

# Environment Canterbury: **Biosecurity Programme Update**

---

## REGIONAL UPDATE – AUGUST 2022

### TE ARA KI MUA

Te Ara ki Mua is an adaptive framework to manage wild goats, deer, and other wild animals (pigs, tahr, and chamois) which will receive \$30M of government funding over 4 years.

The framework supports the implementation plan for Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy.

The key action is to reduce browsing pressure to support ecosystem resilience by:

- improving monitoring, delivery, and evaluation of wild animal management
- coordinating efforts and enhancing capacity across the people, organisations, and agencies involved in wild animal management.

Twenty focus areas guide organisations in their efforts toward the key action. The focus areas also set the direction for a new national programme in DOC.

Te Ara ki Mua describes a range of values people may hold about wild animals. The focus areas are designed to respect these values to sustain outcomes over time.

<https://www.doc.govt.nz/globalassets/documents/conservation/biodiversity/te-ara-ki-mua-framework.pdf>

### GREAT WILLOWHERB 2021 - 2022

Operations complete across all sites; key events include:

- All major sites are showing a significant reduction in GWH population from 50% (Pegasus Town) to 90% (Amberley Beach Quarry) when compared to the 2020/21 season population.
- Notification was received of a new site in a degraded wetland north of Culverden. Site has been surveyed and all plants treated; to be managed by landowner.
- Small riverbank sites in the red zone that were detected and treated in 2021 have no recovery in June 2022.
- Helicopter treatment over a site south of Amberley Beach was highly effective; significantly reducing both GWH population and operational costs.

## **BIOSECURITY ACT REVIEW - UPDATE**

The Ministry for Primary Industries (MPI) has advised the Biosecurity Act review discussion document has been finalised, MPI will be seeking public feedback. This is now likely to occur in late 2022.

## **REVIEW OF CAT MANAGEMENT OPTIONS**

Place Group Ltd has completed a report addressing the impacts of feral and domestic cats on biodiversity on a regional scale.

In 2020 the New Zealand Cat Management Strategy Group (NZCMSG) released their report outlining recommendations and supporting evidence to achieve humane management of cats in New Zealand to protect both cat welfare and the environment.

The Place Group report recommends a potential programme structure could be utilised to develop and implement regional strategies and resulting pilot projects. This structure has been developed based on the recommendations contained in the literature reviewed as part of the report (including the NZCMSG Report), as well as knowledge and experience of successful national and regional programmes in the New Zealand biosecurity sector.

Place Group Ltd are happy to assist the Regional Sector with the development of a regional cat management strategy (or strategies) and pilot projects for protecting high value biodiversity sites.

It is recommended that pilot projects are trialled as part of any strategy before expanding to a regional basis, and these will form part of a cat management programme. This will keep objectives targeted and achievable, allow issues to be addressed, and for key learnings from these projects to be used in refining a model for regional rollout.

## **FIND-A-PEST**

Environment Canterbury is supporting and promoting Find-A-Pest (FAP) through the national Biosecurity Working Group and directly. Find-A-Pest is a single point database for all pest observations in New Zealand. As pointed out in the PCE report in 2021, NZ would benefit from a single pest database to better enable tracking of exotic species.

The FAP database can be utilised by all organisations, and in a variety of ways - including integration through Application Programming Interfaces into GIS maps (e.g. Canterbury Maps). Organisations can see pest data from other regions to monitor potential spread and for early intervention

Find-A-Pest is directly connected to Biosecurity New Zealand, so all observations of concern get sent straight into their systems to be dealt with promptly.

Unlike other apps, FAP focuses purely on pest species and provides educational resources to help users learn about pests in their region and/or industry to help them spot when something is unusual. It is quick and simple to add more species or change what pests display in different sectors within the app.

## **SPACE INVADERS – Parliamentary Commissioner for the Environment Report**

Simon Upton recently met with Biosecurity’s national special interest operational group (Biosecurity Working Group). Representatives from each Council were asked what new initiatives have been implemented since the report became public.

Environment Canterbury provided feedback to this question by outlining the work that was already underway in relation to our future focused approach to managing threats early in the pest invasion curve and the work to obtain and review species to determine priorities for emerging weeds.

## **FOCUS ON FUTURE – INVASIVE SPECIES** (by Morgan Shields)

An extensive list of 1070 invasive species that are present in New Zealand has been collated. These species have been suggested as causing or potentially causing negative impacts in Canterbury now or in the future. The species recorded can be further categorised as follows; plants (873), insects (50), mammals (31), birds (15), fish (11) and other organisms (68) across terrestrial, aquatic, and marine ecosystems.

An initial assessment process is being drafted. The final process will be confirmed after considering advice from a Technical Advisory Group which is yet to be selected.

## **PLANT SALES** (as reported by Morgan Shields, Biosecurity Advisor – Invasive Species)

This year Environment Canterbury began expanding the Plant Sales and Propagation programme from three MPI warranted officers to involve two officers in-training and a Plant Educator who accompanies the officers to aid in plant identification.

In addition to increasing capability, Environment Canterbury is also expanding the range of plant outlets inspected to involve online sales and community markets which will continue in 2023. Unfortunately it has been a slower than anticipated start, with the impact of Covid-19 and training delays limiting the number of inspections undertaken.

There were 237 plant outlets identified in Canterbury for this project in 2021 – 2022, including cut flower growers and community markets.

There were 48 inspections carried out, mostly in June, as well as one Trade Me auction and 13 Facebook advertisements that were relayed to MPI. One case of confirmed non-compliance was managed involving a plant identified under the National Pest Plant Accord (NPPA) programme.

The plant sales surveillance programme will expand in 2022 - 2023 to include inspections of community markets, fetes, roadside stalls and online plant sales with guidance from MPI.

## **BIOSECURITY DETECTOR DOG IN TRAINING**

Biosecurity officer Lauren Piket is currently training a dog to be capable of detecting plant pests.

Biosecurity dogs will greatly improve the surveillance capability of the Environment Canterbury biosecurity team. Detecting pests before they become established improves the chances of successful eradication, limiting negative impacts of the pest, and saving significant costs and time in the long run.

## **SOUTHERN BIOSECURITY PARTNERSHIP**

Environment Canterbury, together with Otago and Southland Regional Council are developing a Southern Biosecurity Alliance to develop joint work programmes where efficiencies can benefit all parties on matters such as data sharing and management, processes and protocols, detection tools, plan development, and cross border business processes.

The partnership will progress over time, a 'whole of South Island' collaborative approach.

At a recent meeting of the partnership, discussion identified the following next steps:

- Joint harmful species list to be prioritised and strategized
- Pathway Management initial planning
- Internal Joint Behaviour Change Campaign for vehicle hygiene
- Review RPMPs and align all three to be based around ECans CRPMP
- Share plan effectiveness methodology (share approaches and make consistent)
- Info sharing opportunities – on going
- Annual Southern Biosecurity Meet
- Annual Officer swap
- Marine Pathway Management.

## **INCURSION RESPONSE GUIDELINES**

A sub-group of the Biosecurity Working Group has developed a regional document designed to give Regional Authorities high level guidelines on incursion response processes. The final draft will be available soon and will require a more detailed procedure to be put in place at Environment Canterbury.

## **DISCUSSIONS WITH ZONE TEAM AND BIODIVERSITY**

There is an organisational shift for sections to work collaboratively, and where there are synergies, to combine resources. To ensure there is a good understanding of Biosecurity and how we work, a 101 on Biosecurity was given to leaders of these sections. It was highlighted that Biosecurity is primarily pest led across the region rather than site led within specific areas.

## **FERAL PIGEONS**

Recent meetings have been held to discuss the potential for a feral pigeon control programme which would see a collaborative approach to Canterbury's feral pigeon problem. This would include District Councils, Corrections, Universities, Christchurch International Airport and Industries (industrial areas, farmers, inter-city businesses etc).

Control would be primarily through feeding pigeons at strategic locations with corn laced with an intestinal medicine which also has a contraceptive effect. This method has been used in metropolitan cities throughout the world and resulted in reductions in population densities of 50% within 12 months of programme commencement.

Environment Canterbury has offered to provide regional leadership through coordination and facilitation.

## **SPREADING OF SHINGLE CONTAINING PEST SPECIES**

An ongoing issue concerning the use of shingle obtained from riverbeds and quarries where seed from pest species proliferates, has been raised again with Environment Canterbury. The main concern centres on the use of shingle in roading repairs, construction, and maintenance. Often this practice results in pests infesting previously clear roads and if left uncontrolled impacting further by spreading into adjoining land.

Knowingly moving a pest or any part of a pest including seed is illegal under the provisions of the Biosecurity Act 1993.

Discussions are to be planned within ECan to determine what options there are to reduce the potential spread of pest seeds before any discussions occur between Environment Canterbury and roading authorities.

## MACHINE LEARNED ARTIFICIAL INTELLIGENCE TRIAL TO IDENTIFY NASSELLA TUSSOCK

Lynker Analytics Ltd have been contracted to the design a machine learning model to classify Nasella Tussock from vertical aerial photography acquired over a 800-hectare property in Canterbury.

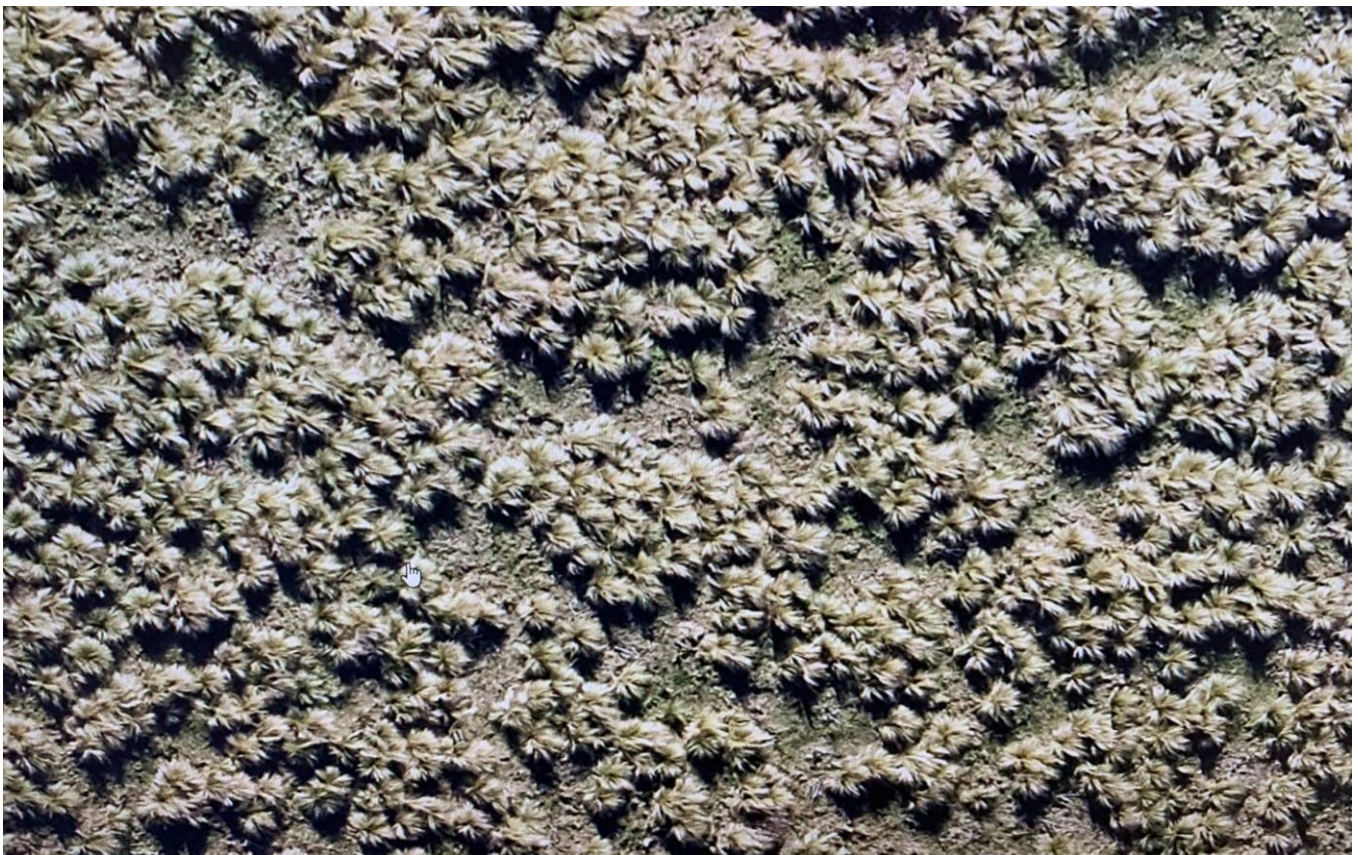
The scope includes designing, training, testing, and running machine learning models to achieve semantic segmentation of the pest plant as a single class against surrounding land cover class(s).

The project will use vertical aerial photography provided by the Client, with a ground sample distance of 0.025m and 0.05m, captured in June 2022.

A brief data quality and accuracy report will also be prepared and delivered with the data. This will detail project outcomes, quality assessment activities and metrics and be provided as an assurance of both quality and completeness. Upon delivery, ownership of the modelled data will be vested with ECan.

If successful it may be possible to assist land occupiers in future with identifying Nassella tussock infestations in areas where it was not previously known to occur. It may also provide an opportunity to assist land occupiers in areas where nassella is known to occur, to identify large infestations prior to annual control operations commencing.

A potential increase in efficiency may be likely depending on the results of the trial.



*Aerial image showing dense nassella tussock ground coverage.*

## **EDUCATIONAL ACTIVITIES – IN BRIEF** (Rich Langley)

Planning is underway for education and engagement activities for 2022/2023.

Biosecurity staff plan to attend and exhibit at A&P shows in Amuri, Ellesmere, Banks Peninsula, Kaikoura and Methven this financial year, to raise awareness about pests in low distribution but with huge potential to spread. We plan to attend the South Island Agricultural Field Days to talk about production pests and Farm Biosecurity. And to attend events to promote 'Check Clean Dry' including the Take-A-Kid Fishing event organised by Fish and Game, and the NZ Agricultural Show in Christchurch.

A long list of community stakeholders has been compiled to assist our Biosecurity section with increasing the reach of our engagement activities. We will be communicating with these stakeholders and asking them to assist us with helping keep the community informed about our programme and potential threats.

With the current Biosecurity Advisory Groups coming to the completion of their first three-year term, an opportunity to join the new groups starting early 2023 will be widely advertised and open for applications. Environment Canterbury has greatly appreciated the dedication and input from current members and wish to thank them for their time, energy and service.

Regional report prepared by

**Laurence Smith**

Principal Advisor - Biosecurity

## **SCROLL DOWN FOR THE LOCAL UPDATE**

## LOCAL UPDATE – AUGUST 2022

### RECENT OPERATIONS

Field operations have been severely disrupted over recent months due to unsettled weather bringing regular rain and heavy snow. The focus over the last few months has been on completing outstanding follow-up inspections for gorse, broom and rabbits along with dealing with a new nassella tussock site in the Waitaki Valley.

Importantly, work planning was also undertaken at the start of the financial year to ensure efficient project delivery as spring and early summer is a very busy time of year for plant pest management. Contractors are generally also in short supply, so a focus was put on getting contractor work booked early this year, which has mostly been completed already.

#### **Bell Heather (Sustained Control)**

Bell heather, as the name suggests, is a species of heather that escaped from a garden and established in the Hunters Hills. There is only one known site in Canterbury, which stretches across two high country properties in South Canterbury. Focus this year is shifting more towards surveillance and pathway management as control efforts haven't proven to be very effective in reducing plant numbers and distribution.

Search will be undertaken in the immediately surrounding area during November. Subsequent control work will be planned based on the search/surveillance data. Additional to this, ECan staff will work closely with the land occupiers to develop a robust pathway management programme to minimise the potential for spread. This may include intensive control work along farm tracks to avoid vehicle contamination. This work will commence during spring.

#### **Nassella Tussock (Sustained Control)**

Nassella tussock is an unpalatable grass species that occurs throughout Canterbury, however, predominantly in North Canterbury where it has been a huge issue in the past. There are currently 38 properties in South Canterbury (including Kurow and the Mackenzie regions) known to have nassella tussock with vast areas in the region susceptible to nassella establishment. Nassella is categorised in the Sustained Control Programme in the Regional Pest Management Plan, aiming to ensure land occupiers manage nassella tussock on their land to prevent spread and ensure population levels do not increase.

Land occupiers are required to have completed nassella tussock control in the South Canterbury region by the 30<sup>th</sup> of September, after which property inspections are undertaken to confirm compliance with the Pest Management Plan rules. Early inspections have, however, started in August on properties who



have confirmed that control has been completed. Late-September and October is expected to be a very busy time for Officers to ensure all properties are inspected prior to seeding.

### **Feral rabbits (Sustained Control)**

Annual population trend monitoring is undertaken across the Canterbury Region to monitor rabbit population levels regionally. This work has been ongoing since the 1990's. This year's trend counts kicked off in early August and is expected to be completed by December. This monitoring work is contracted out and therefore doesn't require much council resourcing.

There are currently 19 properties under Notice following last year's rabbit compliance inspections. Rabbit control operations have been severely impacted by the weather during winter, however. Property re-inspections will be undertaken from September onwards to confirm population levels and any subsequent control or enforcement work.

### **African Love Grass (Progressive Containment)**

African love grass is a tussock-like, clump-forming perennial grass with low palatability to stock that rapidly invades arid areas. It was initially introduced to the Mackenzie for research as stock feed. There are a handful of smaller sites in Southern Canterbury around the Mackenzie and Waitaki, however, the main site is located in the Omarama area. Recently, however, additional sites were discovered in North Canterbury along state highways, causing concern that this pest may have been transported.

The focus for this pest is currently on managing pathways, predominantly from the main site, along with control efforts that will be occurring pre- and post-Christmas. Investigations are underway to find out how the pest got up to North Canterbury. Biosecurity Officers are also working very closely with the landowner and occupier in an attempt to create an understanding of the severity and potential risk of this pest plant and main infestation site.

### **Wild Russel Lupin (Sustained Control)**

Wild russell lupin has been in the Pest Management Plan for some years, however, this is the first year that ECan will be acting on the rules. Waka Kotahi (NZ Transport agency) submitted a complaint after undertaking control along road margins, but where neighbouring landowners haven't been controlling infestations on the adjoining boundary.

Biosecurity Officers will shortly be communicating with landowners around this to encourage control of wild russell lupin under the good neighbour rule. ECan is taking an initial approach involving education and advice before enforcement as this is the first year of acting on the rules for the pest. This work will be undertaken during early spring to align with the growth season of lupins.

## **Entire Marshwort (Eradication)**

Entire marshwort is an aquatic plant that forms dense floating mats that choke waterways. It is limited to only a single site in the Timaru district. Previous control efforts have proved very effective and the focus for spring is to undertake additional searching in the immediate area and checks of the current site to confirm eradication remains feasible.

## **Wild Thyme (Site-led Programme)**

Wild thyme is widespread in Central Otago, however, is restricted in Canterbury with only four active sites in the South Canterbury region. ECan undertakes wild thyme control utilising Biosecurity Officers as it's limited in distribution and numbers are low. Control will take place over spring and summer during the growing season.

Regional report prepared by:

**Gerrit Roux**

Team Leader Biosecurity - Southern