

24. *Research, Survey, Monitoring and Information Management*

Explanation

The Department's goal is to have a sound information base to provide for effective conservation management in the Conservancy.

Research, survey and monitoring carried out by or for the Department focuses on natural and historic resources and recreation facilities, and the effectiveness of management of these resources.

Wellington Conservancy

Research

National priority conservation research is funded by the Science & Research Division and carried out by scientists via internal or external research contracts. Research proposals are submitted annually and evaluated by Conservancy Advisory Scientists and specialist advisory groups before being considered by the Department's Science Board for funding. National priorities for research have been based on submissions from Conservancies and Head Office Policy Divisions and from 1994/95 will be based on the annual Research Agenda produced by the Science & Research Division.

Due to the competitive nature of the annual science funding round, many Conservancy priority research bids are unsuccessful. Some of these unfunded research projects are carried out by Conservancy staff or through provision of logistic and limited financial support to other researchers, particularly graduate students. In addition to Conservancy priority research, research is done by university staff or students on areas managed by the Department. The Conservancy has a Conservancy Advisory Scientist, who provides scientific advice to the Conservancy, and undertakes and co-ordinates research.

Survey and Monitoring

The Science Board does not fund survey or monitoring unless new survey methodology or a new field of conservation management is being developed. Routine survey and monitoring of birds or animal pests, for instance, is co-ordinated and conducted by Conservancy staff, often with assistance from volunteers and interest groups.

Information

The information requirements for management are immense. Traditionally, most information has been stored as hard copy in publications, files, maps and photographs. Increasing use of computer-based databases is being made at both national and Conservancy level, allowing more efficient sorting and retrieval of information. The Department is testing options for geographic information systems that will allow greater integration of spatial information and is improving its storage and retrieval systems for existing databases.

The Department has copies of national databases: Wetlands of Ecological and Representative Importance (WERI), Sites of Scientific and Wildlife

Importance (SSWI), Freshwater Fish Database, Reptile Database and has access to the database of archaeological sites and the national land register.

In addition, the Conservancy maintains its own land information inventory and is developing an indigenous species database, an inventory of sites of significance to indigenous fauna and flora, and a hut and track database.

Management Issues

Information Needs and Priorities

Knowledge is the key to effective management. The Department needs to know which natural and historic resources are under threat, why they are threatened, and what is the most effective way to eliminate or reduce those threats. In many cases management may have to proceed with only an interpretation of available information rather than on a detailed knowledge of the resources. Research can guide management to the areas of greatest need and increase the effectiveness of management techniques. Up-to-date information about natural and historic resources can improve the confidence with which the Department can make management decisions and is also fundamental to the Department's statutory advocacy and public awareness activities. [refer Sections 18, p 173; 28, p 257]

There is a need to recognise people's recreation demands to assist in recreation planning [refer Section 27, p 231] and a need to be aware of their general expectations and understanding about the conservation of New Zealand's natural and historic resources, to enable effective public awareness campaigns to be designed. [refer Section 28, p 257]

The resources available for research, survey and monitoring do not match the demands, and the Department needs to prioritise its efforts.

A review of survey and monitoring programmes has begun. It will identify and prioritise ecological survey and monitoring requirements for the next 5 years. The review will assess methods used in ecological survey and monitoring and will identify where improvement is needed. Part of the strategy will be developing a process for identifying priority survey and monitoring programmes.

Priorities for research will be set annually before the science funding round and will be based on focusing research on natural and historic resources most at threat and determining effective management. The Department will be preparing a research agenda to guide its research efforts.

The following work is expected to be among the Conservancy priorities for research, survey and monitoring:

- Captive breeding of threatened species at National Wildlife Centre. [refer Sections 5.5, p 40; 14.1, p 142]
- Management of threatened species on islands and restoration of islands. [refer Sections 14, p 141; 22, p 195]
- Sub-tidal studies of Kapiti Marine Reserve. [refer Section 10.2, p 126]
- Gathering information on the sub-tidal areas of the Conservancy and monitoring of coastal environments.
- Gathering information about the status and management needed for rare plants, invertebrates, native fish and bats. [refer Section 14.1, p 142]

- Gathering information about status and management of threatened species on the mainland. [*refer Section 14.1, p 142*]
- Assessing the extent and effectiveness of plant pest management. [*refer Section 21, p 191*]
- Developing an animal pest management plan and better understanding the effects of animal pests on natural resources and their ecology. [*refer Section 20, p 183*]
- Gathering information about the distribution and status of natural resources not yet protected and how they can be maintained and restored. [*refer Section 16, p 161*]
- Gathering information about the waahi tapu sites and Maori use and cultural values of areas managed by the Department. [*refer Sections 12, p 133; 15, p 155*]
- Gathering information about public demand for outdoor recreation and visitor numbers. [*refer Section 27, p 231*]
- Monitoring the condition of recreational facilities on land administered by the Department. [*refer Section 27, p 231*]
- Assessing the effects of visitors on areas administered by the Department. [*refer Section 27.4, p 246*]
- Gathering information about public attitudes to and level of awareness of natural and historic resources and their management by the public. [*refer: Section 28, p 257*]
- Gathering information about the distribution of indigenous freshwater fish. [*refer Section 14.2, p 146*]
- Investigating processes threatening vulnerable ecosystems to identify management options for conservation. Particularly vulnerable ecosystems include dunes, wetlands, swamp forest and lowland forest remnants.

Determining Limits of Acceptable Change

Change is the only constant feature of natural ecosystems. The Department recognises that natural processes can cause loss of conservation values in some instances. For example, coastal erosion may threaten rare sand dune plant communities. Limits of acceptable change need to be identified for key species, ecosystems and locations, and monitoring needs to be carried out, to detect changes in status or condition within or beyond these limits.

Land Inventory

Volume 2 of this CMS is an inventory of the areas managed by the Department in the Conservancy. This inventory collates, in an accessible form, information on areas managed by the Department. Information included relates to natural and historic resources, recreation facilities, public use and access, fencing requirements and animal and plant pests. The information has been collated from existing databases, published material and staff knowledge. The areas have not been fully surveyed and information for some areas is sketchy.

Collecting all the information needed to complete each entry on the inventory sheets is not a priority. Areas for which information is scarce are small and are not considered to have significant natural or historic resources. The Department will add information about areas as opportunities arise from

other work, i.e., conservancy plant pest assessment [Section 21, p 191] or archaeological resource statements [Section 15, p 155]. Groups with expertise and an interest in conservation, e.g., botanical societies, Royal Forest and Bird Protection Society and Ornithological Society of New Zealand will be supported and encouraged to add to information about areas managed by the Department.

Maori Values

The identification of Maori historic and cultural values on land managed by the Department is inadequate. The Department and iwi of the Conservancy need to agree on what these values are and how they should be identified and provided for.

Objectives

Research

- 1 Initiate or support research to identify and ameliorate those factors and processes causing degradation of natural and historic resources.
- 2 Initiate or support research to improve the efficiency and effectiveness of management in the Conservancy.

Survey

- 3 Survey natural and historic resources within the Conservancy where information is inadequate for management purposes.

Monitoring

- 4 Monitor changes in status and condition of those natural and historic resources most at risk.
- 5 Monitor impacts of resource use on natural and historic resources, e.g., recreation concessions.
- 6 Monitor the effectiveness of management of natural and historic and recreational facilities in the Conservancy.

Information Management

- 7 Provide and improve information management systems so that all information necessary for the functioning of the Conservancy is gathered, stored and easily accessible.
- 8 Share information on natural and historic resources with local government and other organisations involved in conservation of those resources.
- 9 Maintain an inventory of all areas managed by the Department to record: size, area, location, natural and historic resources, recreation facilities, access, use, plant and animal pests and fencing.

Implementation

Research

- 1 Develop and maintain a database of research needs for the Conservancy.
- 2 Prepare a Conservancy research agenda.
- 3 Set priorities for research needs annually before the science funding round, based on the following considerations (not in priority order) and based on the Conservancy research agenda:
 - Are any natural and historic resources undergoing rapid changes where causes are unclear?
 - Is the effectiveness of management of natural and historic resources, especially threatened resources, understood?
 - Does the Department need to understand any aspect of public attitudes or demand for recreation in order to plan for facilities, conservation management or public awareness work?

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- 4 Liaise with science research providers to explain needs, generate research proposals and promote submission of proposals on priority subjects to the Science Board.
- 5 Budget staff time and operating funds to conduct priority research programmes.
- 6 Assist students, academics and science research organisations undertaking research into high priority research subjects.
- 7 Maintain a database of survey and monitoring needs for the Conservancy.
- 8 Review survey and monitoring requirements and programmes and develop a strategy for ecological survey and monitoring for the next 5 years. Review this strategy after 5 years.
- 9 Set priorities for survey and monitoring needs annually based on the strategy for survey and monitoring.

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- 10 Budget staff time and operating funds to conduct priority survey and monitoring programmes.
- 11 Work with and assist individuals and voluntary organisations prepared to undertake survey and monitoring work.
- 12 Maintain a comprehensive, catalogued collection of published material and reports on the Conservancy, and relevant bibliographies. Rely on Head Office and Science & Research libraries for collections of national and international literature relevant to conservation.
- 13 Maintain national databases such as Land Register, species and sites databases.
- 14 Maintain a geographic information system for the Conservancy.
- 15 Maintain a collection of topographical, conservation and cadastral maps and aerial photographs of the Conservancy.
- 16 Maintain a catalogued collection of photographic slides, prints, videos and digital images relevant to the functioning of the Conservancy.
- 17 Maintain a filing system of correspondence, internal information, media reports, and background material relevant to all issues in the Conservancy.
- 18 Maintain a set of statutes and regulations relevant to the responsibilities of the Department and material explaining the Department's functions.
- 19 Establish an information sharing process within iwi in the Conservancy for waahi tapu and other sites of significance to iwi, to assist in managing of land administered by the Department. [*refer Sections 12, p 133 and 15, p 155*].
- 20 Make available information on natural and historic resources to local government and other organisations involved in the conservation of those resources. For historic resource information about sites of significance to the tangata whenua on land administered by Department, release information only with their permission.