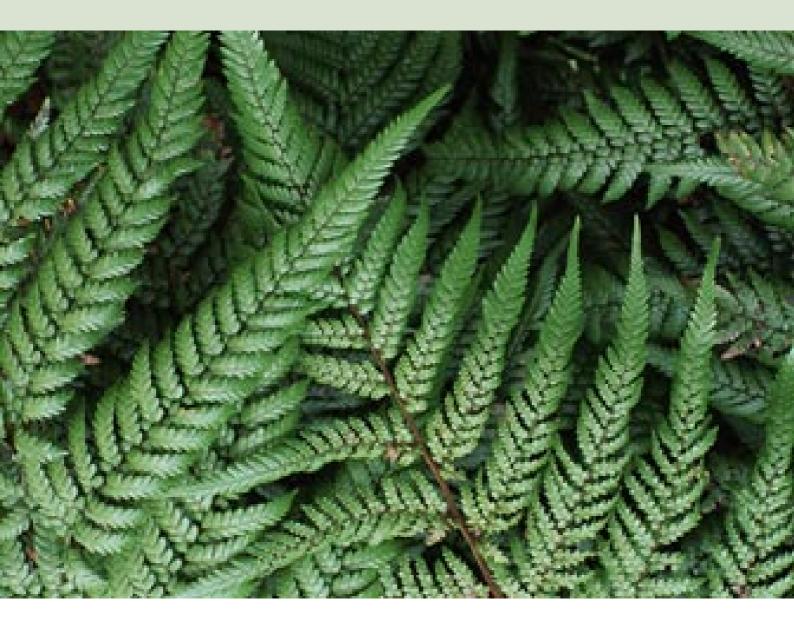# Science Counts!

National Strategic Science & Research Portfolios, Programmes, Priority Actions

Department of Conservation
Te Papa Atawhai

FOREWORD

The Strategic Business Plan "Restoring the Dawn Chorus," published in 1998, set a new standard of direction and aspiration within the Department of Conservation. A major study undertaken that same year by the Science & Research Unit (SRU) sought to align individual research projects to specific objectives and targets of the Strategic Business Plan. This signalled an intent to define an ordered, clear connection between what was being purchased by the Minister from the Department, and what was delivered by the Science & Research Unit.

The following year SRU prepared its own high-level priority setting Strategic Plan, as part of a continuing process of improvement and alignment, and as a means of informing revisions of the Strategic Business Plan. The vision for SRU was conceived as "Science Counts!" reflecting a determination that every decision made by conservation managers will be based on the best available scientific research and advice. In this way science will make a real difference to the quality of conservation management.

In October 1999 the Department's Conservation Policy Division held a series of workshops to identify priority activities centred around 10-year National Priority Outcome statements, with 3-year National Strategic Directions. The priority actions relevant to Science & Research are reprinted here.

The most significant change to how Science & Research now undertakes its business, was to move away from a bottom-up process – whereby science projects were identified largely within conservancies and frequently concerning local issues – to one where the research projects are now focused on delivering top-down, to national strategic priorities. The outcome of such a shift is expected to be research that is relevant to a wider national constituency, clearly responding to national urgencies.

The total research package administered by SRU is divided into five Portfolios that circumscribe the Department's core business. Within each are a number of Programmes, containing specified Priority Actions. Priority Actions are listed here for the years 2001/02 and thereafter. An annual cycle of testing and review of the Priority Actions will be implemented early in 2001, and will aim to catalyse modifications to the departmental Strategic Directions. Extensive consultation will be undertaken to inform this process.

It is important for the Department of Conservation to communicate its own strategic research directions to the wider scientific community. In this way scientific provider agencies gain some indication of where the Department is heading, while offering at the same time opportunities to engage with the Department in science and research activities of mutual benefit. Enhancing the contribution of top-quality science advice to conservation management remains our motivating vision and one that will bring long-term sustainable gains to conservation in New Zealand.

Dr Geoff Hicks
MANAGER SCIENCE & RESEARCH,
CHIEF TECHNICAL OFFICER – BIOSECURITY

…improve how we set and measure conservation outcomes by researching the consumption and competition impacts of pests and weeds.

PORTFOLIO: TERRESTRIAL RESTORATION & PESTS

Ecosystem Restoration

Priority Actions[1]

A. Develop intensive ecological restoration models based on existing "mainland islands", and extend to other ecosystems for which such repair is also needed (e.g. wetlands).

B. Review the adequacy of ecosystem protection programmes for the protection of threatened species groups.

C. Implement a programme to identify critical agents threatening population viability, through observation, modelling and experimentation, using the results to design sustainable management programmes and viable habitat areas, and to measure spill-over benefits of management of core areas.

D. Develop approaches to managing multiple threatened species programmes at key sites.

Animal Pests

Priority Actions

A. Establish systems for measuring, monitoring and predicting consumption and competition impacts of pest species, aimed at better techniques for conservation outcome assessment.

B. Develop accurate and reliable methods for analysing risk at the border for new species and genetic stock.

C. Identify unwanted organisms that pose significant risks to indigenous species and ecosystems.

D. Develop and assess new tools for pest eradication and border maintenance.

Weeds

Priority Actions

A. Establish systems for measuring, monitoring and predicting consumption and competition impacts of pest species, aimed at better techniques for conservation outcome assessment.

B. Develop accurate and reliable methods for analysing risk at the border for new species and genetic stock.

C. Identify unwanted organisms that pose significant risks to indigenous species and ecosystems.

D. Develop and assess new tools for pest eradication and border maintenance.

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[1] *Priority actions throughout this document are not ranked in any specific order.*

Species and Communities

PORTFOLIO: THREATENED SPECIES & COMMUNITIES

Priority Actions

A. Revise and realign, where necessary, species recovery work programmes to meet the criteria in the National Priority Outcomes for threatened terrestrial, freshwater and marine species and the revised list of threatened species.

B. Develop innovative techniques for increasing protection and reducing mortality of priority threatened species and establish a programme for testing their application experimentally.

C. Implement a programme to identify critical agents threatening population viability, through observation, modelling and experimentation, using the results to design sustainable management programmes and viable habitat areas, and to measure spill-over benefits of management of core areas.

D. Develop approaches to managing multiple threatened species programmes at key sites.

Classification and Measurement

PORTFOLIO: CONSERVATION ASSESSMENT

Priority Actions

A. Complete the natural heritage inventory of New Zealand, based upon agreed classifications of ecosystems, communities and geological features.

B. Establish systems for measuring, monitoring and predicting consumption and competition impacts of pest species, aimed at better techniques for conservation outcome assessment.

C. Predict and map environmental domains in terms of boundaries between areas of greatest distinctive difference.

D. Develop and implement generic systems to measure site-based achievements from conservation inputs.

E. Develop data management and mapping systems to support ecosystem management work.

F. Refine outcome statements by completing the area selection process to assign site management strategies.

G. Establish a monitoring framework at key sites consistent with specified outcomes to verify/calibrate predictive models.

… managing multiple species at key sites …

Freshwater Protection and Restoration

PORTFOLIO: AQUATIC PROTECTION & RESTORATION

Priority Actions

A. Complete the natural heritage inventory of New Zealand, based upon agreed classifications of ecosystems, communities and geological features.

B. Establish a monitoring framework at key sites consistent with specified outcomes to verify/calibrate predictive models.

C. Implement a programme to identify critical agents threatening population viability, through observation, modelling and experimentation, using the results to design sustainable management programmes and viable habitat areas, to measure spill-over benefits of management of core areas.

D. Maintain and re-establish where practicable the migratory movements of whitebait and threatened fish species in the rivers that they should occupy.

E. Ensure that the new quota management system for eels does not impact upon the natural abundance and structure of eel populations within fully protected aquatic ecosystems.

F. Improve knowledge of whitebait fish stocks, their threat status, and management options.

G. Revise and realign, where necessary, species recovery work programmes to meet the criteria in the National Priority Outcomes for threatened terrestrial, freshwater and marine species and the revised list of threatened species.

Marine Protection and Restoration

PORTFOLIO: AQUATIC PROTECTION & RESTORATION

Priority Actions

A. Finalise and apply a near-shore marine classification system and robust and defensible site selection criteria, as a basis for prioritising areas to be included in the marine protected area network.

B. Review the adequacy of ecosystem protection programmes for the protection of threatened species groups.

C. Revise and realign, where necessary, species recovery work programmes to meet the criteria in the National Priority Outcomes for threatened terrestrial, freshwater and marine species and the revised list of threatened species.

D. Implement a programme to identify critical agents threatening population viability, through observation, modelling and experimentation; using the results to design sustainable management programmes and viable habitat areas, and to measure spill-over benefits of management of core areas.

E. Improve knowledge of titi (mutton birds), their threat status and management options, in conjunction with Ngai Tahu.

F. Develop accurate and reliable methods for analysing risk at the border for new species and genetic stock.

G. Identify unwanted organisms that pose significant risks to indigenous species and ecosystems.

H. Work with relevant agencies to improve knowledge of marine biosecurity risks and to develop the required capability within Government to manage these risks.

I. Develop innovative techniques for increasing protection and reducing mortality of priority threatened species and establish a programme for testing their application experimentally.

J. Complete population management plans for New Zealand sea lion, wandering albatross and Hector's dolphin.

K. Complete a medium-term strategic plan for Conservation Services Levy-funded research into fisheries interactions with protected species, including priorities for population management plan development.

Historic and Cultural Heritage Protection

PORTFOLIO: PEOPLE, HISTORY & CONSERVATION

Priority Actions

A. All area offices of the Department will have the necessary inventory and related information to ensure the avoiding, remedying, or mitigating of any adverse effects of human interventions on historic heritage features in the protected area network managed by the Department.

B. Wherever a historic feature in the protected area network is subject to deliberate alteration, or wherever an outstanding historic feature in the protected area network is subject to natural deterioration, significant information which would otherwise be lost will be captured.

C. The Department will produce field manuals on the identification, assessment and management of archaeological sites.

D. Historic features on areas managed by the Department will be reviewed against nationally agreed criteria for the identification of outstanding and representative historic features.

E. A process will be developed to progressively identify historic heritage features on unallocated or surplus Crown land.

F Prepare a budget bid for the establishment of a monitoring programme that investigates sustainability of possible customary use species.

G. Improve knowledge of titi (mutton birds), their threat status and management options, in conjunction with Ngai Tahu.

Visitor Use

PORTFOLIO: PEOPLE, HISTORY & CONSERVATION

Priority Actions

A. Establish an ongoing programme of visitor environmental impact monitoring in association with natural and historic heritage research disciplines, including processes for associating key environmental values with different visitor sites.

B. Produce and present a series of "proof-of-concept" reports on a process for identifying visitor impact "hot spots", and initiate further developments associated with the Department's GIS systems.

C. New visitor counting technology and software will be applied in a visitor-count monitoring programme developed by the Department, and further technical developments will be initiated where required.

D. Synthesise and collate material into summary reports on the range of social values applicable to conservation management issues, and create a working set of best-practice classifications.

E. Complete preliminary investigations on processes to specify key social values as best-practice social standards at visitor sites.

F Complete development of an ongoing programme of visitor satisfaction monitoring.

Community Participation

Priority Actions

A. A benchmark of New Zealanders' interest in and understanding of natural and historic heritage will be established.

B. The Department will review the opportunities for public involvement in conservation; establish the level of participation in and satisfaction with those opportunities; identify how the Department can meet and/or manage those expectations; and initiate monitoring for acceptable levels of participation and satisfaction.

C. The Department will develop a framework for co-operative conservation management, and engage in co-operative conservation management projects with Maori where appropriate.

D. Conservancies will identify key opportunities to increase community involvement in natural heritage management in the Protected Area Network and the most cost-effective actions to realise those opportunities.

E. Research to establish the needs and expectations of visitors for the supply of facilities, information and services will be completed and a response plan will be developed.

…cooperative conservation management and participation …

NATIONAL STRATEGIC SCIENCE & RESEARCH PORTFOLIOS, PROGRAMMES, PRIORITY ACTIONS, 2001/02 (AND OUTYEARS)

PORTFOLIO: Terrestrial Restoration & Pests
Programmes
- Ecosystem Restoration
- Animal Pests
- Weeds

Science Manager Responsible: Rod Hay
Portfolio Leader: Clare Veltman

PORTFOLIO: Threatened Species and Communities
Programme
- Species & Communities

Science Manager Responsible: Don Newman
Portfolio Leader: Colin O'Donnell

PORTFOLIO: Conservation Assessment
Programme
- Classification & Measurement

Science Manager Responsible: Rob McColl
Portfolio Leader: Theo Stephens

PORTFOLIO: Aquatic Protection & Restoration
Programmes
- Freshwater Protection & Restoration
- Marine Protection & Restoration

Science Manager Responsible: Ian West
Portfolio Leader: Lindsay Chadderton

PORTFOLIO: People, History & Conservation
Programmes
- Historic & Cultural Heritage Protection
- Visitor Use
- Community Participation

Science Manager Responsible: Paul Dingwall
Portfolio Leader: Kevin Jones