Southland Conservancy

Wild Animal Control Plan for Stewart Island

AUGUST 1985

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WILD ANIMAL CONTROL

PLAN FOR STEWART ISLAND

Approved by the Minister of Forests

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Minister of Forests and Lands

22 August 1985

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PRE-DRAFT COMMENTS

In December 1982 an invitation was extended to organisations with a direct interest in Stewart Island and its resources to provide comment on their view of wild animal control. A news report, at that time, of the proposal to prepare a plan also invited comment from the public.

Information provided by the comments received has been incorporated in the draft plan.

Comments were received from:-

1. Stewart Island County Council.
2. Southland Recreational Hunting Club.
3. Internal Affairs - Wildlife Service.
4. Robin Burton - co author of a report on recreational hunting on Stewart Island.
5. New Zealand Deerstalkers Assoc. - Southland Branch.
6. J.W. De Lury - individual.
7. Royal Forest & Bird Protection Society - Stewart Island Branch.
8. Southland Catchment Board.
9. Rakiura Maori Land Inc.
10. Department of Lands & Survey - Invercargill.
11. Southland County Council.

COMMENTS ON DRAFT PLAN OCTOBER 1983

The draft plan was made available for public comment in October 1983.

By the closing date of 31 January 1984 comments had been received and where it was considered appropriate amendments were made to the plan.

Contributors were contacted individually and responses to their comments were outlined in writing.

Contributions were received from:

1. Southland Catchment Board
2. J.W. De Lury - Invercargill
3. Nature Conservation Council
4. N.Z. Deerstalkers Assoc. - South Otago Branch
5. " " " - National H.Q.
6. " " " - Whitetail Committee
7. " " " - Southland Branch
8. The Wildlife Service
9. D.J. Gordon - Mossburn
10. Rakiura Maori Land Inc.
11. R. & J. Hare - Halfmoon Bay
12. K. Schasching
13. Forest Research Institute - Christchurch
14. Royal Forest and Bird Protection Soc. - Invercargill

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WILD ANIMAL CONTROL PLAN FOR STEWART ISLAND

1.0 THE OBJECTIVE

1.1 To control wild animal populations at levels which allow the natural values of the land to be maintained. The natural value levels are those determined by the land controlling authority and local authorities with statutory responsibilities for land use e.g. soil, water, vegetation, fauna.

This shall aim particularly:-

1.1.1 To reduce the wild animal populations within Natureand Scenic Reserves to the lowest possible level.

1.1.2 To manage whitetailed deer populations within the northern State Forest to provide for recreational hunting.

1.1.3 To protect kakapo habitat against wild animal damage.

1.1.4 To protect other rare species from wild animal depredation.

1.1.5 To keep the islands of Paterson Inlet free of wild animals.

1.1.6 To eradicate possums from Codfish Island.

1.1.7 To control wild animals on private and Crown leasehold land at levels which do not affect adjacent land values.

1.1.8 To prevent (a) the possibility of the introduction of new species of wild animals to all lands (b) the spread of existing species to land not already occupied by that species.

2.0 METHODS

2.1 To direct commercial and recreational hunting to achieve maximum effect towards achieving the objective.

2.2 To undertake control programmes using Forest Service resources where commercial and recreational hunting cannot achieve the objective.

2.3 To undertake research.

2.4 To liaise with private land owners and Crown land lessees.

2.5 To liaise with government departments, local authorities and user groups.

3.0 LEGISLATIVE AUTHORITY

Forest Service responsibilities are set out in the Wild Animal Control Act 1977.

"Part 1 Section 4. Wild Animals to be controlled -

(1) This Act shall apply to all land; having regard to the provisions of any Act applying to the land and shall be for the purposes of controlling wild animals generally, and of eradicating wild animals locally where necessary and practicable, as dictated by proper land use.

(2) This Act shall be administered, having regard to the general purposes specified in sub-section (1) of this section so as to -

(a) Ensure concerted action against the damaging effects of wild animals on vegetation, soils, waters, and wildlife; and

(b) Achieve co-ordination of hunting measures; and

(c) Provide for the regulation of recreational hunting, commercial hunting, wild animal recovery and the training and employment of staff."

4.0 INTERPRETATION

D.S.I.R.	- Department of Scientific and Industrial Research
Forest Service	- the New Zealand Forest Service
F.R.I.	- Forest Research Institute, Protection Forestry Division, New Zealand Forest Service
Land Controlling Authority	- The organisation or department with responsibility for the management of an area of land e.g. Forest Service, Lands & Survey, private owners, Rakiura Maori Land Inc.
Lands & Survey	- The Department of Lands & Survey
Local Authority	- Authority with responsibility for setting conditions on land use - e.g. county councils, catchment board, united council
Private land	- includes Maori land
Rakiura Maori Land Inc.	- The Trust is regarded as the owner of Maori land to manage the land for the owners as beneficiaries
Southland Conservancy	- The Southland Conservancy of the New Zealand Forest Service
Wild Animals	- As defined in the Wild Animal Control Act 1977
Wildlife Service	- The Wildlife Service of the Department of Internal Affairs

5.0 INTRODUCTION AND HISTORY

5.1 The Land

The basic geology is granite, of two main types, Anglem to the north and Rakeahua granite to the south, separated by a narrow band of low grade schists and alluvia in the Freshwater and Rakeahua valleys.

These granite types break down relatively quickly under exposure yielding a material of low intrinsic fertility for soil development. This breakdown is most evident in the Island's rugged coastline and the waterworn rocks exposed at low tide and in the rounded rock shapes of the Tin Range and the hills of the Pegasus area.

Geological erosion is not a feature of the Island.

Soil zonation is heavily influenced by the accumulation of organic matter, leading to peat formation wherever drainage is impeded. There is a leaching of nutrients and the formation of iron pans. Most soils are podsolised.

The soils are difficult to drain and lack nutrients. They are not generally erosion prone, but there is a tendency for slumping due to the poor binding of the soil onto the parent granites. The soils are liable to pugging as is shown by the condition of tramping tracks. Tracking systems which channel water are likely to scour quickly down to bedrock.

Coastal sand dunes have eroded in several localities.

5.2 The Vegetation

The Island is mostly forested. Vegetation associations change suddenly within short distances. Williamson (1976) recognised 12 different and distinctive vegetation associations (4 scrub, 7 podocarp, 1 scrub - hardwood). Evans & Fine (1976) recognised two alpine associations. Slater and Cuddihy (1982) included another (coastal water fern) which has largely arisen from modification of the forest canopy along the north-eastern coastal belt.

Of the 580 vascular species native to Stewart Island, recognised by Wilson (1982), about 28 are unique to the region. The presence of this number of unique species and the distinctive vegetation associations, which also differ from other areas of New Zealand, provides ample scope for scientists (and others) to place a special value on the vegetation.

One of the more obvious changes in recent times has been the die back of the coastal forest belt along the eastern coast. Opinions as to the primary cause of this die back attribute the change to possums, deer or storms or a combination of all. Adjacent to the die back the forest is very open. It lacks understorey and ground-cover plants, although tiny seedlings of many species may be found.

5.3 Fauna

5.3.1 Indigenous

Pride of place falls on kakapo with publicity given in recent years to the effort put in to restore the population of this flightless parrot to a safe state. The discovery of females and, subsequently, chicks led to a concerted effort to prevent predation by cats, to discover the birds' habits and requirements and, eventually, to the relocation of a breeding population on predator free islands to the north.

Considerable work has also been put in, by the N.Z. Wildlife Service and the Department of Lands & Survey, to protecting burrow nesting sea birds, particularly on Codfish Island.

However there is only a limited knowledge of the status of other fauna i.e. insects, aquatic life, common birds (both land and sea), bats, reptiles, and marine life.

It is known that Stewart Island contains a number of sub species peculiar to the Island e.g. Stewart Island robin, kiwi and fern bird.

There is a danger that little known or unknown species of indigenous fauna may vanish before they have been identified, and action taken to protect them.

5.3.2 Introduced

5.3.2.1 (i) Whitetailed deer (Odocoileus virginianus)

Whitetailed deer were released at Port Pegasus in 1905 by the Southland Acclimatisation Society. By 1920 the herd was well established, and spreading rapidly throughout forested areas of the Island. In 1920 protection was replaced by a licence system and in 1925 all protection was removed. Control was undertaken by the Internal Affairs Department in 1930 and continued till 1952.

5.3.2.2 (ii) Red Deer (Cervus elaphus)

The red deer herd originated from two successive liberations in Paterson Inlet by the Government Tourist Department. In 1901 six deer from the Wairarapa herd (Thompson 1922 in Doone 1924) were released and in 1902 12 deer from Werribee Park, Australia (Doone 1924) were liberated. Their spread is not detailed.

5.3.2.3 (iii) Possum (Trichosurus vulpecula)

Possums were liberated officially only once on Stewart Island. In 1890 the Southland Acclimatisation Society released 15 pairs of Australian possums at Murray River. Pracy (1974) also notes unconfirmed liberations of grey possums at Smoky River, Mason Bay and Pegasus Creek. By the 1920s they were reported as common (Thomson 1922).

5.3.2.4 (iv) Rats

Rats are present throughout the Island. Three species are present; the kiore (Rattus exulans), Norway rat (Rattus norvegicus) and the ship rat (Rattus rattus). Mice and mustelids are absent. The kiore generally prefer dry grassland, the Norway rat the shoreline and watercourses, and the ship rat, bush areas. Rat populations vary greatly year by year, dependent mainly on food supply.

5.3.2.5 (v) Cats (Felis catus)

Cats are present locally throughout much of the Island.

5.3.2.6 (vi) Feral Sheep

Feral sheep are present in low numbers in coastal forest near Mason Bay. They have run wild from the leasehold runs (Kilbride and Island Hill) at Mason Bay.

5.3.2.7 (vii) Goats (Capra sp)

Goats, for milking, have been introduced by residents at Halfmoon Bay. They are presently tethered or confined by fences.

5.3.2.8 (viii) Pigs (Sus scrofa)

Feral pigs were liberated on Stewart Island and are recorded by Wodzicki (1950) as being present in low numbers on the northern coast. They are no longer present.

5.3.2.9 (ix) Others

Domestic animals - dogs, horses, sheep and cattle - are present.

6.0 LAND TENURE

Approximately 93% of the land is under Crown tenure.

The Department of Lands & Survey administers approximately 68% in the form of nature reserves, scenic reserves, miscellaneous reserves, unalienated Crown lands and Crown land leases and licences.

The New Zealand Forest Service administers approximately 25% in the form of State forest.

Rakiura Maori Land Inc. administers approximately 6%.

Refer to the land tenure map. (Appendix I)

7.0 RESEARCH

Forest Service will undertake research with a view to monitoring the effect of wild animals on the natural values.

Data on the condition and health of the vegetation and the density and distribution of the wild animals will be used to indicate trends over time, requirements for, and the effectiveness of, animal control programmes.

7.1 History of Research

Four major animal/vegetation surveys have been carried out, two in the north and two in the south.

In the north the first was completed in February 1976 and reported by Williamson 1976 and Evans and Fine 1976. The second was carried out between November 1980 and February 1981 and reported by Slater. (Animals 1982, vegetation 1983).

In the south the first survey was undertaken in December 1976 (Ross 1977) and the second in November/December 1979 (Cuddihy 1982).

Comparisons of the results of these surveys indicate trends over the period of time.

In another study, started in 1979, Forest Research Institute staff are determining the causes of local forest death, the processes involved in forest regeneration, the role played by deer and possums in altering the present forest structure and the problems to non target bird species inherent in the poisoning of white-tailed deer. About five years should be sufficient to indicate the trend of changes to the vegetation.

7.2 Vegetation and Animal Population Assessment Techniques

Assessment will be carried out using standard Forest Service techniques for protection forests, scrublands and grasslands (refer Appendix II).

These are:

(a) Permanent study plots established in specific vegetation zones to form datum points to aid interpretation of future changes in the vegetation.

(b) Fixed camera stations to assist in determining trends in the condition of the vegetation.

(c) Exclosure plots and devices to exclude wild animals to establish the potential for vegetation growth and to determine the rate of potential vegetation recovery within priority zones.

(d) Faecal pellet count surveys to determine changes in animal population density and distribution.

(e) Vegetation condition surveys to establish trends in vegetation condition.

The remeasurement cycle will be five yearly for animals and ten yearly for vegetation unless visual evidence indicates the need and other priorities require more regular assessment.