

Future Focus on emerging pests and invasive organisms

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Understanding current and potential distribution of pests and invasive organisms is extremely important if we are to assist the community in successfully mitigating their future impacts. Combined with knowledge of their risk of spread, and their impact on the Region's values and arrival points, we need to understand how future climate change may increase opportunities for organisms (both in Canterbury already and future threats) to become more problematic.

Over the past two years Environment Canterbury has taken the first steps towards altering the focus of the organisation's pest management programme, placing greater emphasis on understanding potential pest threats, especially those placed at the beginning of the pest invasion curve. Spending resources on interventions at an early invasion stage before widespread establishment of pests and invasive organisms is the most efficient and effective way of making a significant difference to whether these organisms will have ongoing future impacts. Imagine if the threat wilding conifers pose to our environment today had been identified at an earlier stage of their establishment in Canterbury. Actions taken to eliminate them would have cost a fraction of the initial \$100 million being spent currently by central and local government.

Understanding pest invasiveness, impacts and potential climatic scenarios helps to prioritise which organisms pose the biggest risks, and where to focus limited resources to where early detection and intervention will be most efficient and effective. Environment Canterbury has redirected some funding away from the long-term management of widespread pests and, through a recent Long-Term Plan process, increased funding for future focused work.

This future focus includes funding for research and development, surveillance, and identifying and attempting to manage high risk pest pathways, and for ramping up an emphasis on property level biosecurity and pest hygiene initiatives. Canterbury is very fortunate to have Crown Research Institutes such as Manaaki Whenua – Landcare Research and AgResearch in addition to other botanical and biological experts located within the region. Having independent non-biased science support will be critical in making sound pest management decisions in the future.

Biosecurity staff have also recently provided information and advice to the Ministry for Primary Industries (MPI) on an Emerging Weeds project, to the Parliamentary Commissioner for the Environment on the management of invasive weeds, and to an MPI-led project to develop an Integrated Farm Plan – Biosecurity module. Collaboration across the country can only enhance pest management initiatives.

Environment Canterbury is also encouraging people to protect themselves from pest incursions, and to prevent the spread of pests from their land to other properties by simple actions such as limiting entry points, signage advising contact before entry, and keeping vehicles and machinery clean on and off property.

It is important that landowners and visitors to properties are familiar with some of the less known pests and invasive organisms and that they report any strange or new organism that they see. Environment Canterbury is promoting reporting of plants and other organisms found by members of the public through the "Find a Pest" phone application. This application provides a platform for citizens to report unusual finds of weeds and insects, etc.

A new position is being established, Biosecurity Advisor - Invasive Organisms, to actively gather information to assist the implementation of new programmes focused on future pest threats.

Through these new initiatives, collaboration with a Technical Advisory Group (currently being formed), and bolstered Surveillance Investigation and Pest Pathway management initiatives, Environment Canterbury is focusing on tomorrow's potential biodiversity, production, recreational and cultural pest threats (Fig. 1, p. 67).

If you would like to be involved with the new Pest Management Technical Advisory Group, please contact Environment Canterbury by emailing biosecurity@ecan.govt.nz



Figure 1. John Taylor and his dog Wink during surveillance operations for *Spartina* in the Avon – Heathcote Estuary. (Photo: ECan photo library).

Ex situ threatened calcicoles of Canterbury: developing a limestone collection in the Christchurch Botanic Gardens

Luke Martin

Christchurch Botanic Gardens

While often seen as only a pretty amenity park, the Christchurch Botanic Gardens has always grown a range of threatened plants for conservation purposes and for display to the public. Many curators and managers of the Christchurch Botanic Gardens, and earlier of the Christchurch Domain, have been committed to conserving rare and endangered species within its plant collections. These priorities were formally laid out by David Given in the *Christchurch Botanic Gardens Management Plan 2007*, including the objective “To grow a wide range of New Zealand subalpine and montane plants, including those that are rare and endangered, with an emphasis on plants of the Canterbury region”. A sub-Policy adds that “A New Zealand limestone garden shall be developed in the New Zealand section... *Comment:* New Zealand limestone plants contain a number of rare and attractive species, many of which are at threat in the wild”. Lawrie Metcalf had already imported limestone rocks into the subalpine area of the Cockayne Memorial Garden with this very intention.

Canterbury is home to a number of endangered species with 17.5% of Canterbury’s threatened flora existing in limestone ecosystems. The effects of browsing and the excluding effect of exotic pasture grasses and weeds have pushed many plants to their limits. Tiny populations of some of the country’s most critically endangered species occur in Canterbury and a number of these species only occur at one location. Multiple *Ranunculus* spp. (including the Castle Hill buttercup), *Gentianella* spp. and *Geranium* spp. are all extremely vulnerable to