5.2.6 Indigenous Species

- protecting indigenous species of plants, invertebrates, reptiles, birds, fish, marine mammals and bats

Current Situation

Canterbury has 107 known species requiring priority management, which is 27 per cent of the 403 species listed in a recent Department inventory of species (Molloy, Davis and Tisdall 1994). Extinction threatens 84 of these species, of which 44 are plants and 40 are animals.

Apart from birds and marine mammals, and to some extent plants, the other major species groups such as invertebrates and reptiles have had very little work carried out on them. This is due, in part, to their lower public appeal as well as to the little information available on all aspects of the species.

Freshwater Fish

A diverse range of endemic native and introduced freshwater fish, including the endangered Canterbury mudfish/kōwaro, live in Canterbury. Canterbury waters are also important for the high quality trout and salmon fisheries they support. Before European settlement, freshwater habitats in Canterbury provided an abundance of food for Māori and were of great importance for mahinga kai.

Agricultural developments and demands for water have modified and degraded freshwater fish habitats in Canterbury. As a consequence, freshwater fisheries (both native and introduced) have declined. The challenge now is to ensure that further degradation does not take place and that critical habitats can be restored or enhanced (see also 5.2.4 Freshwater Ecosystems).

There are 20 species of indigenous freshwater fish in Canterbury, most of which are diadromous (migrate between the sea and rivers). The Canterbury mudfish is endemic to Canterbury and is the most threatened of the region's fish fauna. Its few remaining habitats are a high priority for protection.

Canterbury's large braided river systems provide an important range of habitats for native fish. For example, their lower reaches support inanga populations and provide inanga spawning habitats, which in turn sustain the popular whitebait fisheries.

Other species characteristic of braided rivers are blue-gilled bully and torrentfish/piripiripōhatu that inhabit areas of white water. The alpine tributaries of the braided river systems are habitats for the alpine and long-jawed galaxids. A lowland freshwater fish habitat of note is the highly productive Te Waihora/Lake Ellesmere system. This is of special significance to Ngāi Tahu and supports a diverse range of native and introduced fish fauna. It is also New Zealand's largest commercial short-finned eel fishery. Horseshoe Lagoon (near the Ōpihi River) sustains Canterbury's most significant and possibly only population of giant kōkopu/taiwaru. Lake Marion (in the Lake Sumner Conservation Park) is Canterbury's only faunistic reserve (designated under the Freshwater Fisheries Regulations, section 48A Conservation Act) recognising the intrinsic values of its unmodified freshwater community by protecting its aquatic life.

Canterbury waters are well known, both nationally and internationally, for high quality river and lake sports fisheries for brown and rainbow trout and quinnat salmon. Of note is the presence of Mackinaw (lake trout) in Lake Pearson, the only wild population of these fish in New Zealand. The only noxious fish found in Canterbury is rudd. It is found in several rivers and ponds on the plains.

Birds

A diverse range of bird species is represented in Canterbury, resulting from the region's wide range of major habitat types. Habitats include alpine zones, beech forest associations, high country lake systems, braided river systems, the Te Waihora/Lake Ellesmere brackish lagoon complex, major estuaries, and various marine and coastal ecosystems.

Bird conservation programmes have historically concentrated on single species management. This is a consequence of single species populations being on the verge of extinction and needing urgent management to arrest their decline. As resources have been limited, only the most threatened species were attended to.

A new concept of habitat management has been adopted by the Department, called 'mainland island restoration programmes'. This Conservancy has instigated one of these in the upper catchment of the Hurunui. This mainland island is looking at enhancing an association of beech-forest birds and plant species. These include what is thought to be the only population of orange-fronted parakeets/kākārikiwhero in New Zealand, the largest population of yellow-head/mohua in Canterbury, and other forest species such as kākā, great-spotted kiwi/roroa and robins.

In Canterbury two bird species, black stilt/kaki and orange-fronted parakeet, are classified as Category A, the highest priority for threatened species requiring conservation action (Molloy, Davis and Tisdall 1994). Both species require intensive management. The black stilt is the subject of intensive breeding manipulation

and massive habitat restoration programmes (see 4.10.3 Project River Recovery).

Currently, bird-related work is being directed toward establishing the status of various species' populations and the importance of the various habitats within the Conservancy. Much of the work on bird species and their habitats is connected with other areas of responsibility such as habitat restoration, pest or wild animal control, and habitat acquisition and maintenance.

Occasionally, species such as kea conflict with farming and these situations require resolution.

Invertebrates

This group, more than any other, has had little attention. All current knowledge has been accumulated by agencies outside of the Department. The Department must now make an effort to identify management needs and programmes within this group.

The status of most species within this group is not known. Some research and survey work has occurred in Banks Peninsula habitats and for bluff weta and the robust grasshopper.

Reptiles

There are about ten reptile species in Canterbury, however the taxonomic status of some forms is uncertain. Apart from incidental inclusions in some survey reports, no work has been carried out on any of these species.

Bats

Only the long-tailed bat is present in Canterbury. Some work has been carried out to establish the species' distribution and status, and to identify threats to the species.

Amphibians

No native amphibian fauna are found in Canterbury.

Marine Mammals

The sea around Banks Peninsula has been identified as one of the most important habitats for Hector's dolphin/upokohue. Management activities have been directed towards the marine mammal sanctuary established for this species. These activities include research, monitoring and advocacy. There are occasional single whale strandings and seal incidents. (see also 5.2.5 Marine Ecosystems)

Plants

Canterbury's natural ecosystems have been greatly modified by human activities, particularly burning and other land clearance methods. Recovery of the original communities has been difficult or impossible under these circumstances. Today, only tiny remnants of the original native communities (kanuka or swamp forest) can be found on the Canterbury plains. Inland basin areas that were once forested now support developed pasture, scrub or tussock grassland. Coastal communities have been reduced to tiny forest remnants or areas of regenerating scrub. Native sandbinder communities are virtually restricted to Kaitorete Spit. Freshwater lakes and rivers have largely lost riparian vegetation; and high country forest and alpine zones have suffered degradation, nutrient enrichment, and species loss due to introduced mammals and plants.

Seven plant species are now locally extinct while three more are nationally extinct.

Individual plant species recovery programmes are being developed for the highest priority at risk species and populations and the goals of these plans are to reinstate self-sustaining wild populations. As well as protecting habitat, these programmes look at competition and damage caused by browsing and grazing animals. The Department's nursery at Motukarara plays a key role in holding seeds, maintaining provenances in collection and providing known genetically sourced plants for revegetation and restoration programmes.

Species Ranking

The Department of Conservation has prepared a ranking system (Molloy, Davis and Tisdall 1994) to identify priority threatened species for management. The Department developed the system with the assistance of the former Department of Scientific and Industrial Research and the Royal Forest and Bird Protection Society of New Zealand. It has 17 criteria, 14 of which collectively build up a picture of the likelihood of extinction while 3 criteria assess taxonomic distinctiveness and human values.

Species are grouped into one of three categories according to their score:
Category A: highest priority threatened species
Category B: second priority threatened species
Category C: third priority threatened species

This national system will provide the basis for assessing management priorities in the Conservancy. For a list of threatened species in Canterbury see Appendix 2.

An IUCN international ranking system (Wilson and Given 1989) is also applied in New Zealand, though it is less used by the Department than the above system. The categories used are E (endangered), V (vulnerable), R (rare), I (indeterminate), K (insufficiently known) and L (local – a New Zealand category for plants potentially threatened). The categories E, V and R are loosely comparable to the A, B and C categories above. Both rankings have been given, where known, for species in the CMS Volume 2, Schedule 2, schedules.

Species Recovery Plans

Threatened species recovery plans form the basis of the Department's management for particular species. Recovery is defined as 'the process by which the decline of a species is arrested or reversed so that its long-term survival in the wild is, as far as practicable, ensured.' The goal of this process is the maintenance of species in their natural habitats with minimal intervention.

Recovery plans assist the management of threatened species. They:
- identify and prioritise the research and management actions required
- promote public involvement and support
- promote departmental staff involvement and support
- improve prospects for continuous funding

Not all species have individual recovery plans. Where appropriate, species are dealt with in groups. The Biodiversity Recovery Unit in the Department's Head Office co-ordinates requirements for recovery plans. A 'Recovery Group' is formed especially to prepare and implement each recovery plan. These involve Te Rūnanga o Ngāi Tahu, individuals with specific expertise, and non-governmental agencies.

Current Programmes

Major indigenous species management programmes are:
- black stilt/kakī management in the Mackenzie Basin (see also references to Project River Recovery in 5.2.4 Freshwater Ecosystems)
- yellowhead/mohua and orange-fronted parakeet research in the Hurunui catchment (see also references to Hurunui Mainland Island Habitat in 5.2.3 Land Ecosystems)
- Hector's dolphin/upokohue protection and monitoring in the Banks Peninsula Marine Mammal Sanctuary (see also 5.2.5 Marine Ecosystems)
- Canterbury mudfish/kōwaro conservation in South Canterbury
- kea management in the high country

The Conservancy also undertakes other programmes requiring less resources, for example:
- invertebrate species including robust grasshopper, Banks Peninsula tree weta, and buff weta at Mount Somers
- bird species (great-spotted kiwi/roroa, southern crested grebe/kāmana and blue duck/kōwhiowhio)
- plant species: *Carex inopinata, Helichrysum dimorphum* and *Muehlenbeckia astonii.*

Current Limitations

Important species where little work is currently undertaken include:
- Banks Peninsula speargrass weevil and *Coxella* weevil
- white-flippered blue penguin
- *Australopyrum calcis*, subsp. *optatum* and *Melicytus* 'Egmont'.

Statutory Framework

Section 6 of the Conservation Act 1987 enables the Department to manage species. The Department also has this responsibility under the Wildlife Act 1953, Marine Mammals Protection Act 1978, Reserves Act 1977 and the National Parks Act 1980.

Specific provision for species planning under s41(1)(e) of the Wildlife Act 1953 gives the Minister of Conservation the authority to prepare and issue plans and publications for the advancement, conservation and management of wildlife.

The permitting of taking plant and animal samples and specimens for non-commercial research, and bioprospecting is addressed in section 5.5.5 (Research).

Objectives

- To restore species in imminent danger of extinction to population levels from which they can sustain themselves and increase.
- To systematically survey Category A and B species; assess their habitat requirements and threats, and implement management to sustain and enhance their populations.
- To encourage and facilitate community support and involvement in species protection projects.
- To advocate for Resource Management Act methods that recognise and provide for the protection of significant habitats of threatened indigenous fauna and that implement methods that avoid, remedy, or mitigate the adverse effects on such habitats and fauna.

Implementation

The Conservancy will:

1. Continue to prioritise species management by using the national priority ranking system (Molloy, Davis and Tisdall 1994) and local assessments of conservation needs. Appendix 2 summarises management information on all priority species in Canterbury.

   Rankings are developed from a wide range of criteria including taxonomic considerations, range considerations, threats and levels of existing protection. This system provides an initial assessment of priorities that are then refined according to the local situation. This has the advantage over previously developed systems in that it assesses all species, plant and animals together using the same criteria.
2. Undertake actions required on approved recovery plans for black stilt/kaki, yellowhead/mohua, kiwi and yellow-eyed penguin/hoiho.
3. Complete strategies to identify research, survey, management and advocacy needs for all the less understood groups of species of threatened plants, threatened bird, invertebrate and reptile species (see 6.1 Conservation Management Plans and Functional Strategies). These strategies will assist in the implementation and achievement of this CMS.
4. Initiate threatened species recovery plans based on their threatened category in Molloy, Davis and Tisdall (1994), under the following criteria:
   - Head Office directed priorities
   - species recovery complexity
   - cost
   - benefits of recovery action on individual species
   - likelihood of extinction
   - taxonomic distinctiveness
   - human values
   - species status
   - threats facing the species
   - vulnerability of the species

   Recovery plans will be reviewed regularly, especially where significant information comes to hand.
5. Move from single-species management towards ecosystem-based management, as appropriate. For example, Project River Recovery in the Mackenzie Basin aims to restore the natural processes of braided rivers to the point where the riverbeds can sustain populations of currently threatened and endangered species.
6. Select management techniques that best use available resources with the objective of creating self-sustaining species populations, including:
   - Research: Applying scientific methods to understand species habitat, and predator issues to resolve species management needs and problems.

- Habitat Manipulation: Using habitat manipulation to alter species habitat to provide environmental conditions more favourable for species.
- Pest and Weed Control: Eradicating, containing, or controlling (ongoing) to reduce pest and weed densities until their threats to species are reduced or mitigated.
- Captive Management: Undertaking captive management of species. This can include:
- providing a safe population when the wild population is at threat
- developing techniques for holding and raising species, e.g. using analogue species
- producing individuals to release back in the wild
- *In situ* Management: Undertaking on-site management work to survey, monitor, protect and enhance species. This may involve direct manipulation such as cross-fostering.
- Interpretation: Using education, media and interpretation to raise understanding of species issues.
- Advocacy: Liaising with landholders, regional and district councils and other relevant authorities to enhance the protection of species.
- Translocation: Moving sub-populations of species to suitable safe habitats.
- Island Restoration: Enhancing an island habitat by removing predators and weeds, and translocating sub-populations of species to that island, e.g. Motunau Island, Hurunui Mainland Island Habitat and Quail Island.

  When further assessing management techniques, the Conservancy will take the following into account:
- management objectives
- past management
- feasibility of population enhancement
- ability to control plant and animal pests
- surrounding land management
- costs and benefits of management options
- land status, threats, management issues and priorities of Schedule 2 in Volume 2 of this CMS

7. Undertake surveys to establish the status of species populations and their habitats. Priorities for these surveys will be higher for:
   - species categorised as A or B as nationally directed
   - species where basic survey knowledge is needed before any other management actions can be considered
   - species currently thought to be extinct but which may exist if potentially suitable habitat remains (see 5.5.4 Survey and Monitoring)
8. Protect and enhance habitats important to individual species or for a range of species through reservation, covenants, advocacy and other appropriate mechanisms (see 5.2.3 Land Ecosystems).
9. Control threats to species populations and their habitats through appropriate input into other relevant responsibility areas covered by this document: such as 5.2.8 (Animal Pests and Wild Animals), 5.2.9 (Plant Pests and Exotic Plants), 5.3.4 (Visitor Impacts and Safety) for dog control and 5.2.10 (Fire).
10. Encourage sponsorship to fund species management and recovery programmes to supplement Crown funding (see section 5.1.4 Communication and Liaison).
11. Develop strong advocacy programmes to increase the awareness, management and habitat needs of poorly understood species groups; for example, invertebrates and plants.
12. Provide input on significant species habitat protection through water and land use plans prepared under the Resource Management Act to avoid adverse effects on significant wildlife habitat and threatened species populations.
13. Develop greater public participation in species management and habitat enhancement.
14. Ensure effective monitoring programmes are put into place for all Category A and B species and their habitats where appropriate.

Priorities

Primary

The Department will undertake necessary actions to secure the conservation of Category A and B species, in accordance with national priorities. These actions will include predator control, fencing and habitat protection.

Secondary

Promotion of indigenous species conservation work by outside organisations and individuals.

Priority Sites and Species

Appendix 2 lists the species, locations and management actions where significant effort is intended over the period of this strategy. Notable actions include:

- black stilt conservation efforts in the Mackenzie Basin, associated with Project River Recovery
- great-spotted kiwi monitoring in the Arthur's Pass and Lewis Pass areas
- Canterbury mudfish habitat protection in South Canterbury
- Hector's dolphin conservation around Banks Peninsula
- pingao conservation on Kaitorete Spit
- yellowhead/mohua and orange-fronted parakeet in the Hurunui catchment

Less Achievable Tasks

Tasks that may not be undertaken or completed include:

- undertaking invertebrate and reptile research and management of other than A and B priority species currently known or identified in the future.
- protecting white-flippered and blue penguins around Banks Peninsula
- protecting indigenous habitats of birds, plants and invertebrates on private land with the support of land holders
- protecting Category C species

Indigenous species priorities are tabled in Appendix 2. (This replaces the standard key priorities table)

See also: 5.2.3 Land Ecosystems
5.2.4 Freshwater Ecosystems
5.2.5 Marine Ecosystems
5.5.4 Survey and Monitoring
5.5.5 Research