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GUEST EDITORIAL

Science counts
A first year review

It is customary on anniversaries to reflect—sometimes with affection, sometimes with trepidation—on the year(s) past activities. It is also a time to gather oneself and look forward to the challenges of a new year. I have been with Science & Research Unit for just over 12 months and would like to share with you my observations on some of what we have managed to achieve.

At the outset I wish to acknowledge the welcoming way in which I have been absorbed into the Science & Research whanau. With emotions running high over John Holloway's untimely departure, it must have been difficult for many people to adjust to my arrival as a relatively unknown quantity. But for me the immediate support and guidance received from the science managers and from staff both here and in Boulcott Street, meant that I very quickly felt at home. Moreover I have come to view and appreciate the enormous depth of skill and spirit in the staff here. I think we have a great team—dedicated, motivated, and with a strong internal sense of humanity—that I know is the envy of many organisations.

New funding

One of my first challenges was to respond to calls for new funding initiatives late last year. We were successful in gaining $365 000 of science envelope money from the Ministry of Research, Science and Technology. This has allowed us to continue funding wandering albatross monitoring (a species at risk from long-line fishing), and initiate new research on visitor impact assessments on public conservation land and the work on biodiversity asset management. This last activity is focusing on how we measure the effects on conservation of expenditure and actions (such as pest control).

After lengthy negotiations with MAF, Treasury and Cabinet Enterprise and Innovation Committee, we successfully secured a major new initiative fund of $6.6 million to be focused on research projects that will assist in delivering a fatal blow to stoats. Some would say this new money is like 'clobbering them to death with dollar bills', but new technology research is expensive and over the 5 years of the planned programme, every cent of the allocation will be needed. The funding is an overdue recognition of the critical impacts stoats are having on our indigenous avifauna.

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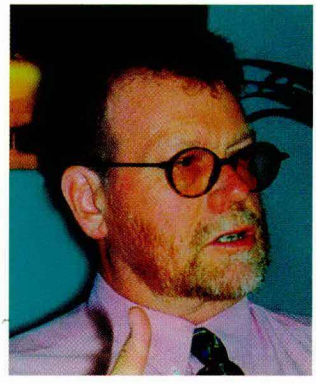
Conservation Science Newsletter is issued by Science Publications, Science & Research Unit, Department of Conservation, P.O. Box 10-420, Wellington.
Contributions are invited from our readership, and should be sent to the Editor, at this address. Opinions expressed are those of the contributors, and do not necessarily represent the policy of the Department of Conservation.

Department of Conservation
Te Papa Atawhai



Geoff Hicks
Manager Science & Research

It doesn't end here either. Skilful drafting of cabinet papers by Conservation Policy Division, based on detailed scientific monitoring by Southland Conservancy and Science & Research reviews, saw nearly $2.2 million won from Vote Biosecurity. These funds are to continue the work to contain, locally eradicate and prevent reinvasion of the aggressive introduced Asian seaweed *Undaria* in Big Glory Bay, Stewart Island. If this programme delivers to expectations, then this will be a world first in management of a marine bioinvader.

These highly successful initiatives have had a cast of many in their preparation and I wish to formally acknowledge the contributions made in these endeavours. Our success is in fact a clear vote of confidence in the skill and quality of our staff and in their ability to manage these very important conservation science matters.

Science & Research repositioning

A landmark piece of work that has involved all science managers and the Principal Regional Scientists, has been the development of a Strategic Plan for Science & Research. Linked closely to, and undertaken within the conceptual ambit of the department's Strategic Business Plan, Science & Research's own statement of intent has put us on a path to strengthen the position of science and research activities within the department as a whole.

The Review of Science & Research in 1997 revealed how well we performed in the delivery of science, but how poorly the department took up scientific information and used new, or newly synthesised, research findings. The prime focus of our Strategic Plan, to be delivered over the next 5 years, will be to consolidate and prioritise our research efforts and to strengthen the connection between the supply and demand ends of the department's business. For example, a critical dimension of the Plan is to improve transfer of science products and services and enhance the way these are taken up, applied and, as significantly, measured in terms of their efficacy to conservation. Procedures deriving from the Plan will move us closer toward a tighter match between the strategic needs of conservation managers and the provision of science tools, systems and information. By establishing clear ways to audit the contribution of science to the delivery of improved conservation, be in a better position to demonstrate the value of our efforts.

We have completed an alignment of in-house research investigations to objectives and targets of the Strategic Business Plan. Linking our science and research products to what has been purchased from the department by the Minister (and articulated through the instruments of the SBP and annual business plans), was a first step in achieving our wider goals of ensuring that the research we do is relevant and in line with the broader strategic directions of the department. Feedback I have had from people both inside and outside the department has praised this approach. The energy of all science and research staff involved in this exercise deserves special recognition.

Science & Research has made significant gains in the past year in its determination to create value within the department and to live up to our vision that '**Science Counts**'. But where next? What to look forward to over the next 12 months?

Our next challenges

Where we go now is dependent on embedding the detail of the objectives of the Strategic Plan. This will see:

- The implementation of a new project management system for science investigations
- A streamlined science planning process that consolidates research needs and reflects clearly enunciated national research priorities
- A process to engage with the Public Good Science Fund, participate in research portfolio negotiations and capture benefit from emerging science funding changes
- The implementation of a marketing action plan that will see improved communication and promotion of science products/services
- Improving relations with outside science providers/agencies
- Develop field-based practical systems to measure research contribution to the achievement of conservation outcomes.

Uppermost in many peoples' mind is where Science & Research might be located in the near future. A review of Wellington-based accommodation is underway, and it may well be that we will relocate closer to Central Regional Office and other Head Office units. Our own relocation of small numbers of, particularly new, staff to Northern and Southern Regional Offices is well in hand.

Finally, an issue that has occupied considerable time for me over the past year, and one that I rate amongst my top priorities over the next few months, is the matter of biosecurity. With increasing globalisation and the realities of a warming climate, biosecurity issues are assuming growing significance for this country. The potential risk to indigenous biodiversity from the establishment of unwanted organisms means that this issue will put greater pressure on the department. Ensuring we are structurally well organised and have a sufficient resource capability in this area, is critical if we are to fulfil our role in protecting New Zealand's unique biota from bioinvaders.

So its full steam ahead—headlong into a new Millennium. We are in good heart, and with the sustained commitment of Science & Research staff, are poised to make an even greater difference for conservation!

Geoff Hicks
Manager Science & Research

An illustrated guide to some New Zealand insect families

While many of the specialists may know which family to put insects into, the rest of us might like some help ... and I think this book is an excellent basic show-and-tell book. I would like one in my office, it is simple enough for me to leaf through when I have people who come to me asking about things they have seen or caught, and I can give people general reasons why I reckon what they have is a beetle (for example), which the book backs up! This is also the sort of book that they could help themselves with, by taking the time to flick through it, looking at the pics and murmuring phrases like 'well, I never knew that ...' or 'hey, I saw one of those on my path' or ... 'my goodness, that's what was on my pillow last night!'

Every Area Office and science classroom should have one! It makes people feel smarter because they can look at the pictures and still get answers. A great way also to get people interested in crunchy things they will have seen but not known what or how funky they were (and subsequently expressed disgust and trodden on it). Hopefully, with a book like this, at least they will know they were bitten by a *Hemideina crassidens* (p. 35) ... 'and it wasn't a stinger out the back, but an ovipositor.'

Author: Grant, Elizabeth A. Published by Manaaki Whenua Press

Published: May 1999 Size: 210 × 150 mm 196 p.

Price: NZ$32.50 (incl GST and postage)

DOC staff price: NZ$22.00 from Science Publications (see p.12 for address)

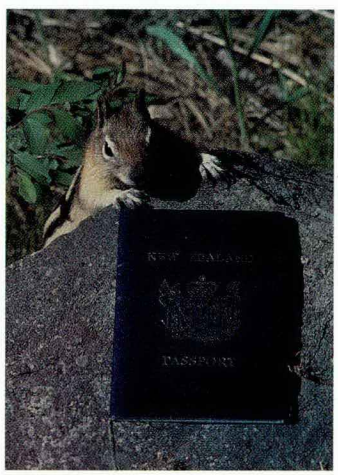
REPORTING BACK

Wilderness science in a time of change

Gordon Cessford reports on a conference he attended in North America.

Under this title, the National Wilderness Research Conference was held at the University of Mantana, Missoula, Montana, USA, from 23–27 May 1999.

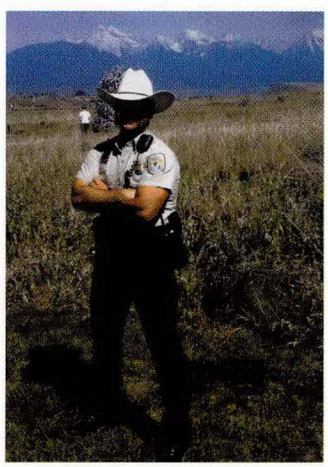
It has been almost 15 years since the first National Wilderness Research Conference brought together park researchers and managers from throughout the USA and other countries. The resulting *Proceedings* document has provided a key reference for visitor management research. Since that time, interest and participation in wilderness science and management has grown, definitions of wilderness and other protected natural areas have evolved, and the understanding derived from wilderness science has increased dramatically. Over this same period many of the fundamental premises underlying the management of people in protected natural areas have been revisited, and difficult new management challenges have emerged. To review current knowledge and understanding into the next century, a second conference was convened at the University of Montana—"Wilderness science in a time of change". It brought together over 400 delegates working in three main symposia:



Under-cover customs agent (US chipmunk) inspects a conference participant's passport?

- Science for Understanding Wilderness in the Context of Large Systems
- Wilderness for Science: A Place for Inquiry
- Science for Wilderness: Improving Management

The third symposium was of particular interest to the Science & Research Unit, closely reflecting its role in providing the best science input possible for underpinning the DOC mission. I attended this conference and made presentations on the research needs for managing the social impact issues that can arise on recreation visits, and on the specific social impacts of noise disturbance. While DOC lacks the staff and funding resources available to park agencies in the USA, our more integrated management structures and science input processes give us considerable advantages in applying science more directly to management needs. The material collated in the forthcoming *Conference Proceedings* volume, and the professional contacts established, will contribute towards the fulfilling of future science and management needs.



Law enforcement Ranger of the US Fish and Wildlife Service, on duty at the National Bison Range, just outside Missoula, Montana.

NOTES AND NEWS

Squeaky clean

New Scientist, May 1999, reports that John Orbell and his colleagues at the Victoria University of Technology in Melbourne, Australia, found that oil sticks to fine iron powder in preference to birds' feathers. Combing the feathers with a magnet removes the oil as well as the iron. 'Iron powder is cheap and plentiful, and both non-toxic and a non-irritant,' says Orbell.

The researchers tested the techniques on duck feathers coated with different grades of oils. The first coating and combing removed 88 percent of light crude oils from the feathers and over 60 percent of more viscous types. In all tests, however, 97 percent of the contaminants were removed after the procedure was repeated 10 times (*Marine Pollution Bulletin*, vol. 38: 219). 'We were quite amazed by the efficiency of the cleansing process,' says Orbell, who thinks that it may be more effective than existing treatments.

His team examined feathers cleaned with iron powder under a microscope and found that their tiny barbules were neatly aligned, as they should be. Drops of water rolled off the feathers, showing they had kept their water-repellent quality. In contrast, the barbules of feathers cleaned with detergent were entangled, disrupting the microstructure and impairing the feathers' ability to shrug off water. Magnetic cleaning is also much quicker than surfactant treatment, which involves gently scrubbing feathers before rinsing and drying. 'The dry cleaning process takes a matter of minutes,' says Orbell. As less handling is required, the procedure should be less stressful for the birds and allow more to be treated per hour.

The researchers are now developing a portable field unit so rescuers can remove the bulk of the contamination on the spot. Tim Thomas of the Royal Society for the Prevention of Cruelty to Animals welcomes the new development. However, he says that many severely oiled birds are coated with a dried, tar-like residue that may prove resistant to the iron powder treatment.

Contact: George Jones
telephone: (04) 564 8031
Email: jones.g@snz.govt.nz

The Ecosystems Group

Staff, Locations, Major Tasks and Responsibilities

Rod Hay

Location: Christchurch

Science Manager—Ecosystems

In the course of his career, Rod has transmuted from an ornithologist to a manager of colleagues specialising in a range of branches of conservation ecology. Following graduate studies on NZ robins and wrybills, he worked as a scientist with the Royal Forest and Bird Protection Society investigating the problems facing kokako, followed by a review of the conservation of birds in the tropical Pacific. He hasn't been able to tear himself away from any of these subjects during the course of a five-year career with DSIR followed by the last nine years with DOC. As well as science manager Rod also chairs the NZ CITES Scientific Authority.

Helen Braithwaite

Location: Christchurch

Weeds specialist

Investigations:

3104: Development of a weeds surveillance plan

Chris Buddenhagen

Location: Wellington

Weeds specialist; biosecurity advisor

Investigations:

2449: Information transfer for weeds

2480: Development of a national weeds database
2473: Broom control performance monitoring, for western Ruapehu
2472: Development of a protocol for monitoring of weed control
—— Biosecurity advice

Peter Dilks

Location: Christchurch

Predator and threatened species biologist.

Investigations:

3226: Testing the efficiency of options for stoat control during a stoat plague.
1937: Chatham Island Tui—status, population trends and breeding ecology

Julie Geritzlehner

Location: Wellington

Weeds specialist

Investigations:

2472: Development of a protocol for monitoring of weed control

Craig Gillies

Location: Wellington

Predator ecologist

Investigations:

3275: Evaluating the use of tracking tunnels used to monitor rodents as a method for monitoring mustelids
3274: Evaluation of Cholecalciferol as a new toxin for stoat control
3212: Seasonal differences in bait take by rats following aerial 1080 operations targeting possums
2343: Predator and rodent responses in managed northern forests

Elaine Murphy

Location: Christchurch

Programme Leader, Animal Pests. Predator biologist.

Investigations:

3306: New and innovative techniques for the control of stoats
2413: Black fronted tern and wrybill predation release study
3274: Evaluation of Cholecalciferol as a new toxin for stoat control
3111: Non-invasive determination of anti-coagulant effects in non-target and target species

Ralph Powlesland

Location: Wellington

Pest ecologist and ornithologist

Investigations:

2057: Evaluating the impacts of possum control operations on the morepork and the North Island robin and/or North Island tomtit
3245: Is distance sampling suitable for monitoring changes in bird numbers?
3158: Impact of an aerial 1080-carrot possum poisoning operation on kaka and kereru at Whirinaki

Geoff Rogers

Location: Dunedin

Programme Leader, Threatened Ecosystems; threatened plants botanist; threatened ecosystems specialist

Investigations:

2482: Ecology and conservation of dryland ecosytems supporting 'spring annuals'
1265: Threatened plants advice, liaison and services
3261: Maintenance of key forest tree species
2324: Measuring biodiversity - quantitative measures of plant diversity
3237: Restoration of the limestone cliff ecosystem

Alan Saunders

Location: Wellington

Mainland island technical co-ordinator; threatened species and restoration specialist

Investigations:

2259: Mainland island technical co-ordination

Theo Stephens

Location: Hamilton

Programme Leader, Conservation Assessment Systems; Acting Programme Leader, Freshwater and Estuarine Ecosystems; biodiversity specialist.

Investigations:

3135: Biodiversity assessment, Twizel proof of concept trial for measuring conservation achievement
—— Environmental performance indicators programme

Susan Timmins

Location: Wellington

Programme leader, Plant pests, fire & biosecurity; botanist

Investigations:

2467: Pampas grass control strategy and techniques for difficult habitats
3104: Development of an ecological weeds surveillance plan
2402: Bone seed and climbing asparagus
453: Monitoring the impact of grazing animals on DOC grazing leases in South Westland

3132: Climbing spindleberry (Celastrus orbiculatus): ecology and weed impacts
3248 Review of Plant Biological Control for Conservation purposes

David Towns

Location: Auckland

Programme Leader, Islands and Mainland Islands; herpetologist, restoration ecologist

Investigations:

2262: Identification of habitat requirements of Chevron Skink
1595: Tuatara: role as predators of lizards: risk assessment for island restoration
2264: Translocation of lizards and their key food items
2115: Biotic and abiotic effects on reproduction of female tuatara in the presence and absence of kiore
3236: Assessments of the effectiveness of conservation management on Korapuki Island

Clare Veltman

Location: Wellington

Senior Pest Ecologist; conservation ecologist

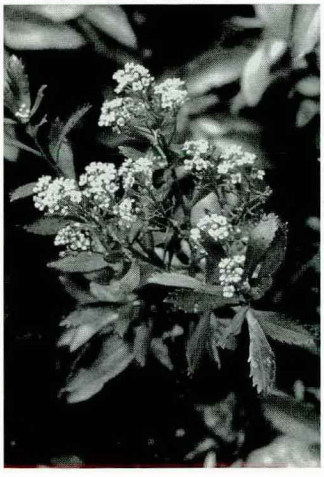
Investigations:

3223: Measuring, monitoring and reducing feral pig impacts
2528: Measuring benefits of possum control using leaf rollers
3110: Test of a potential long-distance lure for deer and goats

A new Recovery Group and plan!

Most of us are familiar with watercress and the small cress you can buy to add to salads and sandwiches. These are two of the many species of introduced cresses now present in New Zealand. But New Zealand also has a great diversity of native cresses—many of which are threatened. The 'coastal cresses'—so called because they share many features of their ecology and are threatened by similar factors—are perhaps the most seriously at risk of extinction.

Cook's scurvy grass (nau) *Lepidium oleraceum*, from Ngatutura Point, Port Waikato. *Photo: Peter deLange, from the DOC Collection*



One of the coastal cresses—*Lepidium oleraceum*—has, over the years, become known as 'Cook's scurvy grass'; although it was only one of a number of native edible greens that Captain Cook had his crew collect and eat to ward off scurvy during his exploration of New Zealand.

The collective Maori name for the coastal cresses is nau.

Several reasons have been proposed for the decline of coastal cresses; the most common being that animal browsing has restricted them to inaccessible herbivore-free sites (such as islands). More recently, it has been suggested that there may be a link between their distribution and nutrient enrichment by seabirds, but it is likely that a number of factors have contributed to their decline.

Because of these declines, a recovery plan has been developed which aims to restore and sustain the coastal cresses in their natural coastal habitats. Ten objectives have been defined as being necessary to achieve this. They include:

- Public and iwi involvement
- Research to clearly identify all the species of coastal cress
- Surveys of all cress populations
- Management, monitoring and restoration of all known populations to ensure their survival and increase in the wild
- Establishment of collections of all species
- Research to better understand the ecology of coastal cresses and to develop methods to control the factors that threaten them.

A Coastal Cress (Nau) Recovery Group has been formed to oversee and coordinate this work.

Copies of the 'Coastal Cresses (Nau) Recovery Plan' (*Threatened Species Recovery Plan 26*) are available from Publications Section, Science & Research, see p. 12 for address.

Pasture stream regains conservation values

Can streams recover from damage caused by pastoral development?
A report recently released by DOC records the latest three years of a unique long-term study of stream rehabilitation. This would be of particular interest to people contemplating restoring a stream on their own property to natural conditions.

The report describes water quality and vegetation changes in the Whangamata Stream from 1995 to 1998: the latest three years of a 24-year study. It includes colour photographs showing changes over time.
Whangamata Stream is an important trout-spawning stream on the northern side of Lake Taupo. In 1976, riparian strips were established to remove the stream margins from pastoral farming. Since then, the changes in stream water quality and in-stream and bank vegetation have been recorded in quite some detail.
The report notes that:

- Assisted plantings have sped up the process of rehabilitation. Where left alone, the original pasture has proved very resistant to invasion by native plant species.
- The streambank and in-stream vegetation initially acted as a 'nutrient filter' so less nutrient entered the lake. This effect has declined over the last decade.
- Wildlife, biodiversity, and fishery values have increased greatly over the last decade.
- Erosion and sediment inflow are negligible now the new vegetation has established.

The authors, Clive Howard-Williams and Stu Pickmere of NIWA, point out that stream rehabilitation cannot achieve all outcomes. At present the rehabilitation sequence is ideal for trapping sediments and developing a wildlife and fishery resource. However, if the primary objective is nutrient stripping, then other management options would need to be considered.
The study highlights the need for clear management objectives in restoration and rehabilitation programmes.

Lynette Clelland
S&R, Tory Street.

Details: Howard-Williams, C.; Pickmere, S.: Nutrient and vegetation changes in a retired pasture stream. (*Science for conservation 114*) 42 p. Price: $25.50 (incl. GST)

RESEARCH IN PROGRESS

Animals on the brink

Part 2—Key Species

Continued from last month. Matthew Lark looks at the detail of the new project he is developing. The project ideas are Matthew's, but his work is supported by The World Wide Fund for Nature, and DOC.

The species chosen as targets for extensive work within this project are recognised within the scientific and wider environmental communities as being precarious, critically close to extinction, or extremely vulnerable. They are ranked in two groups, of primary and secondary priority. The work on primary priority species will focus mainly on new research and national publicity, with some community involvement in specific areas of the country. The work on secondary species will focus strictly on community involvement in protection and on public access.

Most animals below are listed within established threatened species ranking programme, e.g. Molloy & Davis 1994, and the Red Data books published by the IUCN: (International Union for the Conservation of Nature). Those, which are thought to be very close to being extinct, are included because there is still sufficient enough scientific and popular debate about their existence to warrant further investigation. Investigation of species like the South Island Kokako and the New Zealand Bush-wren within this project, will aim expressly to reveal options for rediscovery and recovery, while also providing a better understanding of their dramatic decline within the past half century.

The list below includes several undescribed species which have been discovered very recently and which have no recognised priority ranking in any of the best-known classification systems. I have included a plus sign before each entry of this type in the list.

Terminology

The scientific names listed below will assist specialists more than sponsors, but I urge potential sponsors and general readers to read the common names on the right side of the column. Abbreviations used in the list are internationally recognised by biologists as reliable generic abbreviations for the description of new species:

n.sp.	new species (singular)
n.ssp.	new subspecies (singular)
n.spp.	new species (plural)
n.sspp.	new subspecies (plural)

Primary priority species

Mammals

Mammalia Chiroptera (Mystacinidae)

Mystacina robusta
greater short-tailed bat

Birds

Aves Procellariformes (Procellariidae)

\+ *Puffinus* n.sp. (solivagus)
white-breasted shearwater

Gruiformes (Rallidae)

Rallus pectoralis muelleri
Auckland Is. (Lewin's) Rail

Charadriiformes (Scolopacidae)

Coenocorypha aucklandica iredalei
Stewart Island snipe

\+ *Coenocorypha* n.ssp.
Campbell Is. snipe

Passeriformes (miscellaneous families)

Xenicus longpipes
bush-wren all sspp.

Callaeas cinerea cinerea
South Is. kokako

Turnagra capensis
native thrush, both sspp.

Reptiles

Reptilia Squammata (Gekkonidae)

Hoplodactylus kahutarae
black-eyed gecko

H. stephensi striped gecko

H. rakiurae harlequin gecko

H. nebulosus cloudy gecko

\+ *Hoplodactylus* n.sp.
Roy's Peak gecko

\+ *Hoplodactylus* n.sp.
Catlins blue-eyed gecko

\+ *Hoplodactylus* n.sp.
Takitiumu gecko

\+ *Hoplodactylus* n.sp.
Dansey's Pass gecko

\+ *Hoplodactylus* n.sp.
Cromwell Gorge gecko

\+ *Hoplodactylus* n.sp.
Cascade Plateau gecko

RESEARCH IN PROGRESS

In January 2000 Southland Conservancy, Department of Conservation, will be providing logistic and staff support to the first field trip of this project, in search of rare and endangered skinks.

+ *Hoplodactylus* n.sp.
Fiordland alpine gecko

Reptilia Lacertilia (Scyncidae)

Oligosoma striatum
striped skink

Oligosoma homalonotum
chevron skink

Oligosoma microlepis
small-scaled skink

Oligosoma stenotis
small-eared skink

+ *Oligosoma* n.sp. Garston skink

+ *Oligosoma* n.sp. Chesterfield skink

+ *Oligosoma* n.spp.
South Westland skinks

Insects

Insecta Orthoptera (Anostostomatidae)

Motuweta isolata
Middle Island tusked weta

+ *Motuweta* n.sp.
Raukumara tusked weta

+ *Hemiandrus monstrosus*
(equals) *Motuweta* n.sp.
Northland tusked weta

+ *Deinacrida* n.sp. Mt Cook giant weta

+ *Deinacrida* n.sp.
(equals) *D. talpa* Mt Fariday weta

+ *Deinacrida* n.sp.
(equals) *D. mangakura* bluff weta

Hemideina trewicki
Trewick's tree-weta

Hemideina ricta
Banks Pen. tree-weta

+ *Hemiandrus* n.spp.
southern Westland, Fiorland, and western Otago ground wetas

Note 1. Further orders of invertebrates will be added to the list when time becomes available to create definitive basic lists which represent them.

Note 2. A secondary priority species list is currently being drawn up.

Peripheral research priorities

As the project develops, and if interest is sufficient, some other investigations of a secondary priority may be initiated on the following:

- Undescribed and little known members of the families Carabidae, Cerambycidae (Coleoptera Insecta).
- Status of kakapo (*Strigops habroptilis*), on the North and South Island mainland, especially twentieth century accounts and descriptions and relict distribution at present.
- Present status and history of remnant sea-bird populations on the north and South Island mainland; specifically of shearwaters, Procellaria and Ptedroma petrels and storm petrels.
- History, status and possible recovery of mainland frogs of the family Leiopalmatidae on the South Island mainland.

Publicity sheets detailing several of the key species, along with photographs and profiles of current work, are available from on request.

Please forward all enquiries about this project, or any of its parts to:

Matthew Lark
Sound Sense Spoken Productions
23 Otaihanga Road
Paraparaumu
Telephone: 04 298-2455

www.wwf.org.nz is the web page that Matthew has set up for WWF, give it a try; it's title is *Animals on The Brink*.

NEW PUBLICATIONS

New from Biodiversity Recovery Unit

Threatened Species Occasional Publications

Dopson, S.R.; de Lange, P.J.; Ogle, C.C.; Rance, B.D.; Courtney, S.P.; Molloy, J. 1999. **The conservation requirements of New Zealand's nationally threatened vascular plants**. *Threatened Species Occasional Publication 13*. 194 p. $20.00 incl. GST.

This publication details the highest priority recovery actions required to halt the decline of New Zealand's 223 most threatened vascular plants. A profile of each plant includes details of threats, conservation work to date, priority sites for survey, objectives and priority sites for monitoring, research questions, and high priority management needs.

Available from DOC Science Publications, contact details are on p.12.

NEW PUBLICATIONS

New from Science & Research Unit

Science for conservation

Taylor, C.N.; Gough, J.; Warren, J.; McClintock, W. 1999. **Social and economic impacts of Kahurangi National Park**. *Science for Conservation 119*. 62 p. $22.50 incl. GST.

This report considers the social and economic effects of Kahurangi National Park on local economies, tourism and recreational use, as well as management issues and interactions with communities.

Lawrence, B.L.; O'Donnell, C.F.J. 1999. **Trap spacing and lay-out: experiments in stoat control in the Dart Valley, 1992–95.** *Science for Conservation 118*. 13 p. $12.50 incl. GST.

Trials of trap lay-outs showed control of stoats using perimeter trapping around a 100 ha block can be as effective as intensive grid trapping with 100 m trap spacing. Trials were undertaken while stoat densities were low, and the implications of this are discussed.

Langer, E.R.; Davis, M.R.; Ross, C.W. 1999. **Rehabilitation of lowland indigenous forest after mining in Westland.** *Science for Conservation 117*. 41 p. $22.50 incl. GST.

An investigation of rehabilitation techniques for native forest illustrated the difficulty of establishing native tree and shrub species on unmodified mine spoils where there had been minimal soil replacement, and indicated the necessity of correct site preparation techniques to overcome such factors as poor drainage. Management lessons are discussed.

Harris, R.J.; Read, P.E.C. 1999. **Enhanced biological control of wasps.** *Science for Conservation 115*. 39 p. $12.50 incl. GST.

Sphecophaga vesparum burra (Hymenoptera: Ichneumonidae) has been released in large numbers at two sites as a biological control agent for wasps. Measurements need to be made of the proportions of spring nests killed by parasitoid attack to be able to predict more accurately the eventual impact of *Sphecophaga*.

Howard-Williams, C.; Pickmere, S. 1999. **Nutrient and vegetation changes in a retired pasture stream. Recent monitoring in the context of a long-term dataset.** *Science for Conservation 114*. 41 p. $25.50 incl. GST.

This report records water quality and vegetation changes in the Whangamata Stream, Lake Taupo catchment from 1995 to 1998. The data represent the latest three years of a 24-year study on changes to this pasture stream since riparian strips were established in 1976, to retire the margins of the stream from pastoral farming.

Threatened Species Recovery Plans

Beauchamp, A.J.; Butler, D.J. King, D. 1999. **Weka (*Gallirallus australis*) recovery plan, 1999–2009.** *Threatened Species Recovery Plan 29*. 94 p. $15.00 incl. GST.

This plan aims to restore all living weka taxa to their traditional range as a significant component of mainland and island ecosystems. Twelve objectives are identified as necessary to achieve this aim.

Townsend, A.J. 1999. ***Pittosporum patulum* recovery plan, 1999–2009.** *Threatened Species Recovery Plan 28*. 12 p. $15.00 incl. GST.

This plan identifies four goals required to achieve self-sustaining populations of *Pittosporum patulum* in the wild, throughout the natural range of the species.

Towns, D.R. 1999. ***Cyclodina* spp. skink recovery plan**. *Threatened Species Recovery Plan 27*. 69 p. $15.00 incl. GST.

Reviews the conservation status and recovery actions required for *Cyclodina* skinks and sets broad recovery objectives for the next ten years.

Science Posters

Buddenhagen, C.; Geritzlehner, J. 1999. **Bringing science to weed control: monitoring methods for managers**. *Science poster 26*.

Gillies, C.; Leach, M.; Theobold, S.; Coad, N.; Herbert, T.; Apeldoorn, J.; Graham, P. 1999. **Intensive pest mammal control at Trounson Kauri Park**. *Science poster 25*.

Murphy, E.C. 1999. **Stoats as conservation pests in New Zealand**. *Science poster 24*.

Posters are available in the following sizes:
AO ($50.00), A1 ($20.00),
A2 ($10.00), A3 ($2.00).

NEW PUBLICATIONS

Publications are available from: Sarah Vaughan, DOC Science Publications, Department of Conservation, P.O. Box 10-420, Wellington. email: svaughan@doc.govt.nz http://www.doc.govt.nz

Conservation Advisory Science Notes

Ward-Smith, T.; Potter, M. 1999. **Response of wild kiwi to orange and cinnamon lured possum baits.** *Conservation Advisory Science Notes 259.* 9 p. $3.50 incl. GST.

Richardson, T. 1999. **DNA fingerprinting of maire, *Nestegis cunninghamii* tissue.** *Conservation Advisory Science Notes 258.* 4 p. $3.50 incl. GST.

Clayton, J.S.; Wells, R.D.S. 1999. **Some issues in risk assessment reports on grass carp and silver carp.** *Conservation Advisory Science Notes 257.* 14 p. $3.50 incl. GST.

Clayton, J.; Rowe, D.; McDowall, R.; Wells, R. 1999. **Cumulative impacts of multiple grass carp releases.** *Conservation Advisory Science Notes 256.* 11 p. $3.50 incl. GST.

Blezard, R.H.; Burgess, J. 1999. **Observer reports from squid-jigging vessels off the New Zealand coast 1999.** *Conservation Advisory Science Notes 255.* 7 p. $3.50 incl. GST.

Hamilton, W.J. 1999. **Potential threat of hedgehogs to invertebrates with a restricted range, Otago region**. *Conservation Advisory Science Notes 254.* 6 p. $3.50 incl. GST.

Shaw, W.B. 1999. **Options for *Spartina* control in Northland**. *Conservation Advisory Science Notes 253.* 10 p. $3.50 incl. GST.

Donovan, B.J. 1999. **Signs of South Island kokako *Callaeas cinerea* near Abut Head, South Westland**. *Conservation Advisory Science Notes 252.* 13 p. $3.50 incl. GST.

Thorsen, M. 1999. **Resurvey of Archey's frogs, Mt Moehau, 24 December 1998**. *Conservation Advisory Science Notes 251.* 4 p. $3.50 incl. GST.

Wilson, K.J. 1999. **Status and conservation of the sooty shearwater colony at Mt Oneone, Wanganui River, Westland**. *Conservation Advisory Science Notes 250.* 7 p. $3.50 incl. GST.

Kelly, S. 1999. **Sugar Loaf Islands Marine Protected Area monitoring programme**. *Conservation Advisory Science Notes 249.* 10 p. $3.50 incl. GST.

Keith, C. 1999. **Tori line designs for New Zealand domestic pelagic longliners**. *Conservation Advisory Science Notes 248.* 14 p. $3.50 incl. GST.

Cessford, G.R.; Dingwall, P.R. 1999. **An approach to assessing the environmental impacts of tourism**. *Conservation Advisory Science Notes 247.* 18 p. $3.50 incl. GST.

Molloy, J.; Walshe, K.; Barnes, P. (Comps) 1999. **Developmental stages of the underwater bait setting chute for the pelagic longline fishery**. *Conservation Advisory Science Notes 246.* 34 p. $3.50 incl. GST.

DOC Technical Series

Booth, K.L.; Jones, N.C.; Devlin, P.J. 1999. **Measuring the effects of aircraft overflights on recreationists in natural settings.** *Department of Conservation Technical Series 18.* 46 p. $22.50 incl. GST.

Part one is a detailed implementation guide for monitoring the effects of aircraft activity on recreationists in natural settings. Part two outlines the issues and concepts explored during the development of the monitoring method and evaluates potential approaches.

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