

COMMUNITY-BASED
URBAN PREDATOR CONTROL
TOOLBOX and GUIDE



**Predator
Free
Dunedin**



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PREDATOR CONTROL

Helping Dunedin become Predator Free by 2050.

Funding:



Department of Conservation
Te Papa Atawhai

The Halo Project's Community Based **Urban Predator Control Toolbox** was funded by the Department of Conservation.



Predator Free Dunedin

Within this **toolbox** there is the guide (this document) and folders of resources including the **Community Predator Control Plan example** and **template** which have been developed with funding from Predator Free Dunedin.



The Halo Project also developed an educational programme with model classroom exercises. These are all available on the Halo Project's website under "resources" (www.haloproject.org.nz/resources). These resources were developed with funding from the NZCAR and Curious Minds and the support from Otago Polytechnic Vet Nursing staff.



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ABOUT THE HALO PROJECT

The Landscape Connections Trust (LCT) is a Dunedin-based conservation trust with the primary purpose of supporting the planning, administration, fundraising, development and implementation of a variety of environmental projects under the name ‘The Halo Project’.

LCT’s vision is “*From Silver Peaks to sea, communities and nature thriving in balance*”.

The Halo Project’s mission is to inspire and work with our communities to enhance, protect and connect with this landscape.

We strive to achieve this through our strategic goals:

- **Community Action:** Working with our community to be kaitiaki of this landscape.
- **Community Education:** Building and sharing resources to expand our collective knowledge.
- **Governance:** Operating at the highest standards of governance and delivery.
- **Leadership:** Inspiring transformational change for increased landscape resilience.
- **Partnerships:** Working in partnership with our community, Māori and our funders.
- **Science and Research:** Collaborating with science providers to fill our knowledge gaps.

The Halo Project’s programmes are:



The Halo Project is a proud delivery partner of Predator Free Dunedin.

ACRONYMS

DCC = Dunedin City Council

DOC = Department of Conservation

OSPRI = a not-for-profit limited company comprising a group of companies inclusive of TBfree NZ Ltd and NAIT Ltd.

GIS = Geographic Information System

GPS = Handheld device which uses the Global Positioning System

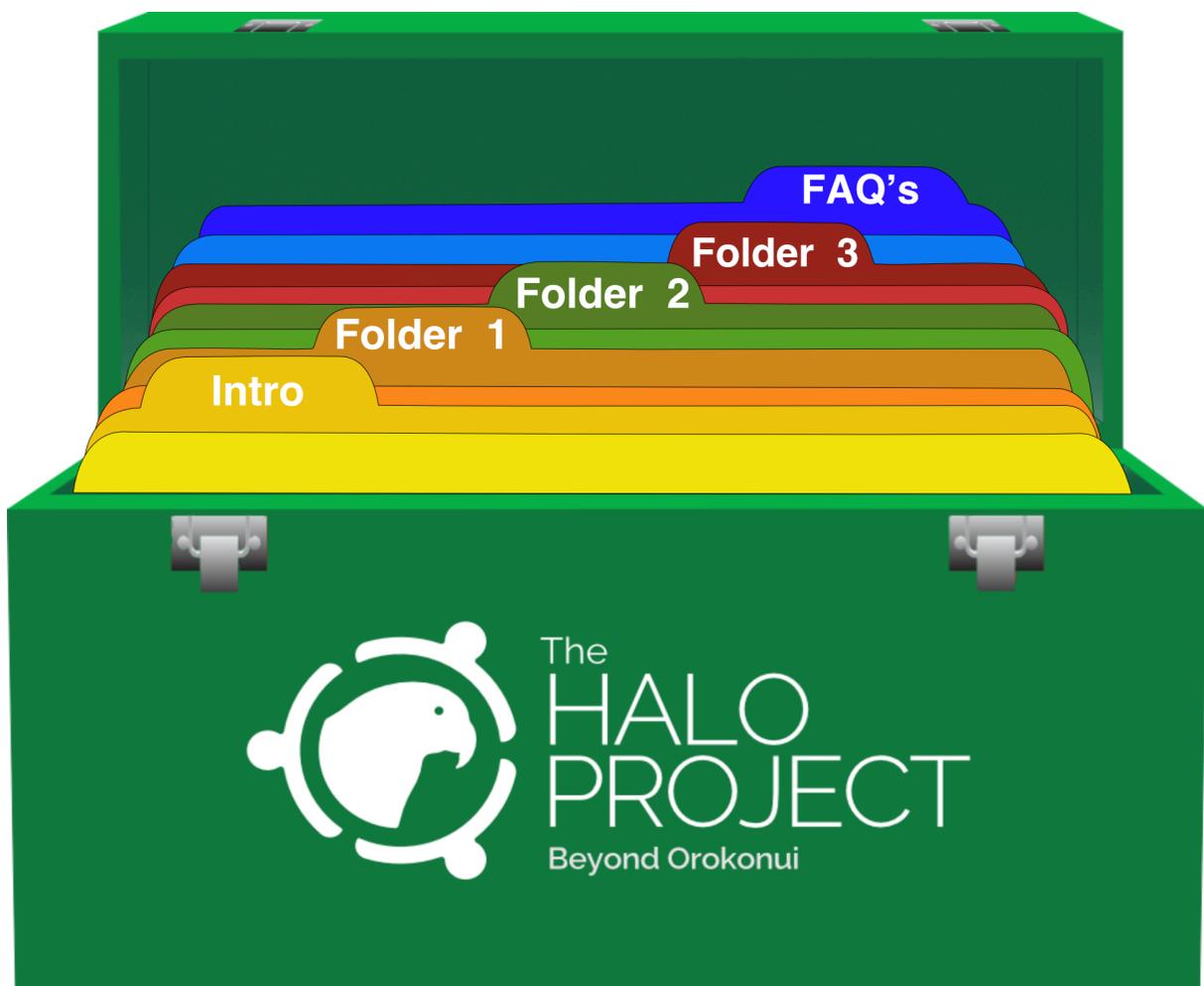
WELCOME

This **Community-Based Urban Predator Control Toolbox** of best practice guidelines and resources is for people wanting to establish predator control in urban areas.

The toolbox links you to current best practice guidelines and draws from the Halo Project's experience in establishing urban predator control in Port Chalmers and Sawyers Bay.

With assistance from Predator Free Dunedin, we have produced a **Community Predator Control Plan Example** and **Template** (see folder 3) to make it easier for people to set up a community group and carry out predator control. Contact us for access to Folders 1-3.

INSIDE THE TOOLBOX



Your toolbox has five sections of information:

- Intro: Instruction Manual (in this document)
- Folder 1: Community engagement examples (contact us for access through Dropbox)
- Folder 2: Best practice guides (in Dropbox)
- Folder 3: Community Predator Control Plan Example and Template (in Dropbox)
- FAQ's: Frequently Asked Questions and Additional Resources (in this document)

Intro

Instruction Manual

Resources within this folder (in this document) include:

1. Initial Engagement With Your Community
2. Form A Group
3. Define A Boundary
4. Choose A Name
5. Understand Options Within Your Project Area
6. Define A Vision
7. Reconnect With Your Local Community
8. Define A Management Approach
9. Know your Target Predator
10. Understanding Outcome and Results Monitoring
11. Understanding Predator Control
12. How to Create A Predator Control Plan
13. Raise Funds For Your Project
14. Upskill Your Team
15. Review and Report

Folder 1

The Halo Project's community engagement examples

Resources within this folder (but not in this document) include:

- 1.1. Communication examples
- 1.2. Original residents' survey
- 1.3. Recruitment forms
- 1.4. Trap line signage

Please contact us on info@haloproject.org.nz and we will provide a link to a Dropbox account.

Folder 2

Best practice guides

Resources within this folder (but not in this document) include:

- 2.1. A Practical Guide to Trapping [Predator Free 2050] (pdf)
- 2.2. How to use a chew card [Halo Project] (pdf)
- 2.3. How to read pawprints [Manaaki Whenua] (pdf)
- 2.4. Please contact us on info@haloproject.org.nz and we will provide a link to a Dropbox account.

Folder 3

Community predator control plan example and template

Resources within this folder (but not in this document) include:

- 3.1. Community Predator Control Plan Example (pdf)
- 3.2. Community Predator Plan Template (writable pdf)

Please contact us on info@haloproject.org.nz and we will provide a link to a Dropbox account.

FAQ

Frequently Asked Questions & Additional Resources

Resources within this folder (at the end of this document) include:

- Frequently Asked Questions
- Additional Resources

WELCOME TO YOUR INSTRUCTION MANUAL

This document is your **instruction manual** to how to create Community Predator Control in urban areas.

1. Initial Engagement With Your Community

Upon deciding that action is required, engaging with your community is a key next step. This stage of the process is further explained here, including why, when and how you initially engage with your local community.

1.1. Why is it important to engage with your community?

Engaging with the community right at the start of the project will help you out in the long run. Some people will like the idea of predator control, and some will be against it. Some will want to talk about cats and dogs as predators and some will be completely opposed to the idea of killing anything. Some will think you are talking about using 1080 toxin and others will think you are just considering using rat traps. Having a wide range of viewpoints is completely normal for your first meeting and is a really good start. The aim of this initial meeting is to identify if you have enough people to continue to form a group and work through the process required to start predator control in your area. If more than half of the people that turn up to the first meeting are opposed to the idea of predator control, you might need to think again.

Remember that you need to gain commitment from a number of people who would like to form a group to take the process forward. At this stage you do not need answers to the harder questions (such as, how do you get rid of the local rat population? How do you deal with cats?).

1.2. When do you engage with your community?

The sooner the better! We think it is really important you spread the word far and wide as soon as you and others start thinking about forming a group. If you have already formed a group but have not consulted with the wider community already, then do it now.

1.3. How do you engage with your community?

The following are a few options of how you could engage with your local community. You will also have your own ideas about this, as this is your community, and you may know how best to approach your neighbours.

Hold an open community meeting in your community hall

Arguably, the best option is to hold an open meeting to discuss the problems (predators, for example) and what action is required (trapping). In order to get the most out of this meeting we advise you invite someone along who has experience in this area.

You could approach a community coordinator from one of the following organisations:

- Department of Conservation, Dunedin Office (dunedinoffice@doc.govt.nz)
- Department of Conservation, Eastern South Island Predator Free Ranger.
- The Halo Project (info@haloproject.org.nz) or
- The Predator Free Dunedin team (info@predatorfreedunedin.org).

By having an experienced person available an alternative opinion can be provided on more difficult questions. Also, this person can talk about common urban pests and best practice to manage these pests. Another advantage to holding a meeting is that you get instant feedback. Be sure to welcome feedback over the following week to allow for people who don't speak up during meetings to have their say via email, phone or face-to-face.

One of the first meeting the Halo Project held was a forum asking, "What is possible Beyond Orokonui?" (see figure 1 of the invite from August 2014).

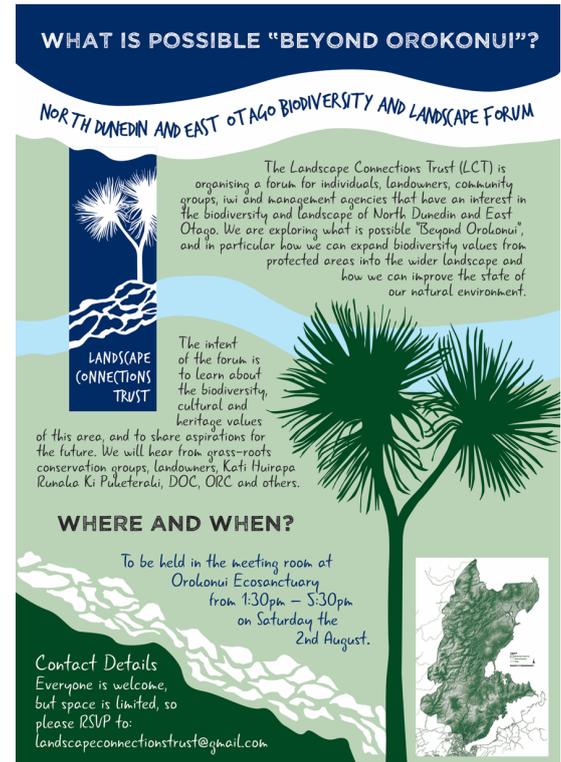


Figure 1: One of the first events for the Landscape Connections Trust in North Dunedin and East Otago (August 2014)

Circulate a leaflet with thoughts about what you would like to do and ask for feedback

If you don't want to hold a community meeting, then you still need to gain some feedback from your local community and identify people who will work with you to take the project forward. An alternative would be to do a leaflet drop in all local letterboxes. You will need to provide the information, asking the right questions, then print and deliver to your local community. We recommend you warmly invite discussion and participation but set a deadline for feedback.

Advertise widely

It is really important to advertise your meeting in different ways:

- Local community newsletter (print or online)
- Flyer drop to individual households in the neighbourhood
- On social media

Record the meeting and key outcomes

It is really important to keep a record of what happens in your initial meeting (and in any meeting you have). In this first meeting there may be attendees who come along ready to discuss why and how they want to protect their specific piece of New Zealand. This kind of information is 'gold'. Record it because it will be useful further down the line (see Section 5: Understand Options within your Project Area).

2. Form A Group

Once a group of people have volunteered their time to come together because they believe in the common cause, then you can call yourself a group. This stage of the process is further explained below and offers advice on how, why and when to form a group.

2.1. How do you form a group?

There are different types of groups you can form, here are three common ones:

- A. Informal group (no formal roles, no official bank account)
- B. Charitable trust (needs formal roles, a Trust Deed acceptable to the Charities Commission, and can set up official bank account)
- C. Incorporated society (needs formal roles and can set up official bank account)

If you think you are going to need to apply for funds (such as to buy traps or pay someone to remove pests) then you will often need to be registered as either B or C. The fundamental difference between an incorporated society and an incorporated charitable trust board is that a society has democratic processes. Incorporated societies are often used for community membership groups like ethnic and religious groups, residents' associations, parent-teacher associations, or sports clubs. See <https://www.charities.govt.nz/news-and-events/blog/what-to-be-or-not-to-be-incorporated-societies-and-charitable-trusts/> for more information.

2.2. Why do you need to form a group?

If you want to apply for funding at any time, then you will normally need to be a formal group (listed above as B or C) to receive funds from Grant Funders. You also need to be a formal group to be able to open a bank account. Funding is important if you want to purchase traps or even contract someone complete some predator control work. Sometimes there could be an option to be “parented” by a formally established group. In this situation, the parent group will provide the banking and reporting systems to support your group.

2.3. When do you form a group?

It is important to get yourself set up as early as possible, as an informal group at least. You need a group of people who are interested, motivated and committed to attending meetings to discuss options and decide on process. Being an informal group for the first few stages of this process is completely acceptable; it is only when you come to start to apply for funding that you will need to become a formal group.

3. Define A Boundary

Once you have decided on the type of group you want to be, you will need to consider your options for the area you want to cover - you need to define a boundary. This stage of the process is explained below in terms of why, when and how to do so.

3.1. Why do you need a boundary?

You need to literally draw a line around where you want your project to cover. If you don't have a boundary it makes it harder in the long run to focus your predator control. There are no stipulations as to how large or small areas can be in order to run a successful trapping programme. All community trapping projects need a definitive border that they work within. It helps further down the track with describing landscapes, biodiversity values, community values and types of predator if you have a clearly defined boundary.

3.2. When do you need to define a boundary?

When you decide on a boundary is rather fluid. You may already have a specific location in mind when you approach your community (such as a discrete park, or a neighbourhood), or you may just be putting feelers out to see who else wants to participate. If it is the latter, defining your boundary will come somewhere between now and writing your management plan. It is advisable to have it by the time you start writing your predator control plan, as you will need to firm up your objectives and actions for the future.

3.3. How do you define a boundary?

You will need to consult with your community on defining workable boundaries. Often these are based on a combination of major property boundaries, landscape features like highways, main roads, rivers, farm boundaries and habitat boundaries.

Some locations have natural (clear or obvious) boundaries, such as the Chain Hills or the Dunedin Town Belt. The first is a group of hills with residents living on them. The natural boundary is the base of the hills and is identified on local maps (see figure 2, **left**). On the **right** is the Dunedin Town Belt (in green) and, again, easily defined on a map.



Chain Hills



Dunedin Town Belt

Figure 2: Left - Chain Hills has a clear boundary due to its name and locality within Dunedin. Right - Map showing Dunedin Town Belt (in green).

The Halo Project (Figure 3) does not have such a clear natural boundary, instead it was defined by catchments with communities who wanted to participate. It is advisable to define a boundary that can be mapped easily.



Figure 3: Map showing the Halo Project boundary (The Halo Project area covers West Harbour, north to Waikouaiti River and inland to the Silverpeaks)

Your local Predator Free Dunedin staff can provide advice with boundary setting.

4. Choose A Name

Once you have a boundary, you will need a name. This stage of the process is outlined below, including why, when and how to choose a name.

4.1. Why do you need a name?

All groups, whether an informal one or a formal one need to be called something.

4.2. When to choose a name?

A name is not the most important part of your project, but it does help gain support for it.

4.3. How to choose a name?

A name can be based on your area: **Town Belt Kaitiaki** is a collaborative, student-led education programme for Dunedin schools & early childhood centres supported by the Department of Conservation (DOC) and Dunedin City Council (DCC).

It can be based on your plan: **Open VUE** (Valley Urban Ecosanctuary) is the North East Valley (NEV) and surrounding suburbs project. The project is based on the plan to create an urban ecosanctuary within the valley area north of Dunedin city.

It can be based on both your boundary and your plan: **CHiRP** stands for Chain Hills Restoration Project and the perimeter of the Chain Hills is the boundary.

Or, it can relate to your project but be short and sweet to grab attention: **The Halo Project** as a name that has evolved out of a few iterations. Firstly, it was Beyond Orokonui, but the name didn't ever really get traction. One project that was within the Beyond Orokonui management plan, was the Halo Project and was a specific project based upon creating a halo around the Orokonui Ecosanctuary. It became clear that the name "Halo Project" had taken over from Beyond Orokonui for members of the community, so the project was rebranded, and the name Halo Project became the lead name.



Figure 4: Left - Original name and logo for the project work of the Landscape Connections Trust (note the use of the outline of the mapped boundary from Figure 3). Right - The Halo Project name and logo subsequently overtook the original name (but we kept it in the logo for continuity).

At this point, once you have a name, a logo is next. It is NOT essential at all, but it is really useful. Find a talented student (third year design students at the Otago Polytechnic love to have community organisations to design logos for) or a budding artist who wants to show off their talents or make it a competition and give away your first trap to the winner!

5. Understand Options Within Your Project Area

The type of landscape you are working in will have a significant influence on the long-term plan and types of predator control techniques that can be used. Use the Community Predator Plan template (found in the **Resources Folder 3: Community Predator Control Plan Template and Example**) to record the landscapes and values associated with your project area.

5.1. Why do you need to understand your options?

It is really important to understand what type of landscape or specific values you have within your defined boundary, as this information will guide decisions regarding what species to protect and what habitat might be missing.

5.2. When do you need to understand what your options are?

Some of the people who come along to the initial community meeting might come armed with information regarding the area they live and why it is important to them to protect it. This is the exact kind of information, values, that you need to capture and record. If you did not have that kind of information brought to the initial meeting or any subsequent meeting, then it is important you reconnect with your community to ask them some of these questions (see section 7: Reconnecting with your community, on how to do that).

5.3. How do you understand your options?

When we say “options” we are meaning describing the specific landscape, its uses, values and its history.

a) Landscape and land use.

Think about how the land is used; is it urban, or is made up of lifestyle blocks or farms? What types of farms/blocks? How many households?

For example, in terms of the landscape, is it forested (native or indigenous), hillside, flat land? Is it already high in biodiversity? Are there areas of natural habitat? What type of habitat is there for native species and predator species, such as forest (native/exotic/mixed), shrubland, scrub (including gorse and broom), tussockland, fernland?

b) Values

What does the community value about it? Are there parks or reserves? What size is the reserve and who administers it? What are the recreational values in the area? Are there walking/biking tracks, sports fields, dog walking areas? Is there a specific species you are trying to protect (maybe one that used to be there but isn't anymore)? These details are important to identify as they will have an impact of what type of predator control devices you may use.

Your local council or DOC may be able to provide information on habitat and biodiversity values, including plants and bird species present now and what may have been in the area prior to human induced change.

The Dunedin City Council have developed a detailed vegetation map for the city which is available to the public. This map distinguishes between the main indigenous vegetation types across Dunedin. Contact the DCC Biodiversity Advisor to access the map for your area.

c) History of Predator Control

Knowing the history of pest control in your area is useful. It may even give you an indication of current pest/predator levels.

Do you already know what the predators are? Has there been any predator control in the area before? Has there been any *TBfree* possum control or any private pest/predator control completed?

Finding out who has been or is already engaged in predator control can be done during community consultation. Ask your local farmers and lifestyle, or if your area contains a public reserve, contact the DCC or local DOC office to find out what type of pest or predator control has occurred there in the past.

Most areas of farmland or peri-urban land in Dunedin have been subject to possum control and ferret trapping in the past (or currently) for the purposes of TB control. Contact OSPRI to find out when and what control occurred in your area.

5.4. Example landscapes and values

In the **resources folders** we have included one of the original posters created by the Halo Project (when it was called Beyond Orokonui). The poster (see figure 5) illustrates and describes the different landscapes within the project area on one side and explains the vision, the values on the other. Values identified for Beyond Orokonui (in 2015) included:

- Biodiversity
 - Coastal forest ecosystems
 - Orokonui Halo pest control
 - Establishing seabird breeding colonies
 - Enhancing dry forest ecosystems
 - Freshwater fish habitat
 - Bird monitoring projects
- Ecosystem Services
 - Restoring lowland wetlands behind dune systems
 - Restoration of indigenous non-forest foredune and rear dune forest vegetation at coastal sites
 - Looking after the health of our wild food sources
 - Enhance local food supply
- Connecting people to the environment
 - Creating livelihoods and employment opportunities

Find it in the **Resources Folder 1. The Halo Project's community engagement examples > 1.1 Communication Examples > 1.1.2 Flyers and posters > e. Beyond Orokonui Poster Landscape and Biodiversity examples.pdf**. Contact us for the Dropbox link.

Biodiversity

We want to focus on species that are significant to local people, and on the enhancement of biodiversity in areas that form a part of people's daily lives, thereby contributing to the health and wellbeing of our people. The whole becomes greater than the sum of the parts. For instance, establishing ecological linkages across the landscape can provide birds, in particular, with access to more food sources and breeding habitat. In turn, they pollinate and distribute native plants seeds to areas that have had their species diversity reduced as a result of human and other influences.



Doctors Point, © Flyover Media

COASTAL FOREST ECOSYSTEMS

Indigenous shrubland associations, estuaries, dry broadleaved forest / tree lands and coastal wetlands are very poorly protected, with less than 5% of their extent within the project area protected.

An opportunity exists to enhance the connectivity of forest fragments across the whole project area, but most notably in threatened coastal areas. Any such work will focus on assisting landowners to restore and protect remaining areas of indigenous forest, particularly in areas where ecologically important ecosystems are present. Such work would include working collaboratively with willing landowners to exclude stock from fragments and to restore sites through planting and pest control, if it would enhance the functioning of the existing habitat. Planting projects could incorporate planting of Threatened an At Risk plant species of coastal forest habitats. Legal protection would also be considered as a part of the solution, increasing the durability of the effort.

OROKONU HALO COORDINATED PEST CONTROL

The Orokonui ecosanctuary is surrounded by land that is not subject to any form of coordinated pest control. The spill over effect of threatened bird species from Orokonui into the wider landscape is now occurring, and it is well known that most of these bird species are vulnerable to predation.

ESTABLISHING SEABIRD BREEDING COLONIES

Several coastal headlands exist within the project area, including Heyward Point, Mapoutahi and Huriawa. These sites have potential to be protected from mammalian predators by intensive trapping and / or pest exclusion fences, thereby providing potential breeding sites for sea birds such as the sooty shearwater. Restoration planting could be integrated within any such project, introducing appropriate coastal forest species.



Blue Penguin, courtesy Wikipedia user JJ Harrison



Figure 5: Snapshot of the Beyond Orokonui poster

All of this information helps build a picture of your project and provide options as to how you might want to proceed.

6. Define A Vision

Once you understand the values of your area, then you need to create a vision for the future. This stage of the process requires your team to come together to discuss what it is that collectively you want to achieve. Below is why, when and how to best do this, at the end of this section we include some example visions from other local community groups.

6.1. Why do you need a vision?

Having a vision provides clarity and direction for your group. Your vision will help you define your short and long-term goals and guide the decisions you make along the way.

6.2. When is it best to create a vision?

You may already have a vision, hence why you got people together in the first place. If you don't, then now is a good stage to be thinking of what will bring people together and drive you into the future.

6.3. How do you create a vision?

The best way to create your vision is to pull together your group and ask each of them why they are there. Then reflect on all of their answers and see where the commonalities lie. Here are some things to consider:

What is the long-term outcome you are wanting? It could be about enhancing existing biodiversity values. It could be the long-term goal of bringing back a taonga species or reducing predators to allow natural spread of species like robin or kaka into your area.

You may also like to refer to other values here, such as cultural, recreational, scenic and historic values identified during consultation and research.

The vision should only be one or two sentences and should allow the reader to quickly understand what your vision is all about. Use key words like enhance, reintroduce, re-establish, reduce. Maybe include a catch phrase like "bringing back the birds".

For smaller urban groups the vision may be about making the area safer for native species, pets and fruit trees!

6.4. Example visions

CHiRP's vision is: *"The forests of the Chain Hills are flourishing and safe enough to support the reintroduction of South Island robin."*

The Halo Project's vision is: *"From Silver Peaks to sea, communities and nature thriving in balance".* To accompany this, the Halo Project's mission is *"Inspire and work with our communities to enhance, protect and connect with this landscape."*

7. Reconnect With Your Local Community

A lot has gone on since you last met or informed your local community of what you are up to. In this stage of the process we explain why, when and how to keep your community informed.

7.1. Why is it important to keep your community informed?

It is essential to keep your community informed regarding progress of the project. In doing so more people may put their hands up to help, you may learn more about community or biodiversity values within the area or you may just keep a neighbour happy that they know what is going on.

7.2. When do you keep your community informed?

With any project things take time, so there is no need to give weekly updates at all. This is where your own judgement may come in, you may choose to put a little article into the local newsletter which is monthly, or you may choose to do so bi-monthly.

7.3. How do you keep your community informed?

Have a look in the **Resources Folder 1: The Halo Project's community engagement examples**, to see how the Halo Project has engaged residents in its predator control programmes (contact us at info@haloproject.org.nz and we will send you a link to Dropbox).

Folder 1.1 Comms

In the comms, there are examples of different ways to communicate with your local community.

- *Community News Articles (Rothsay News)*
- *Flyers and posters*
- *Community information events*

Folder 1.2 Residents' survey

One of the ways the Halo Project connected to the local community in the early days was through a resident's survey. There are examples in the folder to show what the Halo Project did.

Folder 1.3 Recruitment forms

Another way to connect to your community is to actively engage them with sign-up sheets.

Folder 1.4 Trap line signage

Once you have planned out trap lines it is really important to keep the community informed regarding what is happening and when, the following are examples of information board the Halo Project has used in the past.

8. Define A Management Approach

This section considers how you might implement and manage monitoring and predator control. When you come to write your predator control plan, your management approach needs to enable your group to meet its objectives. Your operational milestones (also defined for your predator control plan) are a product of this planning.

Things to think about: Will the group do all the work? Will you use a professional pest contractor for any part of programme delivery? How long do you expect to take to roll out each part of your project? How often will you check traps (depends on type)? Where will you source your bait? What will you do with carcasses?

Very simply, trapping programmes often start with predator monitoring, then the establishment of possum traps, then mustelid traps (which are often stoat traps), followed by rat trapping. **Section 11: Understanding Predator Control** explains in more detail what is required regarding trapping.

Remember that the establishment of trap networks over large areas will take time and does not need to occur all at once.

Consider how you will build community engagement and project ownership into your project as you move through each stage. How will you communicate with your volunteers, the group, the landowners and other stakeholders?

Record your management approach in the predator control plan **Template**.

8.1. Why do you need a management approach?

You need to know who is responsible for monitoring and recording data. You need to know who is setting, regularly checking and maintaining the traps.

8.2. When do you decide on a management approach?

It is a good idea to decide on how you want to proceed prior to creating the predator control plan.

8.3. How do you choose a management approach?

There are different management approaches to monitoring and trapping. A common approach for **monitoring** is volunteer driven, where the volunteers take charge of specific locations and monitor and record their findings. We have identified three common approaches to **trapping**, which are:

- Volunteers set, check, upload data and maintain trap lines;
- Paid contractors set, check, upload data and maintain trap lines;
- A combination of both.

	Pros	Cons
Option 1: Volunteers set, check, upload data and maintain trap lines;	Volunteers feel fully engaged as they have full responsibility of setting, checking and maintaining the traps.	Volunteers need training and managing. If volunteers get tired of checking and maintaining traps, who does it and how do you know it needs to be done?
Option 2: Paid contractors set, check, upload data and maintain trap lines;	There is certainty that the traps will be set, regularly checked and well maintained. Contractors can access the hard to reach places (gullies or hill tops). Contractors do not need any training and come with their own H&S cover.	You need to find funding to pay a professional to do the work. You need to manage the contract with the professional. Volunteers may feel like they don't have a roll, as all the trapping is done for them.
Option 3: A combination of both.	A professional can do the harder work, leaving simpler tasks to volunteers. For example, a professional could remove goats, and do initial knock-down control of possums, then volunteers take over trap network.	You need to find funding to pay the professional to do the work. You need to manage the contract with the professional.

In the Halo Project's experience, we have noticed that having at least two volunteers working together to monitor and maintain a single trap line is preferable. With at least two volunteers, it means one volunteer doesn't feel the pressure of having to be solely responsible for a trap line. They also feel a small amount of peer pressure, and so the reliability of checking increases. It also means they check with each other to ensure catch data is uploaded to TrapNZ.

9. Know your Target Predator

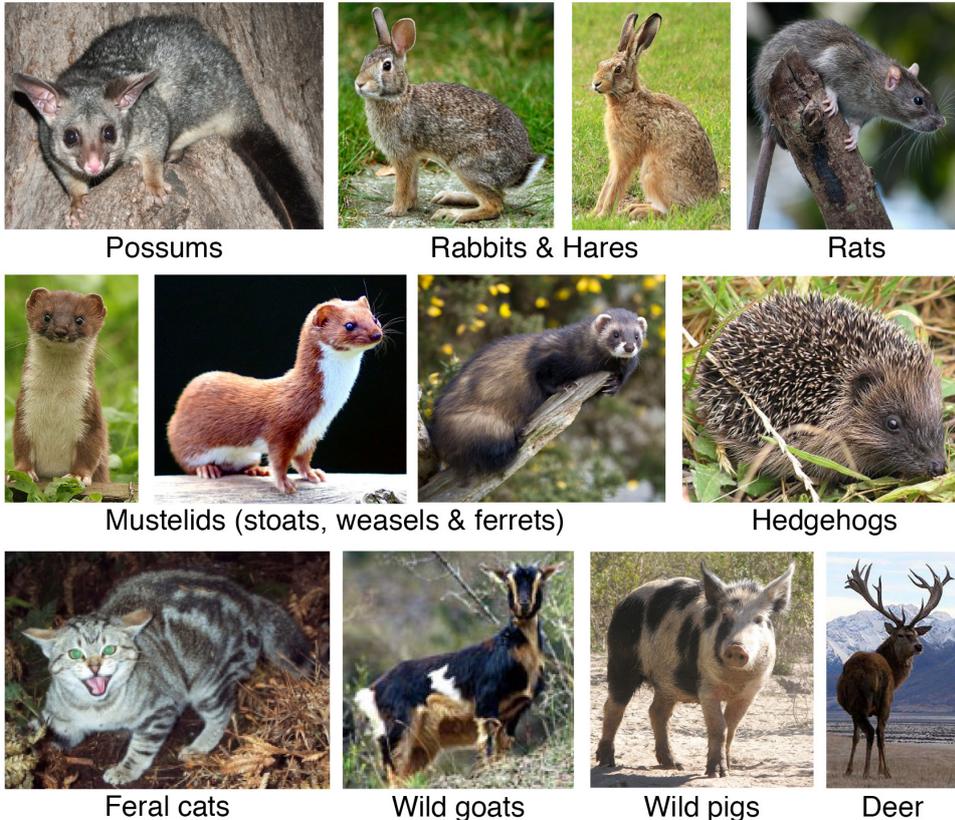


Figure 6: Browsing animals and predatory animals from Halo Projects' Residents Survey (Sept 2015)

9.1. Why is it important to know your target predator?

It is important to know what predators and browsing animals you will be targeting for your predator control plan.

9.2. When do you identify your target predator?

Identifying target predators early in your process is useful and will likely come from your initial engagement with your community as people will tell you which pests they've seen.

9.3. How do you identify your target predator?

Identify the predators and browsing animals that you wish to control. Possums and rats will likely be present in most urban settings, and mustelids if there are larger areas of forest, shrubland or scrub. Monitoring, as discussed below, will inform your decisions; so too will community consultation. See page 4 – 18 of DOC's *A Practical Guide to Trapping* for advice on how to identify different predators and browsing animals, their habitats and the impacts they have.

10. Understanding Outcome and Results Monitoring

10.1. Outcome Monitoring – protecting native species

Outcome monitoring is monitoring native species that should respond positively to the reduction of predatory and browsing animals. Outcome monitoring helps to show that you are achieving what you set out to do – to create a safer place for native wildlife to flourish. It relates directly to your stated vision and objectives. You may decide to monitor lizard populations as well as native bird species. Penguin monitoring may be suitable for coastal projects. Your monitoring data can be used to gauge the success of your project and contribute to gauging the success of Predator Free Dunedin.

We do not recommend you start outcome monitoring on your own because it is an area where expert help will be necessary, instead ask your local Predator Free Dunedin staff for advice.

10.2. Results Monitoring – understanding what predators you have

Results monitoring is about gauging the success of your trapping programme and will directly feed into your operational milestones (when you write your predator control plan). Monitoring your target predator species should start before you begin trapping/controlling them, and then (if your trapping project is successful) you will see less and less sign of predators over time.

10.3. Why do you need to monitor?

Monitoring assesses changes over time in ecological aspects of the area you are trapping and is essential for determining how your trapping efforts are contributing to improvements in the area's ecology.

10.4. When do you start monitoring?

It is particularly important to know the state of predator populations, **before** and **during** predator control. If your plan is to release taonga species back into your area, then you need to be able to show that predator populations have been low for some time.

10.5. How do you monitor?

Possums and rats¹ are all generally monitored using the Bite Mark Index (BMI) or the Residual Trap Catch Index (RTCI). BMI is basically counting the number of chew cards or wax tags that have been chewed on by a particular species and turning it into a percentage. It is, in reality, more complicated than that, so once you get to this point, contact the

¹ Rats can be monitored with both chew cards and tunnels as they will chew on wax tags put out for possums as well as travel through monitoring tunnels put out for stoats.

Predator Free Dunedin staff for advice. Rats and possums leave different marks on wax tags and chew cards.

Small mustelids (stoats / weasels) and rats are monitored with tracking tunnels. The number of monitoring tunnels needed will depend on the size of the area you will be trapping.

For possums, monitoring once a year at the same time of year is recommended. Possums are relatively slow breeders and the population should reduce quickly and be able to be maintained at low levels with a long-term approach to control, monitoring simply helps inform you of the success (or otherwise) of your project.

Rats, in particular, can respond to changes in the environment very quickly. Populations of fast-breeding rodents can grow rapidly in response to increases in food abundance. Regular monitoring will enable you to review your methods and respond quickly to make any changes needed to suppress a population explosion and meet your objectives.

See page 21 of DOC's *A Practical Guide to Trapping* for details on "How to use tracking tunnels to monitor stoats and rats" and "How to use chew cards or wax tags to monitor possums" page 28.

10.6. How to interpret bite marks in chew cards or pawprints on ink pads

There is some basic information about interpretation in DOC's *A Practical Guide to Trapping*. As a rule of thumb, possums tend to squeeze peanut butter out of the chew cards (see figure 7) whilst rats eat the plastic. We have included a simple description in **Resources Folder 2: Best Practice Guides** > 2.2 How to use a chew card -Contact us for the Dropbox link.



Figure 7: Possum bite marks on chew card (from Resources Folder 2: Best Practice Guides > 2.2 How to use a chew card)

Footprints differ a lot and the ink pad from tracking tunnels may get a lot of travellers from weta and mice (see figure 8) to stoats and hedgehogs. A detailed description of footprints can be found in **Resources Folder 2: Best Practice Guides** > 2.3 Manaaki Whenua's How to read prints.

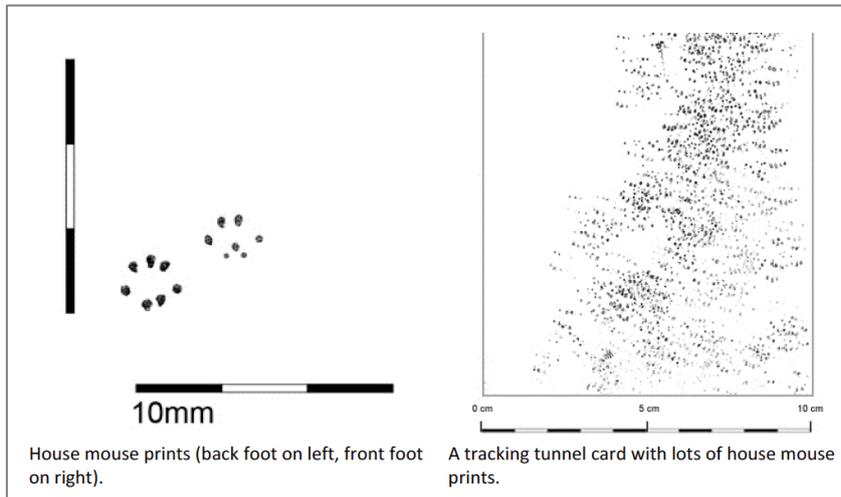


Figure 8: Mouse footprints (Resources Folder 2: Best Practice Guides > 2.3 How to read pawprints [Manaaki Whenua])

11. Understanding Predator Control

In this predator control section, we described what will be required in order to create trap networks for three common predators: possums, mustelids (weasels, stoats and ferrets) and rats. Very simply, predator control often starts with predator monitoring, then the establishment of possum traps (in two phases, see below), then mustelid (most commonly stoat) traps, followed by rat trapping.

There is a lot of information included in this section and it does get quite detailed and technical. Remember that your Predator Free Dunedin team will be available to give advice with setting up trap networks.

For this section please see pages 32 - 58 of DOC's *A Practical Guide to Trapping*. It contains all the info you need to know about trapping possums, mustelids and rats. Including trap types, baits, trap spacings, frequencies of trap checking and trap maintenance.

11.1. Phases of control

For **possum trapping** there may be up to two phases of control:

1. Initial trapping phase – this is the first phase and is an intense period to heavily trap possums and reduce their numbers significantly. This is often called “population reduction” or “knock-down”.
2. Long-term maintenance phase – this is the second phase and is less intense than the first and traps are more dispersed (approximately one trap per hectare of habitat). This phase is often referred to as “low population maintenance”.

11.2. Trap selection

Selecting the right trap will be a compromise between initial cost, ease of use, self-setting versus single kill and ability to kill multiple species. You will need to consider these carefully. If possible, choose traps that target more than one species. Rats can be caught in some possum traps and in many stoat traps. Stoat traps also trap and kill ferrets, hedgehogs and weasels but ferret traps will not catch weasels as they are too light to set off the trap.

Self-setting traps are recommended for deep gullies and hard to access locations.

Where residents have a concern about pets and traps, we recommend using education resources to help them understand how safe their cat/dog is around the traps. You can find resources on the Halo Project website (www.haloproject.org.nz/resources). We do not recommend using live capture cage traps because traps must be checked every day and live possums humanely dispatched and disposed of.

DOC's *A Practical Guide to Trapping* only discusses trapping, but there are some situations where using toxins may be advantageous. However, in most urban and peri-urban situations trapping is usually the best method.

Note that DOC's *A Practical Guide to Trapping* outlines "best practice". If this seems too difficult to achieve, remember that some predator control is better than none. Predator Free Dunedin staff can provide advice regarding what is best for your group.

11.3. Determining trap placement

Trap sites need to be pre-planned using Geographic Information Systems (GIS) software with the help of an experienced GIS user. GIS software is used to generate appropriate trap locations and to create an associated Global Positioning System (GPS) waypoint (basically a specific location within your specific area).

Using a GPS device traps will be placed at the best site within 30m of the predetermined GPS waypoint. Once trap is in place the exact location should be marked (GPS waypoint taken) with the GPS device. This waypoint will be used to populate TrapNZ. See figure 9 for the Halo Projects' stoat trapping network map, the red dots are the GPS locations and the map was generated from TrapNZ.

If you do not have any experience with GIS/ GPS, contact the Predator Free Dunedin team for advice.

11.4. Number of traps required

The number of traps required is based on the type of predator you are targeting and the type of trap using. Refer to DOC's *A Practical Guide to Trapping*, page 41 for details.

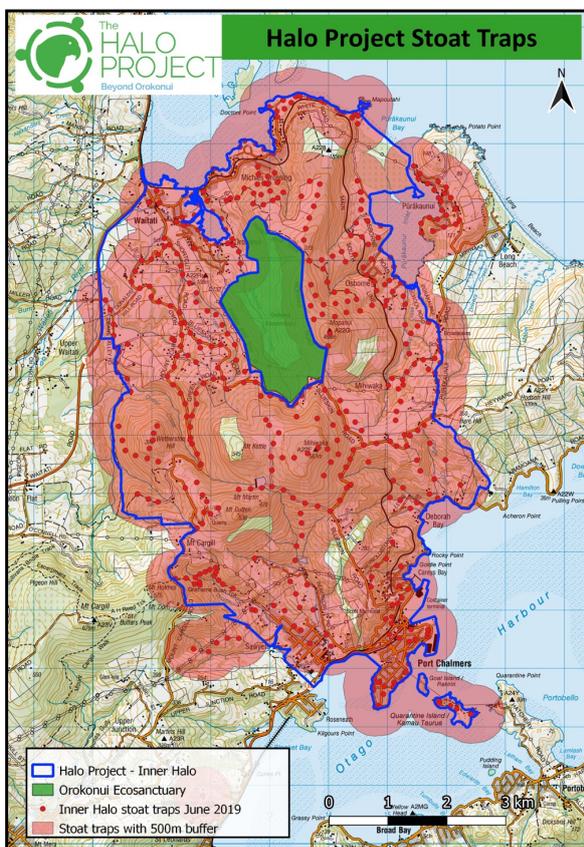


Figure 9: Actual stoat trap network for the Halo Project (as at June 2019)

11.5. Trap servicing

Most traps will require checking on a monthly basis, some will require annual servicing. Refer to DOC's *A Practical Guide to Trapping*, page 49 to 57 for details.

11.6. Bait selection and access

It is essential correct baits are used in correct traps. DOC's *A Practical Guide to Trapping* has a list of bait for different target predators (see page 39).

In the Halo Project's experience, for stoats, hen eggs are ideal because they are readily available and are easy and clean to use as bait. Unlike meat-based baits, eggs stay fresh in the trap for up to a month.

Do not put bait for stoats in possum traps. Meat-based products should not be used in possum traps because the smell will attract non-target predators, including pet cats.

Consider how your volunteers will access baits. Some baits can be easily kept at home, such as peanut butter and possum dough. Others, however, are more difficult to access and keep fresh, such as rabbit meat for stoat traps. Consider where they will be stored and how volunteers will access them.

12. How to Create A Predator Control Plan

This section explains in detail how to create a predator control plan.

The planning process provides a method of organising information that you will need to make effective decisions regarding your project and about how to allocate resources in a way that will enable you to have a successful trapping programme.

In **Resources Folder 3: Community Predator Control Plan Template and Example** you will find a **template** (for you to fill in) and an **example** document (to show you how to fill it in) to further explain creating a predator control plan.

12.1. Why do you need a plan?

All effective businesses have a long-term plan in place that helps guide day-to-day decisions. Your project is no different. It needs a management plan in order to consider all of the options and outline the ones that are most important to you, as a group.

12.2. When do you need to write a plan?

We believe that once you have all the steps indicated above underway, then you are in a good space to start planning out what and how you want to proceed.

12.3. How do you write a plan?

Your plan should be developed following some initial consultation with your community. Drafts of your plan should also be distributed for consultation. Predator Free Dunedin staff are available to ask advice.

The **Example** document and the **Template** document are to be used in conjunction with the information presented in DOC's *A Practical Guide to Trapping*, a publication developed by DOC and covers most aspects of rat, mustelid and possum trapping projects.

Below are explanations of what you will need for each part of the Predator Control Plan, we recommend you record your information in the **Template** provided and use the **Example** document for further ideas, both documents can be found in the **Resources Folder 3: Community Predator Control Plan Template and Example**.

1 Vision

You defined a vision in section 6. Record it in your plan.

2 Introduction

Using work completed from the previous sections, introduce your plan by covering its main themes, so that the reader gets a feel for what is coming. Introduce your group, who you represent and briefly describe your project area. Explain why you want to set up this project by briefly touching on the predators you've identified, the natural, cultural or other values that you want to protect and enhance, and how the predators' impact on them. It is really useful

to record your project's boundaries (defined in section 3) in your plan in the introduction section.

It is often easier to write this section once the bulk of your plan is complete (so write this section last).

3 Objectives

Make a list of three or four objectives. These are needed to direct the plan, aid the development of the plan and should relate directly to the vision.

For example:

- Reduction of predators to allow for the enhancement of natural biodiversity / reintroduction of x species.

For projects within the urban area of Dunedin city, the objectives could include simple statements about contributing to the overall goals and objectives of Predator Free Dunedin.

There should also be objectives for community engagement and participation. Think about volunteer monitoring, volunteer trapping crews, school involvement, backyard trapping, and the social aspects of belonging to a group of people with a common vision.

4 Operational Milestones

Operational milestones should be SMART (Specific, Measurable, Achievable, Realistic and Timebound) and should relate directly to the objectives written above.

Example milestones:

- Implement a best-practice mustelid trapping programme across 300 ha of Blueberry Neighbourhood, by 2023.
- Reduce the possum population to 5% RTCI within three years of starting the programme.

5 Landscape Description and Biodiversity Values

In section 5, you understood your options within your project area, record the different landscapes, values in your plan.

6 History of Predator Control

Also, in section 5, you researched into the history of predator control in your area. Record your findings in your plan.

7 Mapping

Mapping is a very important step in the predator control plan stage. It will require the services of someone with GIS experience to create maps for you. Ask the Predator Free Dunedin team for advice and connections.

Map your project area boundaries and measure the total area in hectares. Identify, map and measure forest, shrubland and scrub (potential predator habitat) providing a combined measurement. Public reserves need to be clearly identified and mapped.

Property boundaries need to be clear, so that you can identify those private properties that will be part of the project. Identify the various legal, land use and habitat features of your project area, including area size. This will allow you to plan your predator control work precisely. Remember to clearly title your map, including a key, north orientation, scale and date.

8 Predators to Control

Using information from section 9, write a brief description of the predators you've decided to control, including their habitat, diet and local impact.

9 Monitoring

Using information from section 10, record how and when you will monitor for the predators indicated above in your plan.

10 Predator Control Tools

Using the information described in section 11, record what tools you will use for each species you wish to control.

Possums

Review DOC's *A Practical Guide to Trapping* and choose the best trap for your situation. Trapping distances within contiguous habitat are stated in the guide and are at around one trap per hectare. Also, for back yard trapping aim for one trap per 5-10 households.

In some situations, the use of a toxin may be appropriate.

Mustelids

In most situations, concentrate on controlling stoats over other predator species. Stoats are the worst culprit in terms of killing native wildlife. Stoat traps will catch weasels and ferrets as by-catch. DOC's *A Practical Guide to Trapping* covers trap selection and network layout. If you have a small area of habitat, aim for one trap per 10-15 hectares.

High or moderate rabbit populations will drive up ferret numbers. If the site has high numbers of rabbits, you may want to consider incorporating some ferret traps. These will also catch stoats. Set these within the areas with rabbits and stick to a trap density of one per 10 ha. Ferrets do have some impact on reducing rabbit numbers, so be aware that trapping ferrets may effect (or may have a perceived effect) on the rabbit population.

Rats

Review DOC's *A Practical Guide to Trapping* and choose the best trap for your situation. Build your rat trapping network to the best practice guidelines described on page 41 of DOC's *A Practical Guide to Trapping*. In some areas, toxins may be used for rat control.

11 Management Approach

In section 8, you will have started to define a management approach, which explained how your group will implement and manage your predator control plan.

Key questions to consider: Will the group do all the work? Will you use a professional predator contractor for any part? How long do you expect to take to put traps out for each part of your project? How often will you check traps (depends on type)? Where will you source your bait? What will you do with carcasses?

Consider how you will build community engagement and project ownership into your programme once you have started.

Remember to include signage for trapping to ensure public safety if you are trapping in an area with public access.

12 Data Management

Data management is very important. All Predator Free Dunedin projects and most community trapping projects across New Zealand are using TrapNZ to capture data and report on projects. This is a web-based system with an integrated smart phone app to allow the upload of data in the field. The software allows you to record every trap location, trap type, bait, catch, date of check and service, and who did it. Using the data, a range of reports and analyses can be produced easily to provide powerful insight into your trapping project. Be sure to communicate these insights to your group, landowners and other stakeholders. See <https://www.trap.nz/> for more details.

13 Budget

You will need to create a budget so you know what the costs will be over the long term. While you'll be using volunteers for most of the work, other costs need to be identified. There will be a significant initial expense purchasing traps. Ongoing costs will include bait. You may want to budget for volunteer support, expenses, training and rewards, printing of signs and other information for community engagement, and for trap servicing or replacement.

Consider each part of your plan and what you will need for it, include time and equipment.

14 Volunteer Management

Budget your hours required and schedule tasks as required.

Consider how you will communicate with your volunteers and coordinate their input. The easiest way to communicate with volunteers is via email. The best way of coordinating volunteer input is by collecting specific data from each volunteer using the Volunteer Registration Form (see **Resources Folder 1: The Halo Project's community engagement examples** > 1.3 Recruitment Forms. Contact us for the Dropbox link) and plugging this data into an excel spreadsheet. The simple excel spreadsheet requires details such as who your volunteers are, how to contact them, any medical conditions or allergies, what activities they want to be involved in, their level of fitness, their availability and then what trap lines they are willing to check. This could be backyard trapping (so just traps in their own backyards) or a trap line they check with one or two others.

15 Health & Safety

Health and safety is important. Firstly, consider what hazards may be encountered and write them into a Hazards Register. Secondly, create a Hazards Safety Plan, which is how each hazard will be managed if encountered.

You and your group do not have sole responsibility for health and safety, as each volunteer is responsible for the own safety. A volunteer worker must:

- take reasonable care of their own health and safety;
- take reasonable care that what they do or don't do doesn't adversely affect the health and safety of others;
- cooperate with any reasonable policies or procedures of the business or undertaking has in place on how to work in a safe and healthy way; and
- comply with any reasonable instruction given by the business or undertaking so that they can comply with HSWA and the regulations.

Visit the Worksafe website and search for "Volunteers" if you want more details:
www.worksafe.govt.nz

13. Raise Funds For Your Project

Once you have started to create your predator control plan; you will start identifying equipment required (see the budget section). Therefore, you will need to start looking for funding in order to purchase this equipment. This is where being either an incorporated society or charitable trust come in really useful. You need a bank account! This stage explains why, when and how to raise money for your specific project.

13.1. Why do you need to raise funds?

Most community organisations have a lot of enthusiasm but not much money. So, fund raising is part and parcel of getting things done. You will have a predator control plan in process or complete and this will give you a clear objective of what you need and when you want it.

13.2. When do you need to raise funds?

Once you have started creating your predator control plan, you will have a good idea of funding required and some good words in your plan to use in funding applications. So, make the most of the hard work that has gone into creating your predator control plan and write some funding applications too.

13.3. How do you raise money for your project?

These are a few funders that you could apply to:

<https://predatorfreenz.org/about-us/our-programmes/predator-free-communities/>

<https://www.mfe.govt.nz/more/funding/community-environment-fund>

https://www.wwf.org.nz/what_we_do/community_funding/

<https://www.dunedin.govt.nz/services/funding-and-grants/biodiversity-funding>

14. Upskill Your Team

You will have a group of people who may or may not know how to set traps. This stage explains what you can do in order to upskill your team.

Refer to DOC's A Practical Guide to Trapping (p.44) for more information.

14.1. Why do you need to upskill your team?

Staying safe when trapping is the ultimate goal. Worksafe state, "If you're a volunteer, you must take reasonable care of your own safety and take care not to do anything which could harm another person" (www.worksafe.govt.nz). As a community group you must have a health and safety plan in place. Therefore, you need to think about how you will upskill your team to ensure everyone knows what to do and how.

14.2. When is the best time to upskill your team?

Once you have started writing your predator control plan, you will want to start planning how to implement it and in order to do that you need to upskill your team.

14.3. How do you upskill your team?

Look for local training courses and attend any local workshops. Ask your local Predator Free Dunedin staff for dates of the next workshops, or something they are running, similar to the one shown in figure 10.

Figure 10: Example course to attend to learn about Predator Trapping Methods

15. Review and Report

Reviewing what you are doing and reporting to your funders and your local community is essential.

15.1. Why

Reviewing your predator control plan and reporting back to your community and to funders will help ensure continued interest and engagement in your project and may be a requirement of your funders.

15.2. When

Requirements from each funder will vary, so ensure you log what is required and when once you receive funding. We advise you report back to your community regularly. Reviewing your processes and your predator control plan can be on an annual basis.

15.3. How

We advise you report back to your community through any of the channels we have described in section 1 or section 7. Reviewing your predator control plan will need planning and might require expert help. Ask your Predator Free Dunedin team for advice.

FAQ & ADDITIONAL RESOURCES

FAQ

Frequently Asked Questions & Additional Resources

Resources within this folder include:

- Frequently Asked Questions
- Additional Resources

Frequently Asked Questions

Where can I get traps from?

View the following list of suppliers of traps and bait:

<https://predatorfreeenz.org/resources/where-to-buy-equipment/#traps>

How safe are native birds around traps?

By following best-practice guidelines for trap selection and installation, and using the correct bait for your situation, the risk to native birds should be very low. Ask established local groups what they do or ask your local DOC office for advice around specific native species.

Is my cat safe around traps? Is my dog safe around traps?

As long as you follow best-practice guidelines for trap selection and installation, and use the correct bait, your pets should be safe around traps. Installing traps, baiting them but leaving them unset for a week or two for the novelty of a new object to wear off works well for most curious pets as they lose interest when they realise there is no “reward” available. For additional peace of mind, try some of the following: set traps at night, unset in the morning; keep pets indoors at night; and in some circumstances you may like to undertake trap aversion training. View the video to see how:

<https://www.predatorfreepeninsula.nz/resources/>

The Halo Project ran a school programme “*How safe is my cat?*” View the video,

<https://vimeo.com/216769148>, or read about the study [How safe is my cat summary info.pdf](#)

Do I need permission to trap on public land or private land?

You must have permission from the landowner of private land or the administering body of a reserve or other public land (DOC or DCC) before you start trapping.

How do we find volunteers?

Contact the Dunedin DOC office and local community groups such as the Halo Project to find volunteers.

Where do I go for Health & Safety advice?

View these resources, and if you are trapping on public land, contact the Dunedin DOC Office or DCC – whichever is relevant. For trapping on private land contact a local community group such as the Halo Project. Health and safety advice is available online at: <https://predatorfreenz.org/toolkits/group-administration/health-safety/>
<https://www.predatorfreeninsula.nz/health-and-safety/>

How do I dispose of the animal carcasses?

Bury carcasses or wrap in newspaper or place in a bag before putting out with household rubbish in DCC prepaid rubbish bags. Dispose carefully: a possum's sharp claws are hazardous.

How do I deal with opponents of trapping?

Education is the key. It is best to simply provide accurate information to dispel myths and misinformation. Listen and respond calmly to any concerns. Avoid entering into emotive arguments and try to find common ground, pest control isn't for everyone. Provide details of an alternative expert for the person to contact (e.g. from Predator Free Dunedin) or online resources from reputable sources such as Predator Free 2050 or DOC. Always follow best practice advice and any legal obligations related to your activities to avoid issues.

Additional Resources

The following are useful resources:

<https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/toolkit-predator-free-2050/trapping-and-poisoning/site-specific-factors/>

<https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/toolkit-predator-free-2050/trapping-and-poisoning/choose-traps-and-toxins/>

<https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/toolkit-predator-free-2050/trapping-and-poisoning/where-to-put-trap-and-bait-lines/>