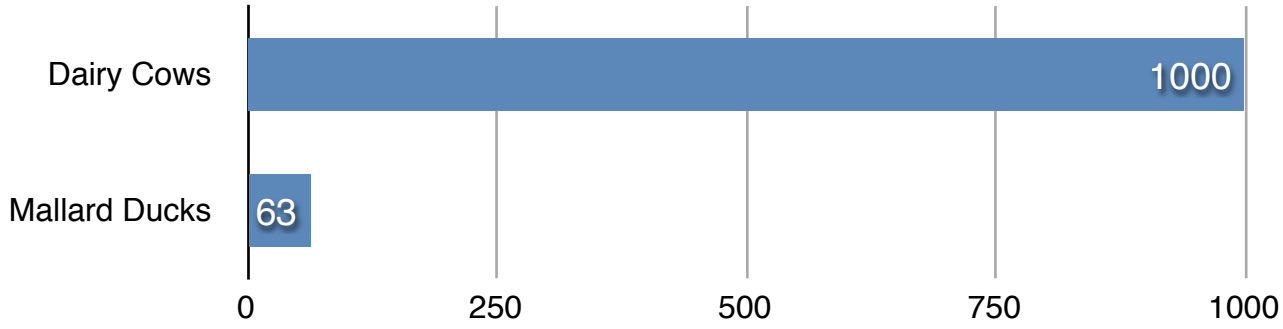
[5] https://www.linz.govt.nz/news/2018-02/ducks-source-bendigo-ecoli-contamination

[6] https://www.es.govt.nz/Document%20Library/Research%20and%20reports/Various%20reports/Science%20reports/Ecosystem%20health/Sheep%20as%20a%20potential%20source%20of%20microbial%20contamination%20in%20Southland.pdf



15.7 Dairy cows produce the same E. coli out put as 1 Mallard duck, which does not seem a large difference. Though, when a standard herd of 1000 diary cows, they have the same E.coli out put as 63 ducks, the difference is alarming.

On top of that- **Ducks have 100% access to all waterways and deficate directly into the waterways**. (Sheep, Dairy Cows and Horses are fenced away from direct access to waterways)

Decimation of Crops

During the months of December to March, you can see large flocks of these ducks often on pastures, in maturing grain crops and cultivated paddocks with newly sown crops. They can devastate large acreages before moving on to the next crop or pasture. It is harder on pasture to calculate the damage these ducks do. Thousands of birds eating grass especially clovers, is a massive loss to farmers and their farm stock.

During these months - farmers cannot protect their crops from these wild birds. They can shoot at ducks, though cannot shoot to kill.

A Mallard is a smart bird and scaring off is not an option - it becomes a cycle, shoot to scare - they just come back.

Mallard ducks will eat clover pasture down to below 1100kgs p/ha. NB cows graze to down to 1500kgs p/ha.

Cleaner waterways

Colemar Brunton poll[7] recently identified 80% on NZ population are very concerned about the pollution of Lakes and rivers.

As Martin Taylor of Fish and Game[8] says “People have the right to go to their local waterway to swim, cool off without getting sick”

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[7] https://fishandgame.org.nz/assets/Uploads/Colmar-Brunton-Survey-for-Fish-Game-NZ-Kiwis-Biggest-Concerns-Embargoed-6pm-Jan-2-2019.pptx

[8] https://fishandgame.org.nz/news/be-careful-where-you-escape-from-the-heatwave-fish-and-game-warns/

Today we now know that ducks are a major source of E. coli in our water ways, though many refuse to believe the facts. The sites of concern, highlighted with having high levels of E. coli are also the home of many birds. The dabbling of the ducks on sandy beaches serve as temporal sources, and sinks of water fowl derived E. coli. The ducks grazing on pasture, the swimming on dams, reservoirs, settling ponds, all add to the uncontrolled contribution of avian E. coli to our waterways. Faecal pollution of water resources is an environmental problem of increasing importance.

With the advancement of ribotyping[9] to differentiate between E. coli pollution between humans, animal and birds, means that we can now know the original source of the E.coli in samples taken from our waterways. When water samples are taken to test, E. coli levels are frequently reported on, though no differentiation is made between bovine (cow) and avian (bird) E. coli. Only when high levels of E. coli are recorded in eg. swimming areas, further testing is done to determine whether the source is bovine, avian or human. Again this summer, popular swimming places have been closed, that are areas also loved by many ducks. This ribotyping test should be a prerequisite to every test run from water samples to help formulate for remediation plans for reducing E. coli in our waterways.

For many years, Federated Farmers Conferences, Beef and Lamb[10], and Dr Nick Smith[11], (former minister of Environment) have realized the E. coli sources, and have blamed birds, duck, and gulls. Very few people have noticed these reports, They have chosen to ignore them or blame other sources ie. Sheep, dairy cows, horse, better known as farming.

Sadly from my research I have found that sea birds are also huge polluters of our waterways and beaches. The Makarewa river has elevated levels of E. coli down stream from a well known gull nesting site.

Mallard Ducks were introduced as a game bird, but like all introduced species (rabbits, hares, ferrets, possums, wallabies and Canadian geese) they have become a pest through over population. Their numbers have to be controlled to protect our water, ourselves and our livelihoods. Mallard Ducks numbers have to be drastically reduced, to give us the swimmable water quality we desire in southland.

Mallard ducks and other water fowl species cost to humanity is unknown, but suspect it is much higher than most are prepared to even research. Mallard Duck a water fowl species have a high risk of distributing E. coli pathogenic for humans, and have to be considered as a substantial non-point source especially of strains causing extraintestinal disease,

If we know what is degrading our waterways, how are we going to prevent or minimize the problem. The cull of mallard ducks to a level where their pollution is less evident would be a start.

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[9] https://en.wikipedia.org/wiki/Ribotyping

[10] https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10452710

[11] https://www.radionz.co.nz/news/environment/312172/swimmable-lakes-would-require-a-bird-cull-smith

The Southland Regional Pest Management Plan must include the effective management of Mallard Ducks in the Southland Region. Ducks in the numbers we have today cannot be tolerated. Thousands of dollars are lost by farmers, by having their seeds, crops and pastures eaten by masses of these ducks. This does not include the fouling of the land and waterways by faeces pollution (which cannot have a monetary figure on).

We cannot blame sectors of our community for polluting water with E. coli when we can accurately find the true source of the polluter. The public must be accurately informed of the advances in science that can prove the source of contamination. Mallard Duck sadly is the primary cause of so many of our un-swimmable waters, along with other water fowl, they must be culled to a manageable level to gain the water quality the majority of New Zealanders are requesting.

Mallard Ducks must be efficiently and effectively managed as an invasive and harmful species in the Southland Region in a pragmatic way.

The Makarewa River Liaison committee passed at their AGM 19 February 2018.

Moved D MacPherson, seconded W MacPherson, that the Makarewa Catchment Liaison Committee start the application process to have the Mallard and hybridised duck species declared a pest in New Zealand.
Moved B Allen, seconded D Young that the Makarewa Catchment Committee request that water samples taken from the Makarewa Catchment for test by Environment Southland are tested for separate species, and pathogens and indicators of E. coli.