

Loss of habitat is often irreversible, particularly in the short-term, and the prevention of habitat loss is often easier than controlling the insidious effects of predation and competition. We identified three threatened habitat types which are declining rapidly that are important for threatened taxa:

- coastal herbfields and dunes
- freshwater wetlands
- lowland shrublands.

It is no co-incidence that these habitats are also threatened ecosystems that were severely reduced in historical times. Nine-tenths of New Zealand's original wetland, for example, has been lost.

A high priority will be to prevent any further loss of habitat of the 11 taxa which we expect will have major threats to their habitat in the next ten years. All of these taxa are plants and they are endangered from other factors also.

**T**HE SPRS can also be used to identify key sites for species and habitat protection. Although habitat may not be declining for a taxa, neither might it be legally protected. We found that ten percent of threatened taxa did not have any legal habitat protection. The highest proportion were freshwater fish, while the highest numbers were plants. In contrast, more than half of our threatened land snails, insects and reptiles/amphibians have legal protection on most or all of their habitat.

Even when habitat sites are legally protected the threatened taxa present can be harmed by predation and competition. Often a protection programme for a species, such as animal or plant pest control, or water level restoration are needed in addition to protection of habitat.

Apart from the three declining habitat types listed above, there are other important habitats which have little protection. Marine areas, for example, are critical due to the high number of seabirds. Very few marine areas important for seabirds are protected, and seabirds are not protected beyond 20 kilometres at sea.

The habitats most important for threatened plants, namely lowland shrubland, coastal herbfields and freshwater wetlands are the most severely reduced in area and are under-represented in the conservation estate. In contrast, forested habitat of land snails is more abundant and better protected.

We also mapped the distribution of endangered and vulnerable taxa to understand any geographical patterns. We expected some concentration of threatened taxa because there are many endemic plants and animals in New Zealand which only occur in one or two areas.

What we found was that a third of threatened taxa – and half of those in category A – have only one population, and are found in very restricted areas. As would be expected, snails, plants and insects have the narrowest geographic range. Only 11 of the taxa (nine of them plants) are also found outside New Zealand in a threatened status.

With many threatened taxa having few populations and restricted ranges, our next task was to see if these taxa were concentrated in any of New Zealand's ecological districts. We found an uneven distribution of threatened species with highest numbers in the Te Pahi, Chatham Islands and Cook Strait ecological districts. The high numbers of threatened taxa in some districts have tended to escape the notice of conservation policymakers and managers. This needs to be corrected and it also emphasises the need to target conservation efforts across the country according to national needs first and regional needs second.



*The chickweed, Thelyphyton billardieri, was once widespread on beaches in New Zealand and Tasmania. It has virtually disappeared from everywhere, except the Chatham Islands.*

Habitat destruction and the introduction of exotic species have influenced present-day patterns of regional biodiversity. Some areas have become refuges for remnant populations. In these areas the distribution of threatened taxa does not always represent a centre of endemism and biodiversity, but rather a history of chance survival of vulnerable species.

In order to protect and maintain its biodiversity New Zealand must protect sites that are rich in species and have diverse ecosystems. Where these sites all occur within any one ecological district, such as Te Pahi in the far north and the Chatham Islands, these are key areas on which to focus protection efforts.

**A**NOTHER ROLE for the SPRS will be to enable researchers to identify key areas for the study of threatened species that are likely to attract research funding. DoC and conservation organisations such as Forest and Bird can focus on raising the profile of some endangered but forgotten species and their habitats.

The SPRS can also provide a better focus for the various commercial sponsorships for threatened species. Forest and Bird, the New Zealand Conservation Authority and DoC are attracting considerable commercial sponsorships for such species. In the two years it has been operating, the Threatened Species Trust has generated over \$2 million for kakapo, kokako and kiwi – all high priority threatened species. Sponsors are more likely to support recovery programmes if their species can be shown to be particularly important and if they can see that the conservation managers have got their priorities worked out with strategies for assisting species in serious decline.

**F**OR TOO LONG in New Zealand species and habitat conservation has had no unified identification of threats to species. We now have a process where profiles of threatened species, threat factors and their relative importance can be used to guide conservation efforts.

Identification of key taxa and habitats will aid the protection and maintenance of New Zealand's biodiversity. At the same time this should not detract from efforts to protect the more common species and representative ecosystems and communities that are the backbone of New Zealand's natural biodiversity. ♦



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*A technical report on the Species Priority Ranking System is available from DoC's Head Office, PO Box 10-420, Wellington.*