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Rabbit Control on the Otago Peninsula

Discussion Document and Conceptual Rabbit Management Plan

Date: 20 March 2023

COMMUNITY & CLIMATE

BIODIVERSITY & RESTORATION

FRESHWATER, FOOD, FARMS & FOREST

ENERGY, CARBON & WASTE

Report prepared for client by Hilary Lennox

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2	17/4/23	Hilary Lennox	Final Draft
3	21/4/23	Hilary Lennox	Final

Contents

1 Background

Predator Free Dunedin Charitable Trust (PFD) is assessing the feasibility of stoat eradication on the Otago Peninsula using a strategy whereby a sudden reduction in available food (namely rabbits) results in greater inclination of stoats to enter baited traps. This report does not consider the stoat eradication strategy itself, rather it focusses on the feasibility of just one part of the strategy – the reduction in the number of rabbits on the Otago Peninsula. It is understood that this is a critical component of the stoat eradication strategy.

2 Minimum Expectations

Feral rabbits are securely established in Otago. The Otago Regional Council (ORC) has adopted Level 3 on the Modified McLean Scale (MMS) as a measure of an acceptable level of rabbit infestation on any property. This is stipulated in Rule 6.4.6.1 of the Regional Pest Management Plan 2019-2029 (RPMP), which states:

> ***Rule 6.4.6.1 -*** *An occupier within the Otago region shall control feral rabbit densities on the land they occupy to at or below Level 3 on the Modified McLean Scale (MMS).*

MMS Level 3 is often also referred to as the 'maximum acceptable level' (MAL). In other words, ORC considers some rabbit infestation to be acceptable and does not require eradication of rabbits on any property. This reflects the degree to which rabbits are securely established as a pest species, and the challenges associated with maintaining rabbit densities at or below MMS3.

Figure 1 below helps to illustrate what MMS Level 3 looks like. At Level 3, the odd rabbits may be seen and there will be some rabbit sign in the form of scratching. Some pellet heaps will be seen and these will be spaced 10 m or more apart on average.

The RPMP identifies 5 types of pest management programme and identifies which pests will be managed under each programme. Feral rabbits are managed under the 'sustained control programme', which means 'to provide for ongoing control of the subject, or an organism being spread by the subject, to reduce its impacts on values and spread to other properties'. The reason why rabbits aren't managed under the exclusion, eradication or progressive containment programmes is, again, because they are so well established in Otago.

1	No sign found. No rabbits seen.
2	Very infrequent sign present. Unlikely to see rabbits.
3	Pellet heaps spaced 10m or more apart on average. Odd rabbits seen; sign and some pellet heaps showing up.
4	Pellet heaps spaced between 5 m and 10 m apart on average. Pockets of rabbits; sign and fresh burrows very noticeable.
5	Pellet heaps spaced 5 m or less apart on average. Infestation spreading out from heavy pockets
6	Sign very frequent with pellet heaps often less than 5m apart over the whole area. Rabbits may be seen over the whole area.
7	Sign very frequent with 2-3 pellet heaps often less than 5 m apart over the whole area. Rabbits may be seen in large numbers over the whole area.
8	Sign very frequent with 3 or more pellet heaps often less than 5 m apart over the whole area. Rabbits likely to be seen in large numbers over the whole area.

(**Note:** this scale is Version 1.0, adopted by the New Zealand Rabbit Coordination Group, 12/10/2012.

Figure 1: Modified McLean Scale Table

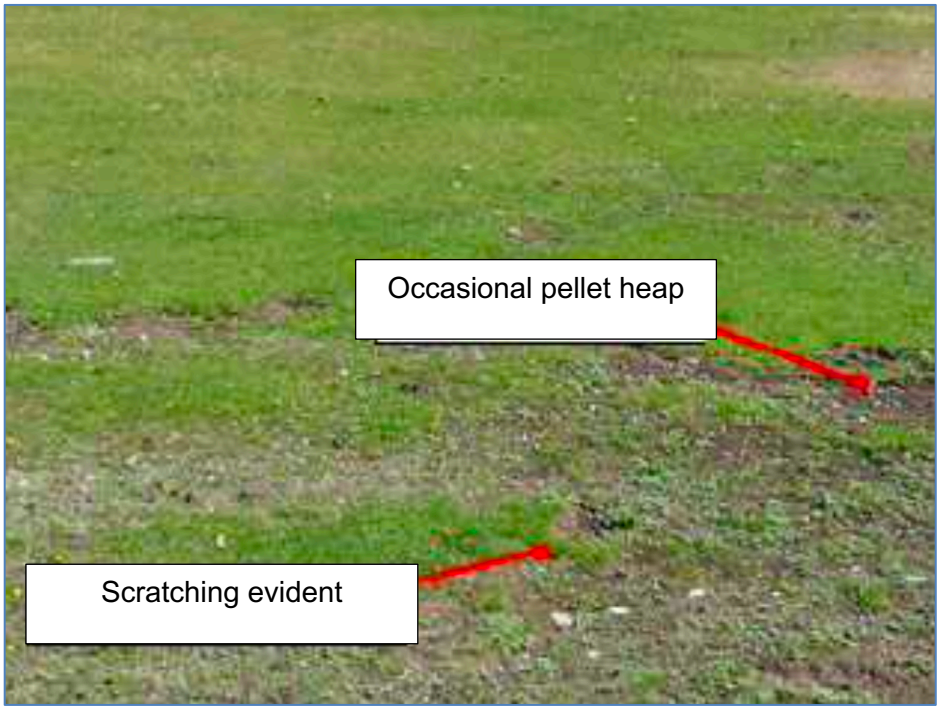

Figure 2: Example of a property at MMS3 (source: ORC)

3 Rabbits on the Otago Peninsula

Parts of Otago Peninsula have seen an increase in feral rabbit populations in recent years and some landowners have struggled to maintain rabbit populations to at or below allowable levels. Sustained control of rabbits requires a high level of collaboration, communication, and participation amongst most landowners in the area; there is no quick fix.

In 2021, ORC commenced the Otago Peninsula community-led rabbit management programme. Objectives of this ongoing programme include determining which areas of the Otago Peninsula are particularly rabbit prone and why, providing education about roles and responsibilities in relation to rabbit management, and providing guidance on effective rabbit management approaches.

The Otago Peninsula programme currently directly involves 37 public and privately-owned properties from Portobello to Taiaroa Head. One of the key goals of the programme is an increase in the amount and extent of effective rabbit control being undertaken by landowners/occupiers and, therefore, a reduction in rabbit numbers. Attachment 1 provides detail of how the programme unfolded. ORC sought to provide education and facilitation initially, but this has been followed closely by compliance monitoring and enforcement.

As part of the programme, ORC produced heat maps to indicate where effective rabbit control was or was not being undertaken. These maps are shown below; the first from October 2021 and the second from October 2022. The heat maps show an overall reduction in rabbit numbers over that period but there are still several areas where rabbits are still not being managed to a compliant level, and there are even some properties where rabbit numbers have increased. There is concern that inadequate action on these properties may hinder rabbit management efforts undertaken by others.

An important observation here is that following considerable effort by ORC over a 2 year period and the looming prospect of compliance action, rabbit densities on around half of the 37 properties inspected are now at or below MMS3, but the other half are still failing to manage rabbit properties to an acceptable level. The most common reasons for this are:

- Inadequate control work undertaken;
- Reactive approaches being adopted rather than strategic approaches;
- Poor choice of control methods for the density rabbits and the property type;
- Heavy reliance on only one control method;
- Primary control not followed up with secondary control (see below);
- Conflicting control methods (e.g., shooting adjacent to toxin operations);
- Incomplete delivery of control (e.g., fewer than 3 drops per Pinone carrot operation);
- Lack of defensible barriers resulting in rapid reinvasion; and
- Lack of coordination between neighbouring properties.

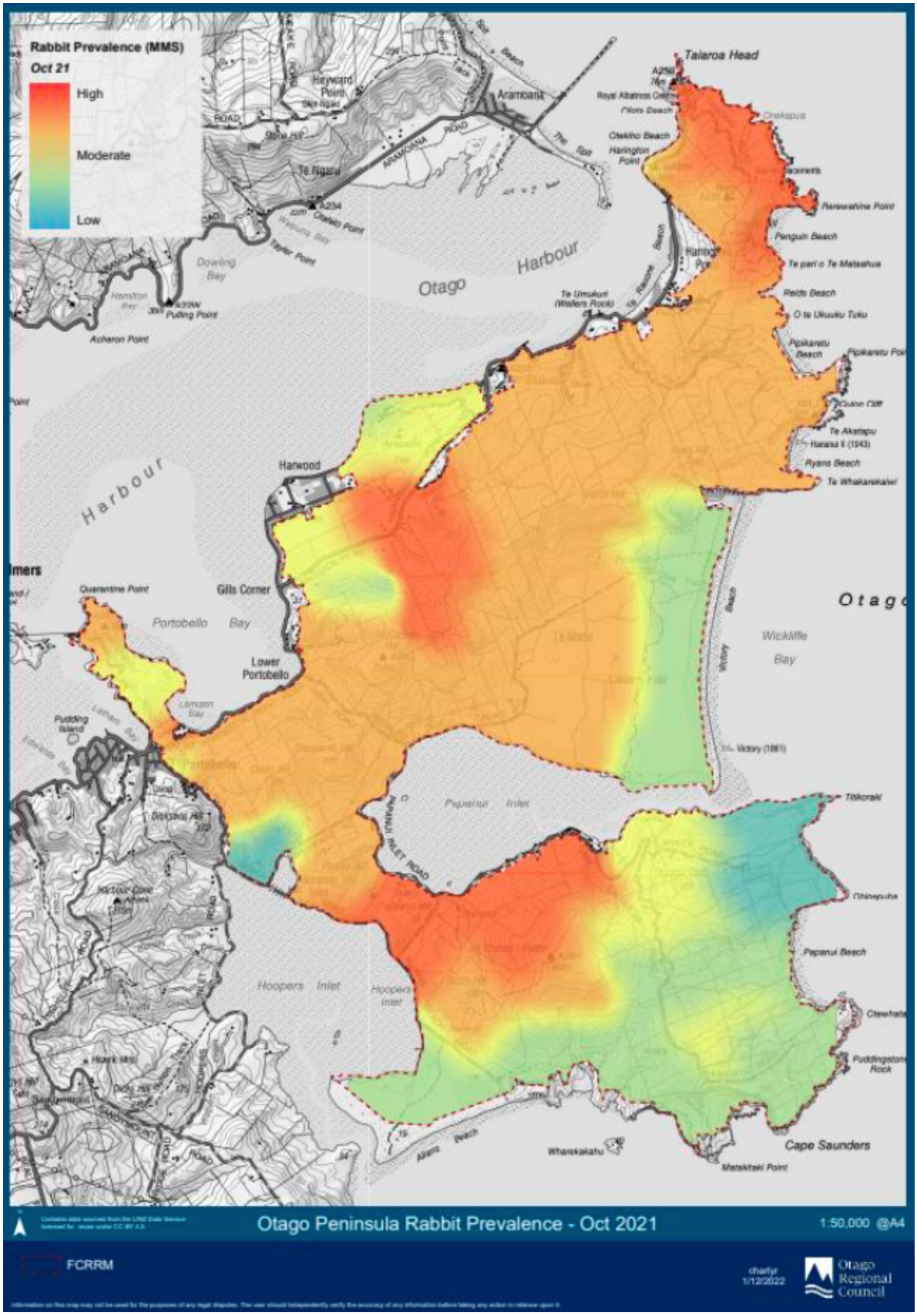

Figure 3: Otago Peninsula Rabbit Prevalence - Oct 2021 (source: ORC)

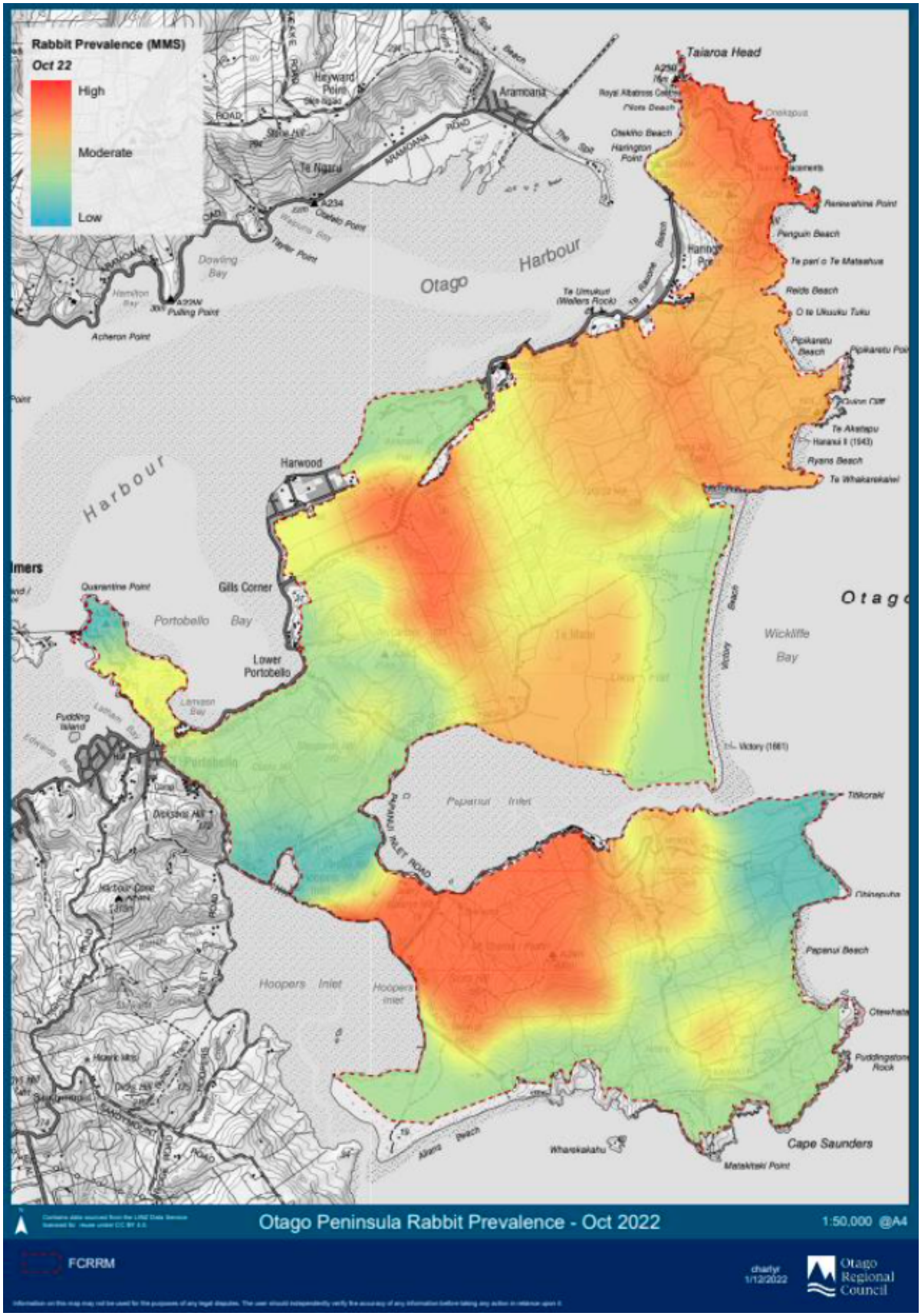

Figure 4: Otago Peninsula Rabbit Prevalence - Oct 2022 (source: ORC)

4 Effective Rabbit Management

One of the most common reasons why landowners struggle to hold rabbit numbers to acceptable levels is because a reactive approach is taken rather than a strategic approach. Landowners often wait until rabbit numbers are high or getting high and then adopt one method to try and knock rabbit numbers back as quickly as possible. This can be referred to as crisis intervention and often involves a toxin operation using carrot baited with liquid Pindone (or less frequently 1080). Where a good reduction in rabbit numbers has been achieved (e.g., >90%), landowners are satisfied with the number of rabbits controlled and give little thought to the rabbits that are left behind or the risk of reinvasion from neighbouring properties where little/no control work was undertaken.

Regarding the rabbits that are left behind:

- Does can breed from 5 months of age;
- Rabbits have a 28-day gestation period;
- Does have 1 – 12 kittens per litter; and
- Does are ready to breed again in as little as 24 hours after giving birth.

As a result, rabbit populations can increase eight- to tenfold in one season. In the absence of a defensible barrier (e.g., a good rabbit fence), this rapid repopulation is often accompanied by reinvasion, which means that rabbit densities are soon back to pre-toxin levels and the process must be repeated over again. In the meantime, the landowner has become frustrated and despondent regarding the limited benefit from the time, energy, and money that they expended. It is at this point that some landowners simply give up trying.

To ensure long-term, sustained control, a more strategic approach must be adopted. This might begin with the landowner preparing a Rabbit Management Plan that stipulates clear objectives to permanently reduce rabbit numbers over the long term. Rabbit numbers are monitored regularly, and control methods are initiated when there are signs of population increase. There may be a primary control method (e.g., a toxin operation) to knock back rabbit numbers initially, but then this is closely followed up with ongoing secondary control to reduce the likelihood that primary control methods are needed again in the future.

The differences between a strategic approach versus a reactive approach are summarised in the table below. The key difference is that a reactive approach focusses on how many rabbits are killed, whereas a strategic approach focusses on the rabbits that are left behind.

Table 1: Differences between reactive and strategic approaches to rabbit management

REACTIVE	STRATEGIC
Based on immediate reduction in rabbit numbers (short term)	Based on clear objectives to permanently reduce rabbit numbers (long term)
Initiated following high level of infestation (crisis intervention)	Initiated when monitoring identifies numbers are on the rise
Relies heavily on primary control treatments that may need to be repeated every few years	May require an initial primary control treatment, but none thereafter if implemented well
Often not followed up with secondary control	Secondary control continues indefinitely
Any reduction in rabbit numbers may be seen as a success, regardless of how many are left behind	Focus is on how to control rabbits left behind after the primary treatment
Can be expensive if frequent primary control treatments are required	Can lead to reduced costs over time as rabbit numbers are constantly reduced

With a strategic approach, a variety of secondary control methods are often adopted in response to monitoring that determines how rabbit populations are responding to previous control attempts and other factors such as disease, food availability, and climate. Secondary control options may include:

- Fumigation
- Shooting
- Warren/habitat modification
- Dogs

Care must be taken to ensure any method does not impact on other methods being undertaken nearby. For example, shooting can make rabbits very jittery and as such they will be unlikely to interact with any new objects found in their environment, such as baited carrot. Shooting should not, therefore, be undertaken within a month either side of a toxin operation on the subject property or a neighbouring property.

A strategic approach will almost certainly also include fencing and/or close cooperation with neighbours. Neighbourly collaboration in the development and implementation a management plan can result in far greater impact as well as potential cost savings, and installing and maintaining a well-constructed fence will prolong the effects of control work undertaken.

Figure 5: A well-constructed rabbit fence (left) and a reminder that fences require regular maintenance as they may still be under pressure (right)

5 Responsibility for Decision-Making

As described above, effective rabbit management requires the adoption of a strategic, long-term approach. Where a property is bordered by a well-constructed and well-maintained rabbit fence (including gateways) and/or some other defendable barriers (e.g., a perennial waterway) then it may be possible for the landowner to manage rabbits on their property independently of their neighbours. Communication between neighbours would, however, still be recommended to ensure that work on one property is not impacting work on another (e.g., shooting nearby a toxin operation).

Effective rabbit management therefore requires coordination and collaboration between landowners and requires most landowners in an area to be making good decisions about the method and timing of control work undertaken. Historically, decisions regarding how to manage rabbits across an area were made by a centralised body: the rabbit boards. Rabbit boards were established under the Rabbit Nuisance Act in 1867 and were not disestablished until the early 1990s when the Biosecurity Act 1993 was introduced. Under the rabbit board model, rates were collected from landowners and this funding was used by the rabbit boards to undertake rabbit control work. A strategic approach could be adopted to manage rabbits across multiple properties all at once, reducing the need for defendable barriers such as rabbit fences. This

control work was heavily subsidised by central government due to the impact on productive land.

Government funding was withdrawn in 1984 and a 'user pays' policy was adopted. With a greater financial commitment from landowners required, some landowners became disgruntled if they felt like the boards were not prioritising work in their area and/or the control work undertaken was not fully effective. Landowners subsequently actively sought to accept responsibility for rabbit control themselves, the rates charge was removed, and the rabbit boards were disestablished.

Decisions regarding how and when to undertake rabbit control are now, as a result, usually made at an individual property level rather than an area level. As mentioned above, this creates challenges when landowners do not have a defendable boundary and are not coordinating and collaborating with their neighbours in an effective manner.

6 Conceptual Rabbit Management Plan

There are many factors that determine the feasibility of effective rabbit management over a large area. Three of these are:

- The size of the area concerned;
- Degree of variability in terms of the type of terrain, vegetation cover, extent of development, and types of land use; and
- The number of individual properties within the area and, therefore, the number of landowners/occupiers involved.

Coordinating rabbit management over a larger area is more feasible when there are relatively consistent property characteristics (e.g., flat pastureland) and only a handful of landowners. This is because it is more likely that the same method(s) can be applied across the whole area and the number of landowners to engage with is small. Communication between parties is usually more effective with smaller groups, and it may be that one contractor can provide all the work required. It is more worthwhile and efficient for the contractor to engage with fewer landowners to deliver work over a large area rather than having to deal with many landowners across the same sized area.

There are many examples throughout Otago of landowners working collectively to manage rabbits across several properties rather than at an individual property level. In the case of several examples from Lake Hayes, Wānaka and Gibbston, the primary driver for this has been covenant restrictions on preventing landowners from erecting fences around each individual property. Instead, groups have fenced the perimeter of the subdivision and leaders have been identified within the community to coordinate rabbit control work within the fenced area. Costs for this are recovered from each landowner, and cost savings are often made due to contractors

servicing several properties at once. A similar approach could be adopted anywhere on Otago Peninsula where landowners are wanting to work together, where there is stable land ownership, and where there are no impediments to securing the boundary. This approach would provide some benefits above the individual landowner approach but would be more piecemeal than the MPM-style approach.

Without a deeper understanding of where rabbit numbers are highest across the peninsula or which properties wish to work collaboratively, it is not possible to identify which control methods would be most appropriate. It is likely, however, that this would involve widespread primary control operations (toxin operations) working to defendable boundaries, followed up by consistent and on-going secondary control work.

ORC has provided an indication of where rabbit numbers are highest throughout the area from Portobello to Taiaroa Head (see Figure 3 and Figure 4 above). This mapping exercise was conducted by collecting data from inspections focussing on properties greater than 0.5 ha in size. With adequate resourcing it should be feasible to repeat and extend this exercise across the peninsula, although the total number of properties that this would encompass has not been determined for the purpose of this report.

A strategic plan for wide-scale rabbit management across the peninsula might begin by breaking the areas into smaller, more manageable units with defensible boundaries (e.g., rabbit fencing). Due to the commencement of the ORC's community-led rabbit management programme, many landowners in the area from Portobello to Taiaroa Head are likely to paying more attention to rabbits than they have done in the past. Landowners should be better informed regarding what effective rabbit control looks like, and ORC's follow up compliance work should be making landowners more aware of what the minimum expectation is under the RPMP rules. It could, therefore, be said that the timing is good for gauging interest in the formation of groups to tackle rabbits in manageable areas.

It would be impossible to eradicate all rabbits within each management unit due to the impracticality of trying to gate the roading corridors, but rabbit numbers could be reduced to an acceptable level and kept that way if everyone was working towards an agreed strategy indefinitely. If properties are sold to new owners who do not agree with the strategy, then this creates risk.

Once defendable barriers had been established (which may require installation of rabbit netting in places), a rabbit management plan that is agreed to by all landowners could be deployed. As noted above, to be effective in the long-term, this would likely need to involve toxin use initially, followed by monitoring and ongoing secondary control indefinitely to keep rabbits to a manageable level. If consistent attention if not given to the management of the remaining rabbits then there is a risk that the population could easily spiral out of control again.

Without the participation of at least 85 - 90% of the landowners within a management area it is unlikely that this would be successful unless those not participating were not contributing to the area's rabbit problem (e.g., well fenced and under control, and/or terrain unsuitable for rabbits).

7 Maniototo Pest Management

An example of where large-scale rabbit management is working well is in the Maniototo. Maniototo Pest Management (MPM) was established in 1997 using a depot and equipment acquired from the disestablished rabbit board. The incorporated society, which covers an area of 250,000 ha, employees two full time staff and is overseen by a Board of Directors. The inception of MPM was well timed with landowners looking for a solution following disestablishment of the rabbit board, and 90% of landowners in the area soon signed up. The group includes 85 members, all of whom pay a pest control fee based on the size of their property. Each property's fund is held in a separate account and this fund is drawn from to cover the cost of control work undertaken by MPM on that property each year. The range of pests managed now extends beyond rabbits to other mammalian pests such as pigs and deer.

One of the key reasons for MPM's success is the way that pests are managed as an 'area problem' rather than an 'individual property problem'[1]. Every member has agreed to the group's pest management strategy, and it is left to the staff (with guidance from the group's founder, Ossie Brown) to make decisions regarding what control work is required and when. Staff undertake continuous monitoring throughout the area, and this informs decisions regarding where to target control work. The operation began with widespread toxin operations in the 1990s, with 1,000 tonnes of 1080-laced carrot used annually. Once an adequate reduction in rabbit numbers had been achieved, the staff were able to move to using secondary control methods, namely night shooting and helicopter patrols. Some properties only require one or two shooting operations per year now, and toxin hasn't been used for 10 years. In other words, a long-term, strategic approach has been adopted, as described above. It is a delicate balance though, and if the control work was not implemented consistently then it wouldn't take much for rabbit numbers to spiral out of control again (pers. comms. Kevin Allan, former manager at MPM).

Another reason why the MPM model works well is that decisions regarding what control work to undertake where, and when, is made by a central body that has a responsibility to manage rabbits on behalf of all the group's members. The staff and their advisors collectively have decades of experience in managing rabbits in the local area and are, therefore, well placed to make good decisions.

[1] Pers. comms. Kevin Allan, ORC Biosecurity Officer and former manager at MPM

As discussed above, the RPMP rule framework places responsibility for managing rabbits on the individual landowner/occupier and so management of rabbits across an area requires effective collaboration between neighbours and requires every landowner to be make good decisions about what control to undertake and when. In the absence of a centralised body this is not often achieved, particularly not on a consistent and ongoing basis.

Achieving success on the Peninsula would be a lot harder than it was in the Maniototo due to the following reasons:

- There is a greater number of landowners involved, a greater diversity of ownership structures (e.g., Māori-owned land, conservation trust-owned land), and a greater range of land uses. Getting all members to agree on a shared strategy may, therefore, be more challenging;
- The higher population density, public access, stocking rate and wildlife presence pose challenges when it comes to using toxins, shooting, and other control methods;
- The greater diversity of terrain type and vegetation cover would necessitate a more nuanced approach to target rabbits, with some individual properties likely requiring bespoke strategies; and
- Toxin operations using baited carrot are more effective when alternative food sources are not available, and the rabbits are hungry e.g., during cold, dry winters. Winter conditions are not as cold and dry in Dunedin as they are in the Maniototo, and rain events reduce the effectiveness of baited carrot operations. Opportunities for effective winter baited carrot operations in Dunedin are, therefore, limited. There has been some work in the past using baited oats during dry summer months, but this has not been the prevalent approach in recent years. With the changing climate and milder, wetter winters and hotter, drier summers predicted, a change to summer baiting may be necessary.

The MPM control area comprises mostly dry, rabbit prone hill country. Farming is the prevalent land use activity, and the population density is low (~85 properties over 250,000 ha equals an average property size of 2,900 ha). The stocking rate is generally lower than in areas with more intensive irrigation or higher annual rainfall. There is some public access but low traffic volumes. These factors have allowed for two of the riskier (in terms of public safety and by-kill) methods (toxin operations and shooting) to be used across the whole area.

In the case of Otago Peninsula, the area from Vauxhall out to Taiaroa Head is in the region of 9,000 ha and encompasses hundreds of properties. The range of property types is large and includes temporarily occupied cribs, permanent residential properties, large luxury homes, schools, public amenity spaces, wildlife reserves, historic buildings, public access walking tracks, monuments, lifestyle blocks, and productive farms. The area encompasses urban areas, areas of native bush and other dense vegetation, steep cliffs, exposed beaches, and open, rolling farmland (to name but a few). The population of Otago Peninsula is concentrated at the beginning of the peninsula and around the coastal settlements on the western shore, whereas

the higher altitude properties and eastern coastline tend to less densely populated. Visitor access to the peninsula is common, with many visitors engaging in outdoor activities such as walking, biking and wildlife tours.

A large-scale rabbit management operation encompassing the whole of the peninsula would, therefore, need to accommodate a wide range of property types, terrain cover and land uses, along with hundreds, if not thousands of occupiers and visitors. Breaking the peninsula down into the manageable areas, as described above, may be more feasible, but it may still be desirable for all landowners with a rabbit management unit to engage one contractor to manage rabbits across all properties in each management unit.

8 Choice of Toxins

The two most common toxins used for primary control operations are Pindone and 1080, and these are usually applied to carrot bait for winter toxin operations. Pindone is a first-generation anticoagulant, whereas 1080 has a different mode of action and is acute rather than chronic. A kill rate of 90% can be expected from a very successful Pindone operation, whereas a slightly higher kill rate of 95% or more can be expected from a successful 1080 operation (pers. comms. Peter Preston, Preston Pest Control).

There will, however, be situational reasons why one toxin is chosen over the other. For example, there was a recent case where the effectiveness of a 1080 operation was compromised due to there being an abundance of alternative feed nearby, meaning that rabbits didn't uptake enough 1080 in one sitting to receive the lethal dose (pers. comms. Peter Preston, Preston Pest Control). Furthermore, Pindone operations can be repeated every year if required, but three years is the recommended gap between 1080 operations due to rabbits making the connection between the bait and death (neophobia). With Pindone, stock can generally be returned to the paddock within a month, whereas with 1080 a period of 10-12 weeks is recommended. This can be disruptive for farms where lambing occurs earlier in the season.

The window of opportunity for effective winter baiting is becoming smaller with the changing climate and so these operations require a lot of careful forward planning.

In short, it is important that the correct toxin is used for each property and the unique set of circumstances, and this can only be determined by someone with suitable experience in rabbit control in conjunction with the landowner giving regard to farm grazing patterns and activities.

There have been successful rabbit eradication programmes undertaken in the past on small (<150 ha) offshore islands using brodifacoum. In these situations, however, there is usually only one landowner involved, very low or zero resident human population, no stock or other domestic animals, and there is usually central government funding. Brodifacoum is an example of a

second-generation anticoagulant. Second generation anticoagulants have much greater residual issues, hence they are not allowed to be broadcast on pasture where stock may ingest pellets creating potential issues for export meat. For these reasons, this approach could not be directly applied to Otago Peninsula. Not also that brodifacoum is not registered for rabbit control, particularly not in a broadcast manner, and so rabbit control using commercially-sourced brodifacoum on mainland New Zealand must not be attempted.

9 Discussion

The stoat eradication strategy requires a sudden reduction in rabbit numbers, which been achieved on small offshore islands with widespread use of brodifacoum. Larger scale rabbit control operations in Otago, however, usually begin with a toxin operation using carrot baited with Pindone or 1080. Given the number or different landowners, the extent of public access, the proximity to Dunedin city centre, and the presence of stock and wildlife, it is reasonable to assume that Pindone might be the only acceptable toxin for widespread use on the peninsula. Even so, this would require very careful management, relocation of stock, temporary exclusion of public access from certain areas, and participation of >85-90% of landowners.

A toxin operation spanning even just the larger (>0.5 ha) properties across the 9,000-ha peninsula area would be a massive undertaking and would likely require several contractors coordinating their efforts. At least three feeds would be required, and these would need to be timed during periods of dry weather. A mild winter would further impede the success of the toxin operation as the rabbits wouldn't be hungry enough to uptake the bait. The chance of undertaking a successful toxin operation (>90% kill rate) spanning all properties >0.5 ha in a single season is, therefore, unlikely to be achievable. Even if it was possible, without effective, ongoing. and consistent secondary control work to address the remaining 10% of rabbits, the benefits will be short-lived.

It is, however, possible that with extensive collaboration and coordination, and with all landowners consistently making good decisions about what control work to do and when, a long-term reduction in rabbit numbers could be achieved. The establishment of an MPM-style model (or the formation of smaller groups of landowners) to collect funding and make the decisions could result in more effective long-term control. These groups would likely target problematic areas within defendable boundaries first rather than trying to address the whole peninsula at once i.e., the peninsula would need to be broken up into manageable units.

It would take many years to reduce rabbit numbers to an acceptable level across the peninsula[2], and a sudden reduction in rabbit numbers in a single operation across the whole peninsula is currently unfeasible.

Enforcement of ORC's RPMP rules could be used to encourage reluctant landowners to participate, but the minimum that ORC can ask for under the current RPMP is for landowners to maintain rabbit densities at MMS Level 3.

[2] Pers. comms. Kevin Allan, ORC Biosecurity Officer and former manager at MPM

Attachment 1 – Otago Peninsula Community-Led Rabbit Management Programme

Activities and Timeline:

- Early 2021: Otago Regional Council (ORC) undertook a round of feral rabbit property compliance inspections on larger properties from Portobello to Taiaroa Head. ORC Biosecurity staff then attended a community meeting and a management plan workshop organised by a landowner. Landowners were asked to submit management plans for ORC staff to review, and ORC advised landowners/occupiers that reinspections would be undertaken in July 2021. The reinspections did not, however, occur.
- Winter 2021: Adequate control work was not undertaken on many properties in winter 2021, partially due to some landowners/occupiers believing that ORC staff would be organising the control work, and others being sceptical about ORC staff doing any follow up compliance work.
- November 2021: Properties were reinspected, and several additional properties were also inspected (37 properties inspections in total). These reinspections provided an opportunity to engage with landowners/occupiers and find out who had undertaken what winter control work (if any).
- December 2021: Biosecurity staff engaged one-on-one with landowners that were found to be non-compliant in November 2021, and asked them to provide a management plan by 28 February 2022. A total of 28 management plans were requested.
- January 2022: A letter was sent to all non-compliant properties reminding them that compliance action would follow if their rabbit management efforts were found to be ineffective.
- February 2022: A community meeting was held to allow neighbouring property owners/occupiers to come together to discuss their approach, and for ORC staff to offer advice on control options.
- March 2022: Further inspections were undertaken on several additional properties that had been missed previously.
- April 2022: Management plans received were reviewed and individualised feedback was provided to landowners/occupiers.
- May 2022: Solutions for funding for rabbit management on Māori freehold land were investigated. This included discussions with other Councils, MPI and Te Tira

Whakamātaki. Unfortunately, no specific funding opportunities or support was found. Concerns regarding health and safety at the Portobello Domain sportsground due to rabbit holes were raised by some of the community. In response, DCC submitted a rabbit management plan that included the Portobello Domain sportsground. Landowners holding an 'Approved User for Pindone' certificate raised concerns about whether they would be able to obtain cut carrot to do their own Pindone work. ORC followed up directly with these landowners with information about contractors supplying carrot to Coastal Otago. Re-inspections of all properties that were indicative of non-compliance in November 2021 were scheduled for August 2022 and this was communicated with all relevant landowners/occupiers.

- August 2022: A decision was made to delay reinspections until October 2022 due to lambing. Emails were sent to all landowners/occupiers' properties that were indicative of non-compliance in November 2021 advising them of the change to the reinspection date.
- October 2022: Reinspections were undertaken on the 34 properties that were indicative of non-compliance in November 2021. ORC staff recorded a reduction in rabbit densities such that half of these properties were recorded as being compliant or well on their way to being compliant. ORC staff observed a range of positive steps being taken by property owners/occupiers such as installation of rabbit fencing, engaging contractors for multi-year sustained control efforts, and coordination of efforts between neighbouring properties.