



ENVIRONMENT CANTERBURY

**NEW ZEALAND RURAL WASTE MINIMISATION PROJECT  
MILESTONE 6b PHASE III:**

**PROJECT COMPLETION REPORT**

TRUE NORTH CONSULTING / CHERRY RED CONSULTING  
29 JUNE 2018

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## 1. EXECUTIVE SUMMARY

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The New Zealand Rural Waste Minimisation Project (the Project) is being undertaken to better understand the nature of waste on farms and to identify sustainable alternatives to burning, burial and bulk storage of waste.

The Project has the following objectives:

1. To determine the impacts on and risks to New Zealand's natural resources (land, water and air), economy, and social and cultural wellbeing from current rural waste burning, burying and stockpiling practices.
2. To identify new waste minimisation options for rural waste management and assess the technical and economic feasibility of these.
3. To develop implementation plans with service providers for feasible waste minimisation options.

Based on the feasibility assessments and analysis undertaken in Milestones 2 to 5 of the Project, it was determined that the Project would progress with four identified options:

- *Agrecovery / Envirowaste Rural Waste Services*: Plan, promote and execute a small number of pilot Temporary Pop-up Recovery Events including new waste streams and regional coordination with on-farm collections. Look also at providing soft plastics collection services at Territorial Authority Recycling Drop-Off Hubs and other Agrecovery container collection sites.
- *Expanded ROSE Oil Recycling Scheme Drop-Off Hubs*: Plan, promote and execute service provision at two Farmlands stores.
- *Community Organisation On-Farm Collection*: Work closely with specific community organisations to support planning for implementation of on-farm collection services and, where feasible, assist with localised service pilots.
- *Fonterra Sharps Collection*: Trial collection of sharps containers via a Temporary Pop-up Recovery event and support with planning for wider option rollout. Consider inclusion of container collection at Temporary Pop-up Recovery Events.

The Agrecovery / Envirowaste Rural Waste Services pilots were delayed as the service providers were not in a position to progress as intended. Eventually it was determined that funding would be provided to Agrecovery to undertake two pilots independently, with the Project team providing an evaluation of these pilots in accordance with the objectives of the Project. These pilots were undertaken in May 2018, and were considered to be very successful.

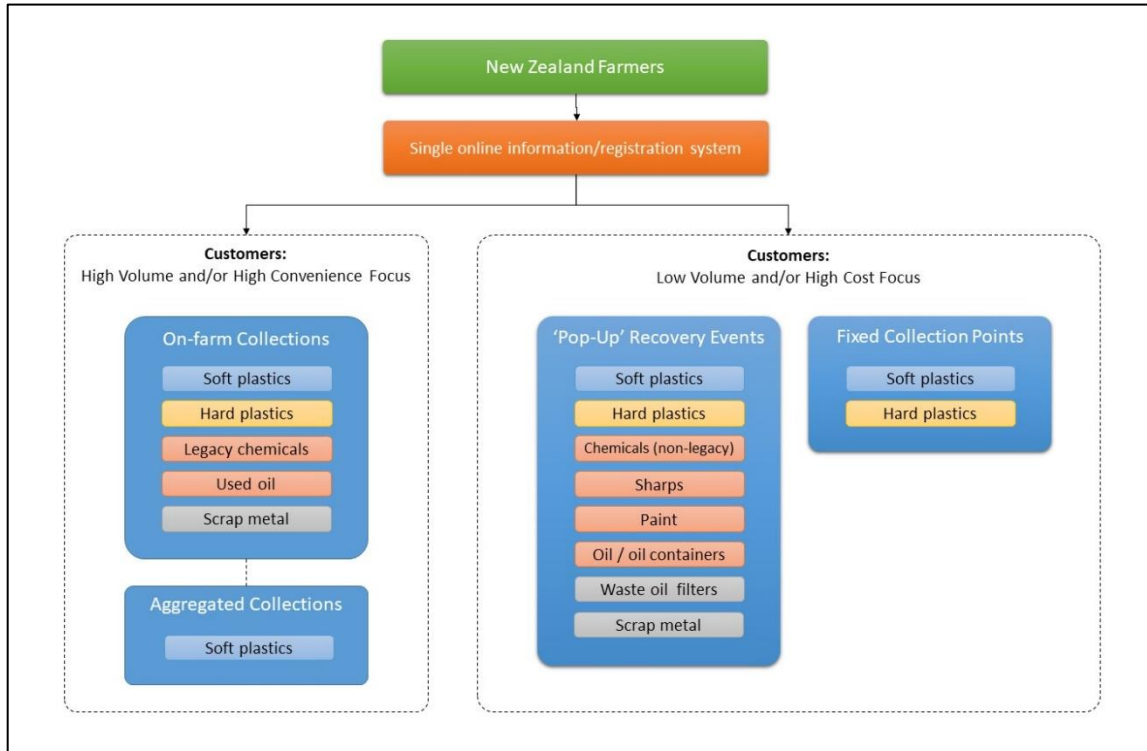
Both partnering territorial authorities – Matamata-Piako District Council and Timaru District Council – have expressed a desire to see more events undertaken. Farmer feedback was universally positive and volumes of waste greater than expected. Agrecovery has sought funding from the Ministry for the Environment's Waste Minimisation Fund to support wider deployment of the 'one-stop shop' model over the next two years. A full evaluation of the pilot events is included in this report.

Building on the success of the pilot events, an optimised 'one-stop shop' model has been articulated in this report to provide guidance to the waste services market as to how best to provide services sustainably to farmers.

This model, built on best-practice service design principles, puts the farmer at the centre of the service and builds service delivery around the needs and practices of busy farms. It focuses on providing flexibility for

farmers by allowing different levels of service and service pathways (on-farm collection, fixed collection points and pop-up recovery events). These pathways are structured based on whether the farmer utilising the service has high volumes of waste or is focused on convenience, or whether the farmer has low volumes of waste or is focused on minimising cost. The model is supported by a strong emphasis on proactive customer communication, rationalisation of transportation logistics and creating a customer-centric service culture.

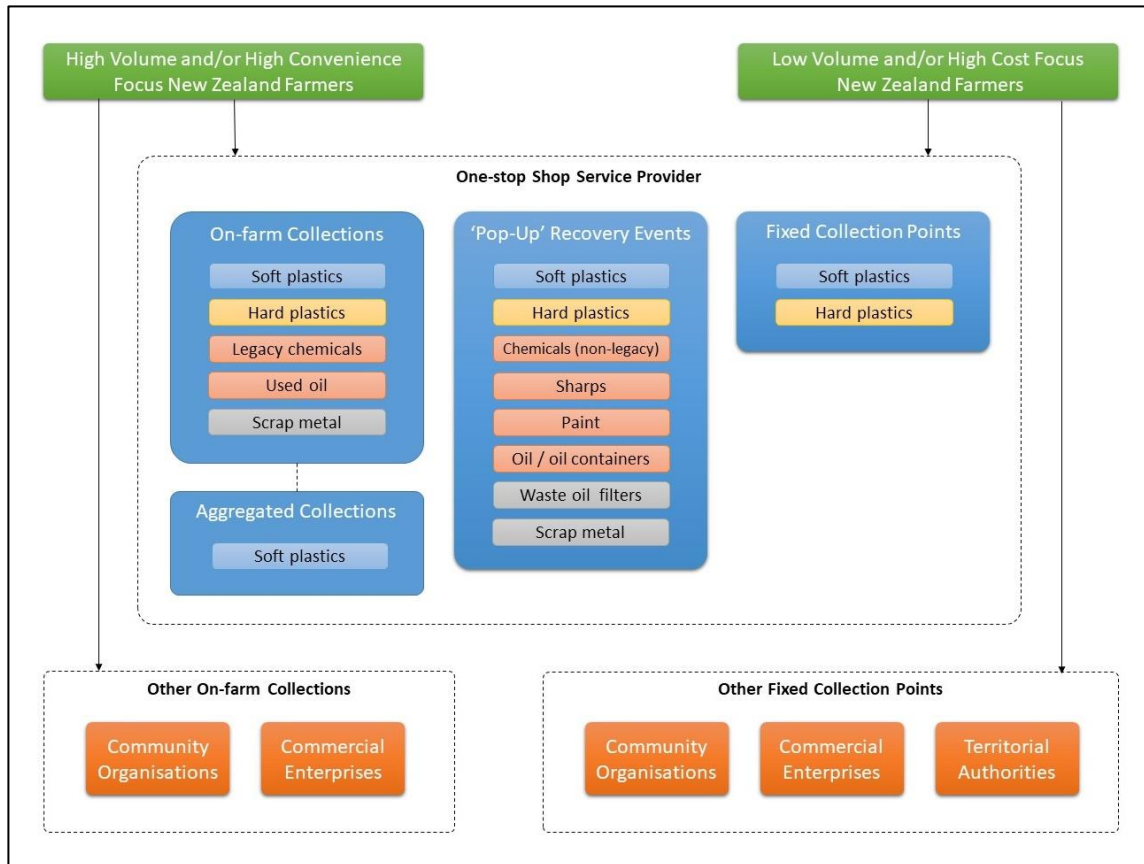
The model is illustrated in Figure 1 below:



**Figure 1: One-stop Shop Model**

It is not intended, however, that the 'one-stop shop' model exist in isolation, and community organisations in particular have an important role to play in addressing rural waste issues in New Zealand and supporting behavioural changes. An overall picture of how the new model and existing service providers can co-exist to provide a complete service to farmers around on-farm waste is illustrated in Figure 2.





**Figure 2: Rural Waste Solutions Model**

The Expanded ROSE Oil Recycling Scheme Drop-Off Hubs pilots have been completed and the results of the pilots included in this report. While there is general agreement as to the value that such a service would provide, the lack of a reliable market for the plastic containers collected rules out wider deployment of the in-store model at this stage. Both Farlands and ROSE are, however, open to publicising the free on-farm collection of larger volumes of oil, as occurred during the pilots.

Liaison and communication with community organisations has been maintained through the Project, and a number are providing on-farm collection services. Those that have deployed or trialed such services display effectiveness in farmer engagement, education and avoidance of contamination. They also maintain an exemplary focus on customer service and effective service design.

Wastebusters Canterbury, particularly, has continued to grow strongly in service provision, and provides a model from which other community organisations – and commercial operators – can learn. Central and local government support of such organisations would be a wise investment in helping to achieve behaviour change in rural communities towards waste recycling.

The Fonterra Sharps Collection pilot has been concluded satisfactorily, but Fonterra has elected not to progress with a wider rollout due to the long timeframe required to fill a container with needles and the relatively low perceived priority in managing this waste stream.

As the Project concludes and the focus shifts to the changes that must be enacted in order to move default farmer behaviours away from burning, burial and bulk storage of waste, this report outlines the key learnings from the work undertaken to provide guidance to government and the private sector.





The key learnings are as follows:

- Farmers are already motivated to protect the land.
- Service uptake depends on flexibility in cost and convenience.
- Waste should be dealt with all at once.
- Solutions need to be designed around farmers.
- Waste end-market sustainability is the key threat to service viability.
- Legislation is unlikely to be the primary solution to current farmer waste management issues.
- Service participation is best ensured by partnering with industry organisations.
- Effective service provision and farmer engagement is being modelled by community organisations.

## 2. INTRODUCTION

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### 2.1. PROJECT OVERVIEW AND OBJECTIVES

In 2013, Environment Canterbury commissioned a study that sought to understand the non-natural waste streams and volumes of waste generated on farms in the Canterbury region. This work found that, on average, farms were producing nearly 10 tonnes of non-natural rural waste each year in addition to domestic waste and animal remains. The report also confirmed that burning, burial and bulk storage of waste on farms were the prevalent methods for managing waste. Investigative work undertaken in the Waikato and Bay of Plenty regions in 2014 yielded similar results.

Based on the concerns this work raised, Environment Canterbury sought and received funding from the Ministry for the Environment's (MfE) Waste Minimisation Fund (WMF) to undertake a project to better understand the nature of waste on farms and to begin to identify alternatives to burning, burial and bulk storage of waste. This project is called the *New Zealand Rural Waste Minimisation Project* (the Project).

In addition to funding from the Waste Minimisation Fund for the Project, Environment Canterbury has part-funded the work and additional funding has been received from:

- Waikato Regional Council
- Bay of Plenty Regional Council
- Canterbury Waste Joint Committee
- WasteMINZ Strategic Investment Fund
- Synlait Milk
- Agrecovery Foundation
- 3R Group Limited

The project is overseen by a Governance Group that is chaired by Environment Canterbury and includes representatives from:

- Waikato Regional Council (as a regional council representative)
- Ashburton District Council (as a local council representative)
- Synlait Milk
- WasteMINZ
- Fonterra
- DairyNZ

The Project has the following objectives:

1. To determine the impacts on and risks to New Zealand's natural resources (land, water and air), economy, and social and cultural wellbeing from current rural waste burning, burying and stockpiling practices.
2. To identify new waste minimisation options for rural waste management and assess the technical and economic feasibility of these.
3. To develop implementation plans with service providers for feasible waste minimisation options.

The Project comprises six milestones across three project phases, as follows:

Phase	Milestone	Description	Status
1	1 - Risk assessment	<ul style="list-style-type: none"> <li>Undertake risk assessment of rural waste disposed on-farm and prioritise high risk waste streams for further work.</li> </ul>	Complete
<i>Project stage-gate: MfE and ECAN agreement required to proceed past this point.</i>			
2	2 - Situational analysis and options for minimising rural waste	<ul style="list-style-type: none"> <li>National and international review of options for increasing rural waste reduction, reuse, recycling, recovery and disposal, and a preliminary feasibility assessment of each.</li> </ul>	Complete
2	3 - Explore potential waste minimisation options	<ul style="list-style-type: none"> <li>Informed by the strategy developed in Milestone 2, explore options for rural waste minimisation identified as feasible in Milestone 2 in more detail including financial implications, potential risks and barriers, and benefits.</li> </ul>	Complete
2	4 - Detailed business cases	<ul style="list-style-type: none"> <li>Prepare complete and detailed business cases for each preferred option.</li> </ul>	Complete
<i>Project stage-gate: MfE and ECAN agreement required to proceed past this point.</i>			
3	5 - Implementation of preferred options & communications strategy	<ul style="list-style-type: none"> <li>Select and refine preferred options for implementation and create implementation plans.</li> <li>Develop communications strategy and work plan to promote improved rural waste management and minimisation.</li> <li>Develop work plan, identifying selected mechanisms and tools that will be used.</li> </ul>	Complete
3	6a – Pilot Plans and Communications Strategy Update	<ul style="list-style-type: none"> <li>Finalise and begin implementation of a detailed pilot plan for each pilot to be undertaken outlining: <ul style="list-style-type: none"> <li>the roles of each party involved (with agreement demonstrated from each party),</li> <li>the waste streams to be included,</li> <li>the customer offering and the prices to be paid for each waste stream by the customer.</li> </ul> </li> <li>Update and finalise the communications plan for the pilots, noting specific media to be utilised and external contributions.</li> <li>Provide an updated budget for project completion</li> </ul>	This report
3	6b – Project Completion Report	<ul style="list-style-type: none"> <li>Prepare a full articulation of the 'One-stop' Rural Waste Services model.</li> <li>Conclude and report on the ROSE Oil Recycling Scheme Pilots.</li> <li>Provide an update on the status of Community Organisation On-farm Collections.</li> </ul> <p>Subject to pilots being undertaken by Agrecovery and Envirowaste, evaluate the pilots, including:</p> <ul style="list-style-type: none"> <li>Participant and provider evaluations, based on interviews and surveys undertaken at and subsequent to events.</li> </ul>	Due 29/6/18



		<ul style="list-style-type: none"> <li>• An analysis and evaluation of waste stream volumes and outlets.</li> <li>• An independent evaluation of the effectiveness and desirability of the model pursued in line with the Project desired outcomes.</li> </ul>	
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This report represents the deliverable for Phase 3, Milestone 6b: *Project Completion Report* as outlined in the table above.

## 2.2. PROJECT SUMMARY - MILESTONES 1 TO 6a

Phase 1 of the Project focused on undertaking a risk assessment of rural waste disposed of on-farm and prioritising high-risk waste streams for further consideration in subsequent phases of the project. This work was undertaken by SLR Consulting and completed in September 2015.

Based on assessed risks, the analysed non-natural rural waste streams were then ordered in terms of priority as follows (top 30 shown only):

- |                        |                               |                                  |
|------------------------|-------------------------------|----------------------------------|
| 1. Paints, solvents    | 11. Animal feed bags          | 21. Glass                        |
| 2. Oil containers      | 12. Baleage wrap              | 22. Greenhouse plastic sheeting  |
| 3. Used oil            | 13. Mulch film and crop cover | 23. Plastic bags                 |
| 4. Aerosols            | 14. Silage wrap               | 24. Household batteries          |
| 5. Vehicle batteries   | 15. Fertiliser bags           | 25. CCA treated timber           |
| 6. Waste oil filters   | 16. Animal health plastic     | 26. PVC                          |
| 7. Agricultural sprays | 17. Seed bags                 | 27. Untreated timber offcuts     |
| 8. Drench/dip          | 18. Plastic (pallet wrap)     | 28. Plastic                      |
| 9. Sharps              | 19. Containers                | 29. Wood-chip animal bedding     |
| 10. Netting            | 20. Drums                     | 30. Metal (roofing, metal, wire) |

This prioritised list of waste was carried forward into Phase 2 of the Project to help focus and guide endeavours to minimise rural waste, although opportunities were sought which address waste streams beyond this list. The overall focus for Phase 2 of the Project was to identify and/or create sustainable, feasible options that will contribute to greater levels of rural waste minimisation in New Zealand and stand as enduring alternatives to the burning, burial and bulk storage of these wastes.

Consideration of waste streams in Phase 2 was based on wastes being categorised as follows:

- Hazardous wastes (wastes ranked 1 to 4 and 7 to 9 on the priority list)
- Soft plastics (wastes ranked 10 to 18, 22, 23 and 28 on the priority list)
- Hard plastics (wastes ranked 19, 20 and 26 on the priority list)
- Metal (wastes ranked 5,6 and 30 on the priority list)
- Other wastes (wastes 21, 24, 25, 27 and 29 on the priority list)

Based on these waste groupings, Milestone 2 considered a range of waste collection options as follows:

- On-farm collection by councils/territorial authorities
- On-farm collection by waste contractors

- On-farm collection via distributor backhaulage
- On-farm collection via one-off collection rounds
- Drop off collection at council/territorial authority hubs
- Drop off collection at commercial waste hubs
- Drop off collection at one-off collection hubs
- Drop off collection at permanent collection hubs
- Drop off collection at retail stores

The options for waste categories were also considered in terms of how they could be addressed in accordance with the waste hierarchy as follows:

- Reduction of waste
- Re-use of waste
- Recycling of waste
- Energy recovery from waste
- Disposal of waste

At the conclusion of Milestone 2 a range of disparate and largely unconnected options for addressing rural waste were evaluated and presented for further consideration in the Project. As further feasibility assessments and stakeholder engagement activity were undertaken in Milestone 3 it became clear that opportunities existed to connect and rationalise a number of the options, and to modify others, so that they sat more comfortably together. This provided an overarching approach focused on maximising farmer participation and acceptance of the options offered as alternatives to burning, burying and bulk storage of rural wastes.

This approach was driven by two key conclusions drawn from the work undertaken in the Project to date:

1. *There is a tension between cost and convenience.* As concluded in Milestone 2, the ideal solution to any rural waste issue is one that is low (or no) cost and very convenient to farmers. Economically, this is difficult to achieve. Solutions that are highly convenient (such as on-farm collection) tend to be expensive. Solutions that are low cost (such as territorial authority drop-off points) tend to be time consuming and inconvenient for farmers. Clearly, a trade-off needs so that those who value convenience over cost are able to access a service that fits their needs, while those who value economy over convenience are also able to access a service that works.
2. *A 'one-stop-shop' approach is desirable.* Farmers having to separate out different wastes and take separate action for each of them in terms of recycling or disposal is not an ideal approach. Farmers are busy and do not appear to want to deal with a range of disconnected interventions for waste management. A preferred approach is one that can deal with as many priority waste streams at once as possible.

The Rural Waste Management Model developed in Milestone 3, and shown in Figure 3 depicts these two strategies and rationalises and aligns options based on the following:

- Waste streams are simplified into Hazardous Wastes (such as agrichemicals and sharps), High Volume Recyclables (such as hard and soft plastics) and Low Volume Recyclables (such as vehicle batteries and oil filters).

- These streams are then split in terms of strategic approach between Low Volume Users and High Volume Users.
- The broad strategy pursued in the Model for high volume users is on-farm collection.
- The broad strategy for low volume users in the Model is the provision of a range of fixed and temporary drop-off points for waste.





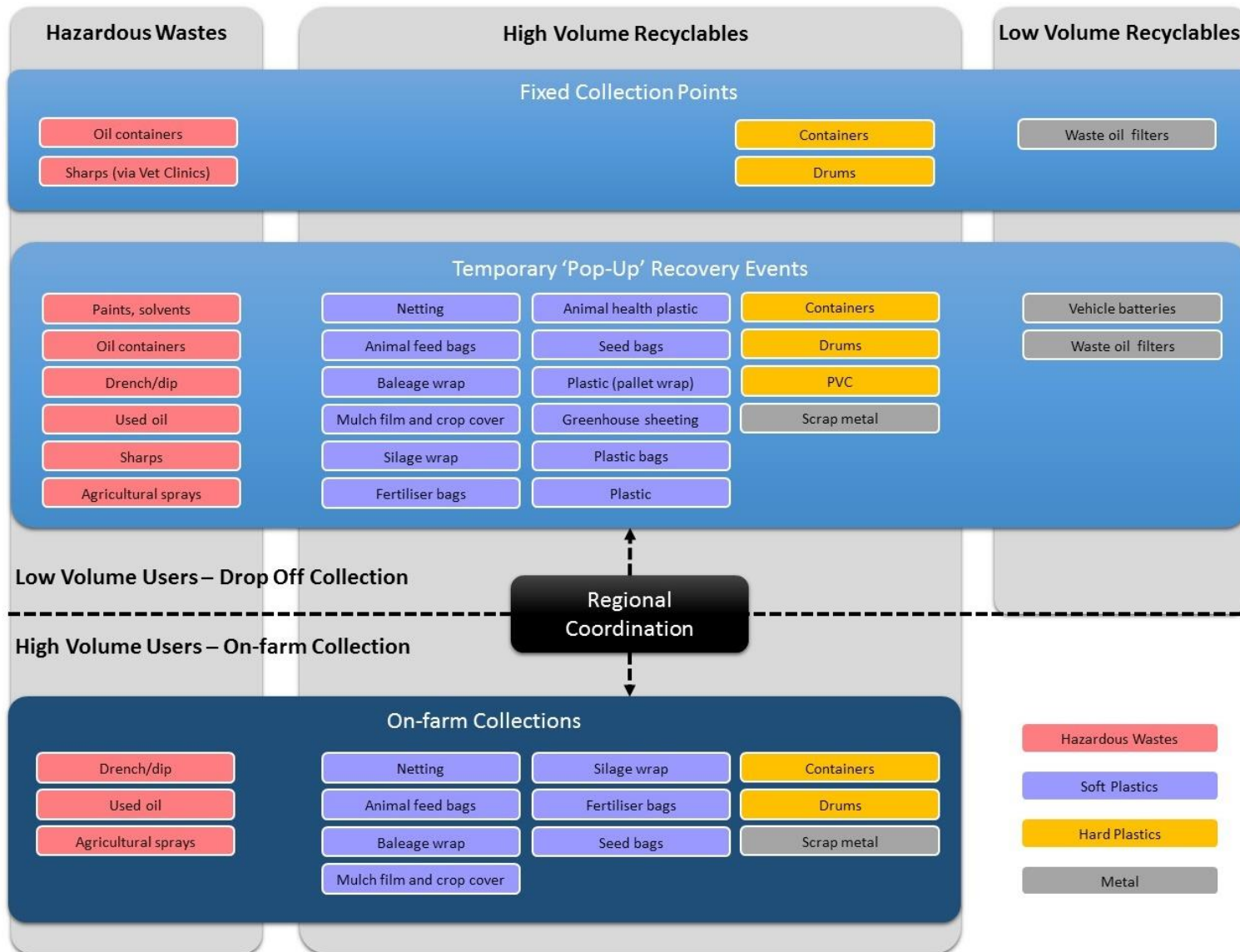


Figure 3: Rural Waste Management Model and priority waste streams

In Milestones 3 and 4, these options were refined and further evaluated to provide a final feasibility assessment. In each of the assessments undertaken, and in the table below, a ‘traffic light’ system of colour coding of results is used. Green indicates a positive result (high performance or low risk), orange indicates a neutral or acceptable result (moderate performance or moderate risk) and red indicates a negative result (low performance or high risk).

Based on the assessments and analysis undertaken in Milestones 2, 3 and 4, the list of options and their feasibility was determined as follows:

Option	Milestone 2 Feasibility Assessment	Milestone 3 Feasibility Assessment	Milestone 4 Activity	Milestone 4 Final Feasibility Assessment	Milestone 4 Outcome
Envirowaste Plastics Collection and Recycling	VERY HIGH	HIGH	Merged into Agrecovery / Envirowaste Rural Waste Services option		
Agrecovery Expanded Waste Stream Collection	HIGH	HIGH	Merged into Agrecovery / Envirowaste Rural Waste Services option		
Agrecovery / Envirowaste Rural Waste Services	New merged option evaluated			HIGH	To be piloted in Phase 3
Plasback Plastics Collection	HIGH	MODERATE	Option evaluated	LOW	Not carried forward to Phase 3
Community Organisation On-Farm Collection	MODERATE	LOW	Option evaluated	MODERATE	Support to be provided in Phase 3
Expanded Territorial Authority Recycling Drop-Off Hubs	MODERATE	MODERATE	Merged into Agrecovery / Envirowaste Rural Waste Services option		
Expanded ROSE Oil Recycling Scheme Drop-Off Hubs	HIGH	HIGH	Option evaluated	HIGH	To be piloted in Phase 3
Fonterra Sharps Collection	HIGH	HIGH	Option evaluated	HIGH	To be piloted (by Fonterra) in Phase 3
Temporary Pop-up Recovery Events	N/A	MODERATE	Merged into Agrecovery / Envirowaste Rural Waste Services option		

The plan determined at the conclusion of Milestone 4 was to progress with the four options identified above as follows:

- *Agrecovery / Envirowaste Rural Waste Services*: Plan, promote and execute a small number of pilot Temporary Pop-up Recovery Events including new waste streams and regional coordination with on-farm collections. Look also at providing soft plastics collection services at Territorial Authority Recycling Drop-Off Hubs and other Agrecovery container collection sites.
- *Expanded ROSE Oil Recycling Scheme Drop-Off Hubs*: Plan, promote and execute service provision at two Farmlands stores.
- *Community Organisation On-Farm Collection*: Work closely with specific community organisations to support planning for implementation of on-farm collection services and, where feasible, assist with localised service pilots.
- *Fonterra Sharps Collection*: Trial collection of sharps containers via a Temporary Pop-up Recovery event and support with planning for wider option rollout.

While the continuing role of the project for community organisations was to simply support these organisations with waste service plans as required, and the Fonterra Sharps pilot was undertaken internally by Fonterra, Milestone 5 laid down initial pilot plans and communication plans for the Agrecovery/ Envirowaste Rural Waste Services pilots and the Expanded ROSE Oil Recycling Scheme Drop-Off Hubs pilots.

In summary, these plans were as follows:

*Expanded ROSE Oil Recycling Scheme Drop-Off Hub pilots:*

- Oil collection receptacles to be located at two Farmlands stores: Leeston and Darfield.
- Pilots to run from April/May to October, 2017.
- Service to be available to all, but will target local Farmlands customers.
- Service to be provided at no charge and Fulton Hogan will pick up containers at no charge.
- Free on-farm collection to be available for high volume users.
- Communications plan to focus on use of local media, direct email-out to Farmlands customers and potentially the addition of an advertising 'collar' on oil sold at Farmlands stores.
- Detailed evaluation to commence after the pilots to determine whether this model is suitable for wider deployment.

*Agrecovery / Envirowaste Rural Waste Services pilots:*

- Two one-day pop-up events to be held: one in Geraldine in November 2017, one in Matamata in December 2017, in partnership with the respective territorial authorities.
- A range of waste streams to be accepted, including hard plastics, soft plastics, chemicals, paint containers and oil containers.
- On-farm collection for higher volumes of plastics to be coordinated with the events.
- Events to be marketed broadly in the local communities, but limited to 100 participants at each event to manage volumes and traffic flows.
- Farmers to be allocated a time window for participating in the event to manage traffic flows.

- Farmers need to register online for the events noting the waste streams they intend to bring and their preferred time window for participation.
- The communications plan to be deployed in five key phases:
  - *Preparing, Informing and Early Registrations* – (May 2017/June 2017).
  - *Formal Registration, Confirmation and Ongoing Preparation* (July 2017 – September 2017) – Focus on garnering registrations for events and communicating how the events will work to farmers. Wider publicity about the events to also be initiated.
  - *Ongoing Preparation* (October 2017) – Additional marketing activities if registration targets have not been met.
  - *The Event* (November – December 2017) – Seek anecdotal feedback from participants.
  - *Post-event* (December 2017) – Seek more detailed feedback from participants.
- Detailed evaluation to commence after the pilots to determine whether this model is suitable for wider deployment.

The initial plan for the service pilots to be undertaken by Agrecovery and Envirowaste was to provide these in August and September of 2017, as indicated in the Milestone 4 report. At this stage, Agrecovery and Envirowaste were initiating their new relationship, with Envirowaste taking over as Agrecovery's service delivery contractor for plastic container collections from 1 July 2017. The two organisations felt that they could deliver pilots shortly after the initiation of the contract. The Agrecovery Board agreed to this timeframe in early 2017.

In April 2017, Agrecovery asked that the pilots be pushed back several months to allow their new service delivery relationship to be 'bedded in'. It was felt that such a delay was necessary to allow for the addition of new waste streams (and particularly soft plastics) into piloting activities. While concern was expressed by the Project at this delay, Agrecovery felt that a time extension would enable them to commit fully to the pilots as articulated. At this stage, a detailed project plan was provided to both Agrecovery and Envirowaste to ensure they were comfortable with how the pilots would be deployed. Agrecovery and Envirowaste confirmed their commitment to this updated plan.

Pilot planning and logistics continued, with ultimately unsuccessful Project team efforts to include Plasback in the pilot plans. Plasback declined to participate in the pilots based on an apparent concern that a key service innovation being tested – soft plastics drop-off – would be incompatible with their business model.

In July 2017, Agrecovery, following conversations with its board and with Envirowaste, advised that the pilot events would need to be delayed until autumn 2018 and that, without such a delay, it would be "difficult to see any meaningful involvement from either party". It was understood that challenges in moving to a new service provider in core service delivery were the focus of this request to delay, and that concerns over the logistics and feasibility of offering a soft plastics collection service had caused some concerns within both organisations.

In November 2017 a further detailed project plan in the form of a 'Memorandum of Understanding' was provided to Agrecovery and Envirowaste to secure an updated commitment to the piloting process. Both parties confirmed their desire to proceed and their confidence in the plan as described.

In December 2017, as commitments began to be locked in for the piloting process, a number of barriers became evident:

- Envirowaste had earlier advised that it intended to process agricultural soft plastics through its Christchurch processing plant. Sending plastics to Astron Plastics in Auckland was offered as a contingency plan if the processing capability in Christchurch was not yet on line. It subsequently became apparent that the Christchurch plant was unlikely to be ready to process plastics in time for the pilots. In December 2017, Astron Plastics advised that they would not be receiving more agricultural plastics for the foreseeable future, leaving the project without an immediate outlet for soft plastics collected.
- The agreement reached with Agrecovery and Envirowaste was that the Project would fund sufficient plastic liners to supply the pilots and then, as liners were sold, the costs recovered would be refunded back to the Project budget. As the Project was extended and the budget reconfigured, Environment Canterbury did not allow for this cost and did not feel comfortable taking the risk on a quantity of liners potentially remaining unsold, and thus unbudgeted expenditure being incurred. Agrecovery and Envirowaste were approached to co-fund or share the risk on the cost of liners being manufactured, but declined. Agrecovery also approached Plasback to see if they would be willing to participate and allow their liners to be utilised in the pilots, but they also declined to be involved.
- The agreement reached with Agrecovery and Envirowaste included the stipulation that the Project would design the registration system, and then Agrecovery would handle its implementation as a set of modifications to their website. The detailed specification created was supplied to Agrecovery and a quote sought from Agrecovery's IT contractors for implementation. Agrecovery did not feel comfortable with the cost of this modification and so declined to implement it.

While each of these issues could potentially have been solved, the Project team felt at this stage that the increasing discomfort from Agrecovery and Envirowaste over the pilot plans required re-evaluation of the pathway forward. Concurrently, Agrecovery advised that they were reluctant to pursue the inclusion of soft plastics in the pilots due to the challenges in doing so that had arisen.

At this stage, the Project team advised Environment Canterbury that a change to the pilot process needed to be enacted in order to ensure successful outcomes. It was recommended that the initiative for any piloting activity be passed to the industry partners, and that the Project must shift focus from driving that piloting activity to merely supporting and evaluating what is being developed by industry.

At this stage, with the support of Environment Canterbury and the Ministry for the Environment, a new Milestone 6b created for the Project to include:

*1. Full articulation of the 'One-stop' Rural Waste Services model:*

The project and communications plans for the Agrecovery / Envirowaste Rural Waste Services Pilots that currently exists and is contained within the Milestone 6a report represent a model that has evolved and been somewhat compromised by the current limitations faced in endeavouring to pilot services.

Milestone 6b will include a full specification and 'operating manual' for providing these services. The intention of this plan would be that it could be implemented by industry partners when they are ready to pursue such a business model. This plan will capture all of the learning in preparing for the pilots and ensure that, when industry is ready to implement this model, none of this learning is lost. The plan will be prepared as a full 'specification' for conducting a 'one-stop' Rural Waste Services business model, regardless of which industry partner delivers it.



The specification will include:

- The roles that each industry and public partner needs to take.
- How the event should be configured and run to be of maximum appeal to customers and extract maximum value for service providers.
- What waste streams should be included and the optimum mechanisms for handling these.
- How local communities should be engaged to ensure maximum participation.
- How a communications plan should be configured and enacted.
- Logistical and regulatory considerations for undertaking events and on-farm collections.
- Strategies for coordinating events with on-farm collections.
- Design and user interaction considerations for event registrations.
- Considerations for wider deployment and potential growth strategies.

While Milestone 6b is being completed, an ongoing dialogue will be maintained with Agrecovery and Envirowaste to determine whether they are likely to pursue piloting of the business model developed under the Project. If Agrecovery and Envirowaste pursue piloting activity that bears a material resemblance to the business model developed under this Project, then additional elements will be added to the Milestone 6b report to focus specifically on evaluating the pilots undertaken by Agrecovery and Envirowaste and include:

- Participant and provider evaluations, based on interviews and surveys undertaken at and subsequent to events.
- An analysis and evaluation of waste stream volumes and outlets.
- An independent evaluation of the effectiveness and desirability of the model pursued in line with the Project desired outcomes.

2. *Conclude the ROSE Oil Recycling Scheme Pilots:*

Milestone 6b will include a final evaluation of the pilots and, subject to the conclusions of the evaluation and the agreement of the industry partners, a full deployment plan will be prepared.

3. *Provide an update on the status of Community Organisation On-farm Collections*

As noted in the Milestone 6a report, no Project support has been sought from community organisations pursuing on-farm collection. In order to provide a final update on this valuable option, contact would be made with each stakeholder organisation to determine the current status of their plans in this regard and an overview noted in the Milestone 6b report. Any advice needed by these organisations in terms of strategic deployment of on-farm collections services would be provided during the completion of Milestone 6b and noted in this report.

In January 2018 a proposal was received from Agrecovery to undertake two pilots along similar lines to those originally intended by the Project, with material differences only in terms of how soft plastics services would be provided.



The proposal indicated a desire to provide the following:

- Agrecovery will deliver two pilot events, with service delivery including collaboration with Envirowaste Services NZ and Plasback.
- Two events will take place: Geraldine in April 2018 and Matamata in May 2018.
- Agrecovery will have responsibility for:
  - All marketing and promotion.
  - Coordinating and delivering two pilot events.
  - Ensuring attendance of approximately 100 participants per event, with a minimum of 40 registrations per event.
  - Engaging a Waste Contractor (EnviroNZ) to coordinate the collection and disposal of all wastes received.
  - Engaging Plasback to service all high volume soft plastic pickups within a fortnight of the scheduled event.
  - Arranging all funding and payment systems for waste streams accepted.
  - Providing customers with a clear and competitive pricing schedule at time of booking.
  - All site management and health and safety requirements for each event.
- Farmers and growers who have registered for the event will be able to drop-off the following waste streams:
  - HDPE Containers and Drums – Participating brands are free for disposal with non-participating brands attracting standard user-pays fees.
  - Unwanted Agrichemicals – Agrichemicals that have been booked through Agrecovery are eligible for drop-off. User-pays fees will be applied to chemicals that are not from participating brands or covered by regional council funding.
  - Used Oil – Disposal of used oil will be free for participants under the ROSE oil scheme (South Island). Fees will apply if necessary in the North Island.
  - Woven Polypropylene Bags – Will be free for disposal.
  - LDPE Soft Plastics – Collection of high volume LDPE soft plastics will be facilitated through the Plasback programme and must be booked through their existing channels.
  - Additional waste streams will also be added if possible.

In order to assist Agrecovery in providing these services, the Project allocated \$40,000 plus GST from the Project budget towards marketing and infrastructural costs for conducting the pilots.

### 3. THE 'ONE STOP SHOP' RURAL WASTE SERVICES MODEL

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#### 3.1 INTRODUCTION

It has become apparent, as this Project has progressed, that there is a strong case for a business model that enables farmers and growers to deal with all of their commercial, non-natural waste at once. Quite understandably, busy farmers appear reluctant to deal with a different agency for each waste stream they generate. Keeping track of a range of collection mechanisms is obviously more time-consuming and less convenient than being able to deal with everything via one optimised interface.

Moreover, the marginal economics of collection and recycling or disposal of rural waste do not lend themselves well to mass duplication of effort. The distances between farms and waste collection hubs are such that transportation of waste by vehicles - either those of the farmer or the service provider – need to be kept to a minimum. Moving waste streams individually from the farm to a secondary location is unlikely to be convenient to the farmer nor economically viable.

Likewise, the duplication of administrative, infrastructural and service overheads for service providers seems undesirable when, as is largely the case in New Zealand, there is no regulatory imperative for farmers to participate in services that remove commercial rural waste from farms for more effective disposal or recycling. Thus, there is apparent benefit in pursuing a 'one-stop shop' model for managing rural waste in New Zealand as this potentially offers both convenience and cost advantages to the farmers, and business efficiencies to service providers.

The Project has, from Milestone 3 to Milestone 6a, pursued this model with particular service providers as the focus: Agrecovery and Envirowaste. As noted in Section 2.2, the development of this model in collaboration with these service providers has not been optimal, and the opportunity to fully pilot the model as designed has been lost.

In this report, the model is described in a way that is not specific in terms of service provider. There are indications that the industry is not yet ready to fully implement the model, but may be moving more into the space of service rationalisation and optimisation. The model articulated in the following sections, therefore, represents the collective learnings from the research undertaken in the Project and the lessons learnt in endeavouring to move towards piloting of a 'one-stop shop' for rural waste.

Specifically, the following aspects of the model are described:

- *Design principles:* The assumptions and baseline principles that determine how the model has been conceived and what the priorities are in its configuration.
- *Key learnings from user research:* The information that has been garnered from talking to farmers and influences how the model should be designed. Reference is also made to the requirements of local authorities as key partners in the model.
- *Model configuration:* Consideration of how the model should be configured and undertaken to be of maximum appeal to customers and extract maximum value for service providers. This includes:
  - Waste streams that should be included and the optimum mechanisms for handling these.
  - Logistical and regulatory considerations for undertaking events and on-farm collections.
  - Strategies for coordinating events with on-farm collections.

- *Critical partner roles:* The roles that each industry and public partner needs to take to maximise the likelihood of the model operating successfully.
- *Marketing and community engagement:* Consideration of how local communities should be engaged to ensure maximum participation, and how a communications plan should be deployed to maximise awareness and demand.
- *Customer interaction:* Design and user interaction considerations for the service registration process and ongoing customer interactions.
- Model deployment strategies: Strategies for wider deployment and growth of the model.
- *Model risks:* Key challenges and risks in deploying the model.

Throughout the model description, cost and time estimates are used to describe how the model should operate. While these cost and time estimates are based on observations made throughout the Project as to what should be achievable under the model, it must be noted that these will depend on a number of factors, including location and the costs to recycle or dispose of wastes, which are known to fluctuate over time. It is strongly recommended that these estimates be taken as a guide only, and they should be rigorously tested prior to implementation.

### 3.2 DESIGN PRINCIPLES

In Milestone 2 of the Project, a list of success factors was created to help guide the assessment of potential rural waste management options, as follows:

Assessment Factor	Importance
Costs to farmers are minimal.	Very High
Business model ensures profitability and sustainability.	Very High
High farmer uptake is likely.	Very High
Any waste contamination can be dealt with easily.	Very High
Waste volumes are assured or business model can cope with inconsistent volumes.	Very High
All compliance requirements can be met.	Very High
Business model is robust and well-conceived.	Very High
Output markets are assured or business model can cope with inconsistent output markets.	Very High
Access to required capital is likely.	High
All participants in supply chain in place are readily able to be secured.	High
Large volumes of waste can be handled, or option is scalable.	High
Waste is managed using higher levels of waste hierarchy (Reuse, recycling etc.)	High
Inconvenience and behaviour change requirement for farmers is minimal.	Moderate
Potential alignment with extrinsic or intrinsic drivers is strong.	Moderate
Multiple focus waste streams are handled.	Moderate
Farmers are aware of option or strong community support is present.	Moderate
Development requirements and timeframes are minimal.	Moderate
Waste can be managed from a wide geographical area.	Moderate
Provider has a strong track record.	Moderate

For the purposes of conceiving of the 'one-stop shop' model, these factors have been considered collectively in the form of design principles. The design principles express the priorities and assumptions that underlie its configuration. These are statements of belief as to what a 'good model' should be in terms of addressing rural waste issues in New Zealand.

Five key principles have been utilised to design the model:

### 1. *User-focus*

The principle of user-focus dictates that a service should be designed primarily around the needs of the end user. Where this principle is ignored, services are launched that do not fully understand or respect the user and hence struggle to achieve market traction.

The rural waste sector is not always characterised by a focus on the needs of the farmer. Efforts to address rural waste issues are often driven by the threat of regulation or compulsory product stewardship. This starting point will tend to orient resulting services primarily around the needs of those that create or supply the products or packaging that become waste. The end user – the farmer or grower – comes second, and sometimes a distant second.

If the needs of manufacturers consistently prevail in designing a service to receive or collect rural waste, then it is quite predictable that the costs of the service will be too high, or the level of convenience and customer service will be too low. This is arguably seen in some services in the New Zealand rural waste sector currently. The implication is certainly not that a service should not be profitable or financially sustainable – it should – but that the conception of the service and how it is provided needs to start with the needs of the farmer and work backwards from there.

### 2. *Functionality*

The principle of functionality simply states that a service must work. It must achieve the ultimate goals behind its conception. In this case, it means that a service provided must actually result in commercial, non-natural rural waste being diverted from farm pits and bonfires, and subsequently recycled ethically or disposed of safely and responsibly.

This principle requires that the supply chain is in place and is reliable. It requires that stable channels for wastes are secured. It requires that the logistics and infrastructure required to deliver the service can reasonably be expected to function in a way that ensures the service holds together.

### 3. *Sustainability*

The principle of sustainability demands that a service is not inherently vulnerable or likely to fail. The principle touches on environmental sustainability by ensuring that wastes are dealt with in a way that substantially improves environmental outcomes. Economic sustainability is required to ensure the service provider can continue to profitably offer the service at a cost that is acceptable to end users and offers good value. In an environment like rural waste service delivery, this requires considerable effort in terms of logistical rationalisation and service design to ensure that costs are managed carefully.

Sustainability also touches on user-focus by ensuring that the service is designed in such a way that demand will be sustained. A service that is seen to exploit or under-value the customer is not sustainable, particularly where the customer does not have to use the service, as is largely the case in terms of rural waste. Even if the service is compulsory or a monopoly, sustainability is threatened by poor levels of customer interaction as emerging competition or lobbying for policy changes tend to eventually threaten such an approach.

#### 4. *Prescience*

The principle of prescience requires designing for the foreseeable future. It means that the service model should not be inexorably locked into a particular methodology that will become obsolete. It should be agile enough so that it can be modified and adapt as user behaviour or industry conditions change. The recent restrictions on the exportation of wastes to China have demonstrated the importance of this principle. This restriction has been signalled for some time, and a model that seeks to address rural waste in New Zealand must be designed to cope with such shifts, where they can be predicted.

#### 5. *Simplicity*

The principle of simplicity is virtually universal in design. It is a useful reference point in designing anything: can this be made simpler? Unnecessary complexity is a critical vulnerability in a service. Customers become confused or dissatisfied, supply chains break down and systems fail. For this model, this principle requires that the focus is on 'core business' (getting waste off farms) and its configuration is not weighed down by unnecessary 'features'.

This does not mean that the service should only be restricted to one waste stream or to drop-off only rather than collection, but rather that each aspect of the design justifies itself and adds material value. This will extend from the engagement of partners, to marketing, to registration processes, to actually interacting with customers and to post-event processes.

### 3.3 KEY LEARNINGS FROM PROJECT RESEARCH

During Milestone 2 of the Project, project learnings were added to domestic and international research to conclude the key barriers to the successful and sustainable operation of alternative models for disposing of rural waste. It was concluded that there are five primary barriers:

#### 1. *Cost*

Recycling or safely disposing of waste off farms is more expensive, in direct dollar terms, than burning, burying or bulk storage of waste. Especially in an environment where participation in services is optional, end-user cost-sensitivity is a real factor. There is little room here for service costs to be unreasonably high.

#### 2. *Inconvenience*

Farmers are often under considerable time pressure, and seek a waste solution that is convenient. The research undertaken in the Project tends to suggest that, as overall waste volumes increase based on the scale of the farming operation, convenience becomes more important relative to cost-sensitivity. At all levels, however, it is critical that the farmer's time is respected and that services are provided in a customer-centric fashion.

### 3. *Lack of Incentives*

Very little in New Zealand *requires* farmers and growers to participate in off-farm waste solutions. Instead, services must align closely with intrinsic drivers by meeting those internal needs that farmers are expressing. Obviously, these needs must be well understood before they can be met. Over time, a successful service will seek to bolster these drivers by aligning with certification programmes and other methods for encouraging farmers to utilise the service. This requires that partner organisations have confidence in the service and are not likely to be met with undue opposition from farmers.

### 4. *Lack of awareness*

It has become clear, in progressing the Project, that there is a lack of awareness among farmers as to the services available for off-site rural waste disposal and recycling. While brand awareness for major services like Agrecovery and Plasback is moderately high, these services are not universally well understood. A successful service needs to be clearly articulated to potential customers through a range of channels. While demand cannot be controlled, the service should seek to be known and understood by all its potential customers.

### 5. *Lack of economic viability*

If a new service in this space is launched and fails, it is worse than the service not being launched at all. For farmers to make the effort to engage with a new service, they must exercise a level of trust that the service will be viable, particularly if some investment or up-front effort is required. The failure of Agrecovery's soft plastics service in 2014 is still a significant influence in this space, and acts both as a perceived barrier to entry for suppliers and a basis for a cautious approach from rural customers. A high profile new service that aims to operate as a 'one-stop shop' in the rural sector must ensure it has a business model that offers economic viability to mitigate the risks of failure. Such a failure in the current environment would seriously influence the likelihood of another service launching successfully in the short to medium term.

There are a number of threats to economic viability that must be borne in mind in configuring a new service, and which have tended to plague rural waste services, including:

- An incomplete or unreliable supply chain
- Uncertain customer demand
- Issues with waste contamination
- Inconsistency or unreliability of waste volumes
- Unreliability of novel technologies
- Increasing compliance requirements
- An ill-conceived business model
- Lack of access to start-up or expansion capital
- Volatility in, or lack of access to, markets for processed waste

In Milestone 3, additional customer research was undertaken to test the basic concept of a 'pop-up waste event' which was the initial design behind the 'one-stop-shop' approach. While the model has evolved somewhat, the key elements are still much as they were when this research was undertaken. The key conclusions from the research were:



- The one-day event component of the model (where farmers can drop off waste) should be undertaken at a location less than thirty minutes from targeted farms. Indicated participation levels drop-off sharply at this point and it appears likely that farmers located more than a forty-five minute drive from an event are far less likely to participate. This presupposes, as part of the development strategy for events, that a catchment area has been identified and a location strategically chosen to ensure as many farms as possible are within a thirty-minute drive of the location. In more remote locations such as the North Island's east coast this may not be possible, but location selection should at least be optimised to minimise driving times for as many farmers as possible.
- Farmers are likely to be willing to take the priority waste streams under the Project to a recovery event, but appear less likely to take household waste streams. The idea of the farmer transporting the key waste streams identified for inclusion in this model themselves – including agrichemicals – did not appear to prompt any objections from the farmers. This would indicate that farmers are both comfortable to transport waste and have the ready means to safely do so.
- Farmers expressed a high degree of willingness to pay for the disposal or recycling of hazardous wastes, waste oil/filters and containers, waste paint and plastics. Farmers are not expecting to get rid of waste for free. This suggests the commercial nature of the transaction is well understood.
- The vast majority of farmers felt that a recovery event should be a standalone event and not combined with any other farming or community activity.
- 97% of respondents said they would like to see their local council as an active partner in the events.

In Milestone 4, following on from the initial farmer research, a focus group was formed in Geraldine with the assistance of Federated Farmers to look in more detail as to how to design the events to best secure wide rural participation and meet the needs of farmers.

The key conclusions from this group were:

- The ideal timing for events – at least in Geraldine – would be in July and September. If a single event was to be run, September would be preferable. Events should be on a weekday. It is likely a one-off event pilot will be flooded with volume because farmers will not be certain the opportunity will come up again. This may distort pilot findings.
- Events should be publicised well in advance to ensure farmers prepare for them and handle waste in accordance with expectations. Events should also be profiled as a good news story in local newspapers to secure wider uptake and encourage the farming community as to the benefits of participation.
- Every farming community has key 'hub' people or local champions. They are community influencers. These people will be both an aid to planning of events and predicting waste volumes, as well as being in a position to encourage wider participation. People listen to what these people tell them.
- Farmers will need to be reminded about the events. Pursuit of a multimedia approach over time is advised and text reminders should be provided to people several days before the event.
- Farmers can give broad indications of waste volumes for registration for events, but will not be able to give exact volumes. Requiring accurate volumes will result in non-compliance. Registration information should be captured and saved against the farmer's details so that they can review what they took to the previous event and simply adjust and re-submit this for subsequent events.

Anything designed for sending or receiving via the internet needs to bear in mind that rural internet speeds are often very slow.

- Farmers should be equipped with the means to rationalise on-farm collections for their neighbours. Facilitating this would help all concerned and lower costs, but it would be useful for this to be a collaborative effort with service providers.
- While running a full family event would not be advisable, providing a sausage sizzle and coffee would be greatly appreciated. Providing something small to entertain children would also be warmly received.
- The idea of events supporting local schools through a donation is a good one. It may be advisable to ask participating farmers to nominate the school they would like to support and a modest donation made based on these nominations. Schools could then be engaged to support the events and encourage parents to register, participate and nominate.
- If soft plastics drop-off is made available, the event will need to provide lifting equipment to remove these from trailers or 'utes'. It must also be understood that it is very difficult to avoid contamination with silage and baleage wrap. Polypropylene bags should also be included as these are a key waste stream that farmers wish to dispose of. Net wrap (used around baleage wrap) is another large and problematic waste streams for farmers.
- Lifestyle farmers will value access to smaller liners for soft plastics as they will have lower volumes. Most larger commercial farmers that utilise baleage wrap will have large volumes to dispose of and will need an on-farm collection.
- It would be useful for any farmer to be able to go to a central reference point and find out what they can do with all the waste streams they have.

In addition to research with farmers, and as a result of the apparent importance of council engagement and partnership in the model, the Project presented to the WasteMINZ Territorial Authority Forum during Milestone 3. The Forum, comprising council officials with responsibility for waste issues in their territories, meets regularly to share waste information that will assist territorial authorities to effectively plan around waste management and minimisation.

The presentation made to the Forum provided an overview of the Project and the Temporary Pop-up Recovery Events option and sought council input on the event design.

The key conclusions from this Forum were:

- 18 councils expressed a willingness to partner in hosting local events.
- Councils saw strong value in the events, particularly around ensuring better community engagement and better environmental outcomes.
- Councils expressed a willingness to contribute funding to events, particularly for hazardous wastes.
- The potential for provision of education opportunities was identified, such as a compost workshop
- Councils expressed a desire to assist with communications, publicity and marketing, provision of venues and supporting behaviour change

### 3.4 MODEL CONFIGURATION

The business model for Agrecovery / Envirowaste Rural Waste Services was initially communicated in Milestone 4 of this Project in visual form as shown in Figure 4:

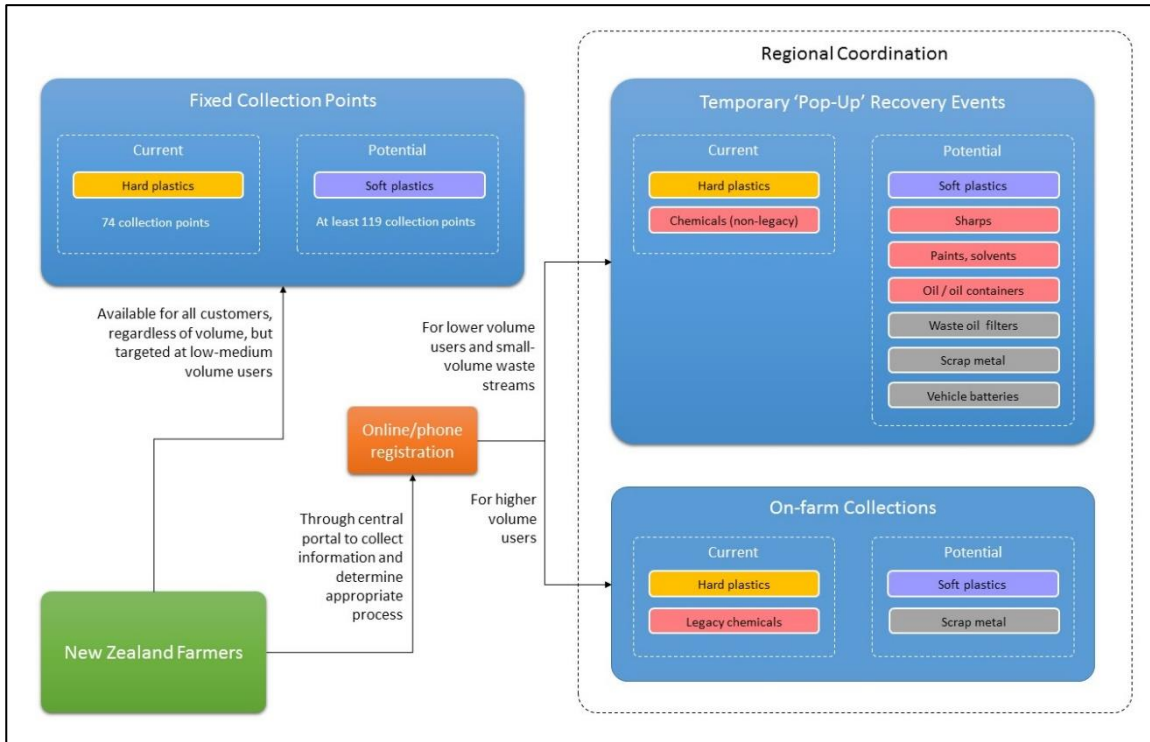


Figure 4: Agrecovery/Envirowaste Rural Waste Services Model

The revised one-stop shop model may be visualised as shown in Figure 5:

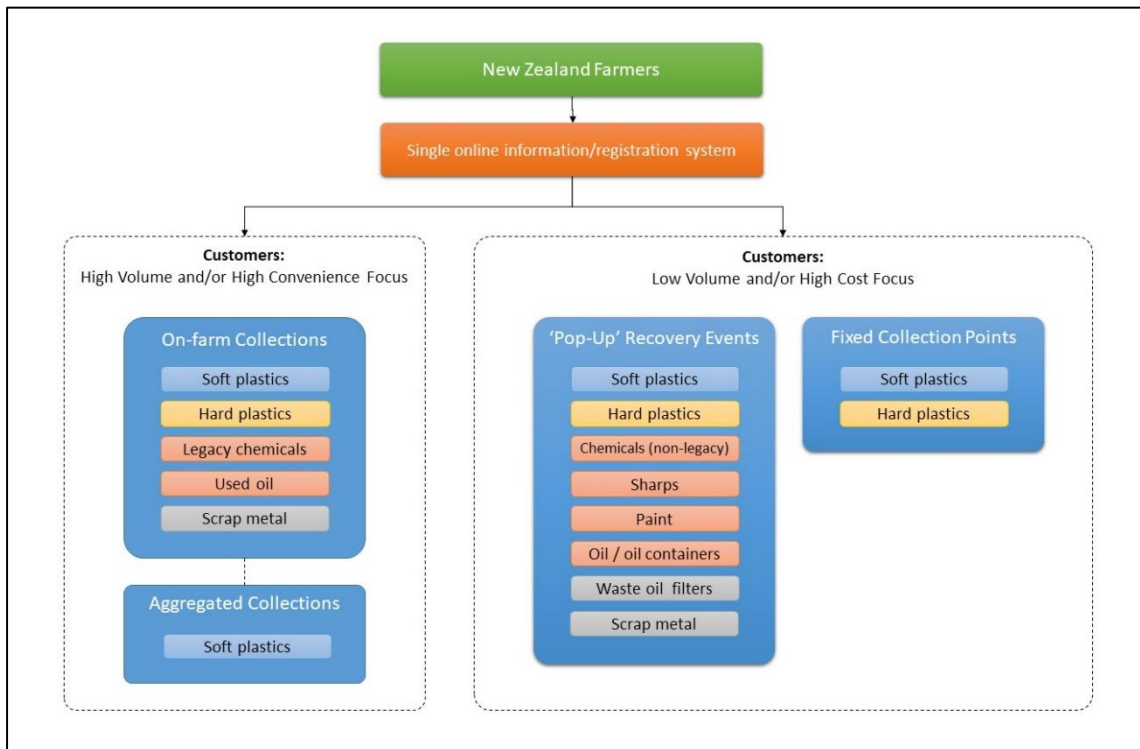


Figure 5: Revised One-Stop Shop Model

Broadly speaking, the model is a rationalised merging of different approaches to removing waste from farms, customised based on the specific customer being engaged.

For those customers that have particularly high volumes or want a full convenience-focused service, on-farm collections would be offered for hard and soft plastics. In addition, on-farm collections would be offered for legacy chemicals that are unsafe for farmers to transport, and for bulky scrap metal items that are not practical to transport other than with specialised equipment. The model would also provide support to farmers wishing to work with their neighbours to aggregate soft plastics to minimise collection costs.

For farmers with lower volumes or a stronger emphasis on minimising costs, regular pop-up recovery events would be offered to capture a wide range of waste streams. Wastes would be dropped off at these events to remove the collection costs element.

These events would be supported by permanent collection sites – at transfer stations, farm retail outlets or other locations - at which higher volume wastes such as hard and soft plastics could be dropped off as required.

In order for these events to be successful as a nationwide solution, several components are required and discussed in detail in the following sections:

- Effective partnerships with outlets for waste products (Section 3.5)
- Effective partnerships with local councils (Section 3.5)
- Substantial marketing and awareness-raising (Section 3.6)
- Effective community engagement (Section 3.6)
- Continuous improvement and user-testing (Section 3.6)
- A well-designed online system for managing customer interactions and logistics (Section 3.7)
- Careful planning of service deployment (Section 3.8)
- Effective mitigation and management of service risks (Section 3.9)

### **3.4.1 On-Farm Collections**

#### *Soft Plastics and Hard Plastics*

Reference is made in this section to the service provided by Plasback as a basis for comparison as Plasback is, by far, the leading service provider for agricultural soft plastics in New Zealand. While Plasback's service is considered to offer many advantages and strengths, an alternative model is presented here and contrasted with that offered by Plasback. This should not be read as a dismissal or indictment of Plasback's model, but rather as a potential addition or enhancement in this market.

Under the proposed model, and as with Plasback's model, a customer seeking a soft plastics collection would need to have pre-purchased branded plastic liners and ensure the plastic is placed within the liners. These liners would be available from rural retail stores such as Farmlands or PGG Wrightson, or directly from the service provider via their website.

Liners would be available initially in two sizes:

- A smaller liner holding approximately 20 standard wraps. This would retail for about \$7 plus GST as the equivalent offering from Plasback currently does. The small liner would be aimed at smaller holdings and lifestyle blocks, as well as providing an easy solution for leftover volume for farmers. While primarily aimed at a drop-off market (the full liner would weight approximately 50kg) a farmer could source an on-farm collection if 20 or more liners were filled.
- A larger liner holding approximately 150 standard wraps. This would retail for about \$17 plus GST as the equivalent offering from Plasback currently does. The large liner would be the primary offering for most farmers and allows for on-farm collection or drop-off at events or permanent sites, although it is proposed that a minimum of four liners be required for an on-farm collection.

By pegging the cost of pre-purchased liners to the current offering from Plasback, or even reducing this liner cost below this level, the service provider should be able to cover the liner cost and a modest handling fee, while ensuring that the up-front cost of purchasing liners for farmers is within market expectations and is kept to a minimum. Quotes obtained from a local plastic bag manufacturer in Christchurch suggest that the supply cost for small liners would be approximately \$1 plus GST, while the cost for larger liners would be approximately \$8.50 per liner, subject to ordering volumes.

The key difference in costing for the proposed model is in terms of the collection fee structure. Plasback's model incurs a collection cost per liner of \$40 for large liners and \$20 for small liners, regardless of volume. This model is not considered to encourage rationalisation or aggregation for liners; the farmer pays the same amount per liner regardless of the number of liners being collected. The expected result of such a model would be that farmers would request collections more often as they have no reason to allow volumes to reach a certain level before initiating a collection request.

The collection charging methodology proposed for the new model is that a fixed collection charge would be offered, regardless of the number of liners being collected (although, as noted later in this section, additional charges may be levied depending on the type of collection accessed). Reasonable minimum quantities would be required to ensure the collection is warranted – and maximum quantities may need to be set based on the capacity of the collection vehicle – but the structure of the charging model ensures that the desired behaviour from farmers is rewarded from a cost-minimisation perspective: making the service provider's trip worth the effort.

The collection charge would be set at a level that covers the cost of the collection in most instances which, based on initial indications from Envirowaste during the pilot development process, is likely to be less than \$100. It should be noted that this is an estimate only, but could be doubled without dramatically affecting the economics of the proposed model.

With a farmer facing a flat collection charge of \$100, they have a strong incentive to call out the collection vehicle less frequently. The impact of this is that the service provider has the opportunity to both minimise vehicle movements and ensure vehicles are fully loaded when collections are undertaken. Both factors will help lower service provision costs around transportation logistics.

A flat fee for collections also potentially provides substantial savings for customers, as the following table demonstrates:

Description	Small Liners			Large Liners					
	20	25	30	4	5	10	15	20	30
Number of Liners	20	25	30	4	5	10	15	20	30
<b>Approx. Standard Wraps</b>	<b>400</b>	<b>500</b>	<b>600</b>	<b>600</b>	<b>750</b>	<b>1500</b>	<b>2250</b>	<b>3000</b>	<b>4500</b>
Liner Cost - Plasback	140	175	210	68	85	170	255	340	510
Delivery Cost - Plasback	400	1000	1200	160	200	400	600	800	1200
<b>Total Plasback Costs</b>	<b>540</b>	<b>1175</b>	<b>1410</b>	<b>228</b>	<b>285</b>	<b>570</b>	<b>855</b>	<b>1140</b>	<b>1710</b>
Liner Cost – New Model	140	175	210	68	85	170	255	340	510
Delivery Cost – New Model	100	100	100	100	100	100	100	100	100
<b>Total New Model Costs</b>	<b>240</b>	<b>275</b>	<b>310</b>	<b>168</b>	<b>185</b>	<b>270</b>	<b>355</b>	<b>440</b>	<b>610</b>
<b>New Model Saving</b>	<b>300</b>	<b>900</b>	<b>1100</b>	<b>60</b>	<b>100</b>	<b>300</b>	<b>500</b>	<b>700</b>	<b>1100</b>

Even at the minimum liner quantities for on-farm collections (20 small or 4 large) farmers stand to save \$300 or \$60 respectively, versus the same service provision from Plasback. At larger volumes, which would be expected based on a flat collection fee, the cost-savings for farmers increase sharply.

These customer savings should not be seen as lost profit for the service provider. Provided the fixed fee covers the cost of collection, the increased expected volume should generate additional revenue at lower cost for the service provider through the sale of plastic to an end-market. The model should greatly encourage volume aggregation at an individual farmer level, increasing transport efficiencies for the service provider such that they are able to source plastic at a much lower cost than a model that charges a collection fee per liner. A substantially lower customer cost should also dramatically increase customer participation and overall service revenue alongside profitability.

Further service provider costs savings should also be realised by effective collection planning. Providing a collection service to often remote rural properties clearly requires careful planning. Sending a collection vehicle out to a property an hour or more one day, and it returning half full, is a very inefficient model if a nearby property then requests a collection a few days later. The traditional alternative is to merely hold collections until a sufficient volume is reached to justify the collection truck being deployed. While more efficient, this model may mean farmers are waiting unacceptably long periods for service. This could lead to dissatisfaction with the service, reduced customer loyalty and potential service abandonment.

The middle ground between these two alternatives is to be proactive with customer engagement. Where a customer in a particular location requests a collection, the service provider needs to be able to search customers geographically to produce a list of those customers that are near to the farmer requesting a collection. By accessing service history, the service provider should be able to determine which customers have accessed an on-farm collection in the past and initiate contact with these farmers to determine if they have any liners ready to be collected. Those that are ready to access an on-farm collection can then be added to the collection route.

Where a farmer expresses a desire to wait for a collection to maximise volumes, the service provider may wish to offer the farmer a collection fee discount if they take a collection early. In this case, a win/win situation is created for the service provider and the farmer, and customer goodwill is created.

As indicated in the one-stop shop model diagram, the service provider should also seek to support neighbouring farmers to aggregate soft plastics volume. If four or five neighbouring farms agreed to bring their soft plastics volume together to one location they could split the collection charge, saving them considerable cost.





If the collection charge is designed to simply cover the cost of collection – with the real value for the service provider being in the material collected – then the service provider loses nothing in this arrangement. By only needing to go to one property instead of four or five, with a larger volume at one location, the service provider actually benefits by the transportation movement being more efficient, and avoiding the need to have to try and coordinate five separate collections. Partnering with farmers on such an endeavour is an excellent way to build customer loyalty and community engagement.

In such a collection, as with all soft plastics collections, the individual farmers would be required to clearly note their service provider customer number on the liner to trace each liner back to its point of origin. Regardless of the final destination for soft plastics, contamination management will be very important. The service agreement between the service provider and farmers will need to have very clear requirements in terms of contamination, as this will likely impact the value of the plastic to the market and even potentially whether or not the plastic can be sold at all.

It is currently accepted practice that rural soft plastics such as baleage wrap and silage wrap will be substantially contaminated. The emphasis by Envirowaste in developing its Christchurch plastics plant and other new technological solutions for plastics has been on finding technology that will handle that level of contamination. Currently, no such technology has appeared as an easy outlet for contaminated plastics, and there is a high level of scepticism in the waste sector that such a technology is likely to appear anytime soon.

Conversely, smaller community operator such as Wastebusters Canterbury and the Helensville Community Recycling Centre have had some success at addressing this issue at source by requiring farmers to keep the plastic largely free of contamination. Plasback is also understood to be seeing progress in this area.

A high standard for avoiding contamination appears to be an inevitable starting point for collecting soft plastics until a stable and reliable process for dirty plastic is identified. For this to work well, liners must be linked to individual farmer customers, and very clear consequences in place for non-compliance. Ultimately, this is likely to mean that plastic that is too contaminated to recycle will result in farmers being charged a landfill rate for it. This is an undesirable situation, but must be in place to ensure the service is financially sustainable and that farmers are incentivised to align with the realities of recycling plastic in New Zealand. Clearly, however, finding an outlet which does not require farmers to be so careful with plastic is desirable, and should be a strategic priority for the service provider. Such a change in processing technology should not be embraced until its feasibility and sustainability as a technology are assured.

It is likely that collection vehicle drivers will need to visually inspect collected liners to establish the level of contamination but, given that liners will be sealed, a secondary inspection may be necessary in some cases. Obviously, contaminated liners should not be removed from the farm if a contamination standard is part of the service agreement.

When the collection is undertaken, interaction with the farmer will need to be carefully managed as detailed in Section 3.7. The liners will have been purchased in advance and the collection fee will have been paid at the time of requesting the collection online. Ideally, the collection vehicle will have a gantry arm or some other method of loading plastic onto it so that the farmer does not need to be present for the collection nor provide equipment to load the vehicle. This will allow the plastic to be loaded quickly so that the vehicle can then move to another site. Once full, the vehicle would return to a local depot where the plastic would be prepared for consolidation and transporting. It is likely that soft plastics would be baled, so a baler would be required.



A customer seeking a hard plastic on-farm collection would follow a very similar process, and the collection vehicle would ideally be configured to allow both hard and soft plastics to be collected at the same time, but kept separate in the vehicle.

Agrecovery's current practice requires that a farmer have at least 300 containers, 60L or under in size, in order to access a free on-farm collection. While this service is available, it is difficult to see farmers being willing to pay a collection fee for a competing service, so a farmer with such a large volume of plastic containers should continue to access this service.

A farmer with a smaller volume of containers, or with a mix of hard and soft plastics, would pre-register the wastes online with the service provider, and would pay a single \$100 collection fee regardless of the mix of products. There would still be minimum quantities however, such as those already noted for soft plastics, or perhaps a minimum of 150 containers. As with soft plastics, collection vehicle drivers would need to visually inspect at least a sample of the plastic containers to ensure they have been properly rinsed and prepared for disposal.

Once collected, the hard plastics would also be prepared for recycling, likely by being chipped, which appears to be the most effective pre-processing methodology for this type of plastic. Thus, the service provider would require access to a plastic chipper.

One of the important learnings from the Project in terms of on-farm collections is that satisfaction with – and ongoing utilisation of – existing services rapidly diminishes when customers are forced to wait inordinately long for waste to be collected. Long wait times are typically a response from service providers to the availability of transportation contractors, or to variability in demand. Clearly, despatching a truck to pick up a single load without delay is going to cost more for the service provider than waiting until several requests can be filled on one round.

To manage this issue, and provide options in terms of cost and convenience, it is recommended that on-farm collections for plastics operate in three ways:

1. *Regional focus collections.*

The service provider should ensure efforts are made to focus as much collection volume as possible in the week before or after a pop-up recovery event. The idea with the events is that a regional focus is pursued whereby as much waste as possible is dealt with all at once. Reinforcing this time-bound focus helps to normalise rural waste recycling as something that is done regularly at predictable times of the year. Hence, it will be important that 'regional blitzes' in conjunction with pop-up recovery events are conducted frequently enough (perhaps 3 – 4 times a year) to ensure that most farmers can deal with waste in a timely manner.

The standard flat fee of \$100, as noted earlier in this section, would apply to on-farm collections undertaken during the notified collection focus period around a pop-up recovery event – likely the week before or the week after the event.

2. *On-demand collections*

On-demand collections will be an important part of the service. During busy times, farmers may not be prepared to wait for the next regional event. An on-demand collection service would allow farmers to request a collection at any time of year.



The second tier of service, reinforced by proactive engagement of customers near to the farmer requesting an on-demand collection, would allow the service provider a time window in which additional properties could be added to the collection round. This may be up to two or three weeks. This allows the farmer to access a service more quickly than they otherwise would, but gives the service provider time to defray collection costs amongst multiple customers.

A modest premium fee of, perhaps, \$120 would be charged for accessing this service outside of normal regional focus timeframes.

### 3. *On-demand urgent collections*

This top-tier service would be offered to a farmer that need fast collection of wastes, within 48 hours. While the service provider may be able to organise other locations for a collection round, this is less likely.

A premium fee of, perhaps, \$150 would be charged for this service, with a guaranteed collection timeframe. It should be noted that, even at this higher collection fee, significant savings are offered over a Plasback collection at even minimum liner volumes.

### *Legacy Chemicals*

Legacy chemicals are those that are more than two years past their expiry date, and they present a significant risk to people and the environment. Part of the challenge with such chemicals is the difficulty in identifying exactly what they are and the often fragile nature of their containers.

While the majority of overall unwanted chemicals would be diverted through the pop-up recovery events, it is strongly suggested that legacy chemicals continue to be undertaken as an on-farm collection. The risks involved in transporting such chemicals in old and potentially unstable packaging are unacceptable.

This service would be provided by a specialist chemical contractor such as JBL Environmental or Chemwaste, and involve careful pre-registration of the chemicals on the online system. Funding for the service would either be through public funding rounds or user-pays. Discussions with JBL Environmental suggest that providing an up-front price for these chemicals and their collection is not practical, so once registration is complete and the registration round is closed, individual customer quotes would be produced and customers given the right to accept or refuse the quote.

As with plastics collection, efforts would be made to rationalise the collection to ensure minimal transportation movements and associated costs. Once collected, the contractor would handle all aspects of safe disposal.

### *Used Oil and Scrap Metal*

Under the Recycling Oil Saves the Environment (ROSE) product stewardship scheme, farmers can access a free on-farm collection for large volumes of used oil. Most farmers are, however, unlikely to be aware of this service and some are known to have very large stockpiles of used oil on their properties. The role of the service provider in regards to used oil is not to replicate this service but simply to make farmers aware that such a service exists and provide a portal by which farmers can request a collection. A referral would then be passed to the appropriate ROSE service provider.

Likewise, scrap metal is not considered a vital part of the service, but the service provider should endeavour to forge a relationship with scrap metal collectors that can service each region in which the model operates. Farmers would be encouraged to register large scrap metal items or collections on the service provider's website and a referral would be passed to the local scrap metal contractor.

With both used oil and scrap metal, once a referral has been passed on, arrangements for collection would then be made directly between the scrap metal or used oil collector and the farmer. The referral agreements between the service provider and collectors should require contact and fulfilment within an agreed timeframe to ensure the farmer receives a positive service experience. Collectors should also be required to notify the service provider as to the outcome of the referral and this information recorded in the customer management system for the farm.

Ultimately the addition of these waste streams is as a 'value-add' service to the farmer, and does present a risk to the service provider should referrals not be carefully managed. This may require some effort to streamline, but results in a stronger market position as the 'one-stop shop' for the service provider.

### **3.4.2 Pop-up Recovery Events**

On-farm collection is an important part of the one-stop-shop model because it allows farmers who have high volumes of waste and/or wish to access a full, convenience-focused service to have their waste dealt with quickly and easily. This is the model currently available for soft plastics – one of the key focus waste streams for the Project – through Plasback.

Yet it is evident from Plasback's current business volumes that not enough farmers are taking advantage of this service. This may be because of awareness in some cases, but it is likely that the price of the service is a contributing factor to farmers not embracing the service as a matter of ordinary waste management on farms.

The model for on-farm collections outlined in Section 3.4.1 goes some way to addressing concerns over price by rationalising service provision and reducing collection costs, but it is likely this will not go far enough for some farmers, and does not allow for all waste streams to be dealt with at once.

The 'pop-up recovery event' concept is focused on providing a time-limited option that allows farmers to bring all – or at least most – of their commercial wastes to a relatively convenient location and avoid paying collection fees at all. If a farmer can load up a flatbed truck and/or trailer with plastics, chemicals and other included wastes, drive into the nearest town and avoid paying potentially several collection charges (at \$100+ each) then there is an obvious appeal.

For the service provider, the event concept offers efficiency. Rather than small volumes trickling in over a long period of time, or multiple on-farm collections being undertaken for relatively small volumes, the event provides a single regional focus to collect wastes all at once. This reduces staffing, transportation and processing costs by concentrating waste volumes.

The events are likely to work best at an existing council transfer station, for a number of reasons:

- Transfer stations are likely to have the resource consents in place to handle the wastes included in the event.

- Transfer stations are typically well set-up to handle traffic flows, including from main roads. The location of transfer stations will in many cases mean a traffic management plan is not required.
- Transfer stations will typically have concrete or other stable surfaces suitable for handling waste drop-off.
- Transfer stations will typically have access to power and water on-site, and may have lifting equipment the service provider can use to unload vehicles.
- Rural transfer stations tend to be open to the public only on certain days, making access on a non-public day relatively easy to arrange.
- Transfer stations may accept additional wastes (such as household rubbish and recyclables) that the farmer can drop off if they desire, further enhancing the service offering.

As discussed in Section 3.5.4 the events are likely to work best as a partnership or informal joint venture between the service provider and the local council. Cooperation in publicising and conducting the events, including the provision by council of access to the transfer station, provides benefits to all parties.

It is recommended that the following waste streams be included in pop-up recovery events:

- *LDPE Soft Plastics.* As a minimum, this should include baleage wrap and silage wrap. Being able to drop off twine, string, vineyard nets and other forms of soft plastic would also be advantageous. Such soft plastics should only be accepted on the day if in pre-purchased service provider liners. All soft plastics should be visually inspected for contamination by the collector and, where contamination levels are unacceptable, farmers should be directed to proceed over the transfer station weighbridge and dispose of – and pay for – plastics as landfill. Where plastics have higher value or are part of an ancillary product stewardship scheme, free drop-off may be offered, as is likely to be the case with polypropylene bags.
- *HDPE Containers and Drums.* These should be included as per Agrecovery's product stewardship programme. Ideally, there would be no limitations in terms of brands, nor charging for containers, but obviously this is determined by the chemical companies participating in and funding the programme. Containers should be triple-rinsed and visually inspected by service provider staff before acceptance.
- *Agrichemicals.* These chemicals will only be those that have expired within the last 24 months. Only chemicals in robust HDPE containers with legible, original labels would be accepted. As per Agrecovery's existing programme, ideally most chemicals will be able to be dropped off free of charge. This may be as a result of chemical company funding, or as a result of regional council funding. Other chemicals may attract a fee. This category, particularly, will require careful pre-registration and payment, and will require careful crosschecking to ensure what is dropped off matches what has been registered.
- *Sharps.* Based on the outcomes of the Fonterra Sharps Trial, it would seem logical for the service provider to incorporate this service into the events. Farmers would be sold a small collection container online – with a drop-off fee built in – then simply bring it to an event when full. Filling a container is likely to take several years.
- *Paint.* Preliminary discussions with Resene Paints suggested a willingness to explore the inclusion of paint in their programme, although this is likely to be a user-pays service for farmers.

- *Used Oil.* Farmers can drop off any lubricating oils, but not antifreeze or other contaminants. On-farm collection for large volumes of waste oil is already available through the ROSE Scheme, as previously noted. ROSE collection bins should be provided at events to capture smaller volumes of used oil and containers. This will, however, depend on ROSE securing a sustainable use for collected plastic.
- *Waste Oil Filters.* Oil filters have scrap value and are a relatively easy inclusion in the events. These should be able to be dropped off at no charge.
- *Scrap Metal.* Farmers should be able to drop off smaller scrap items at no charge. Depending on metal prices, and take-up of this offering, a scrap metal contractor may need to operate on site and provide farmers with a return for scrap dropped off.

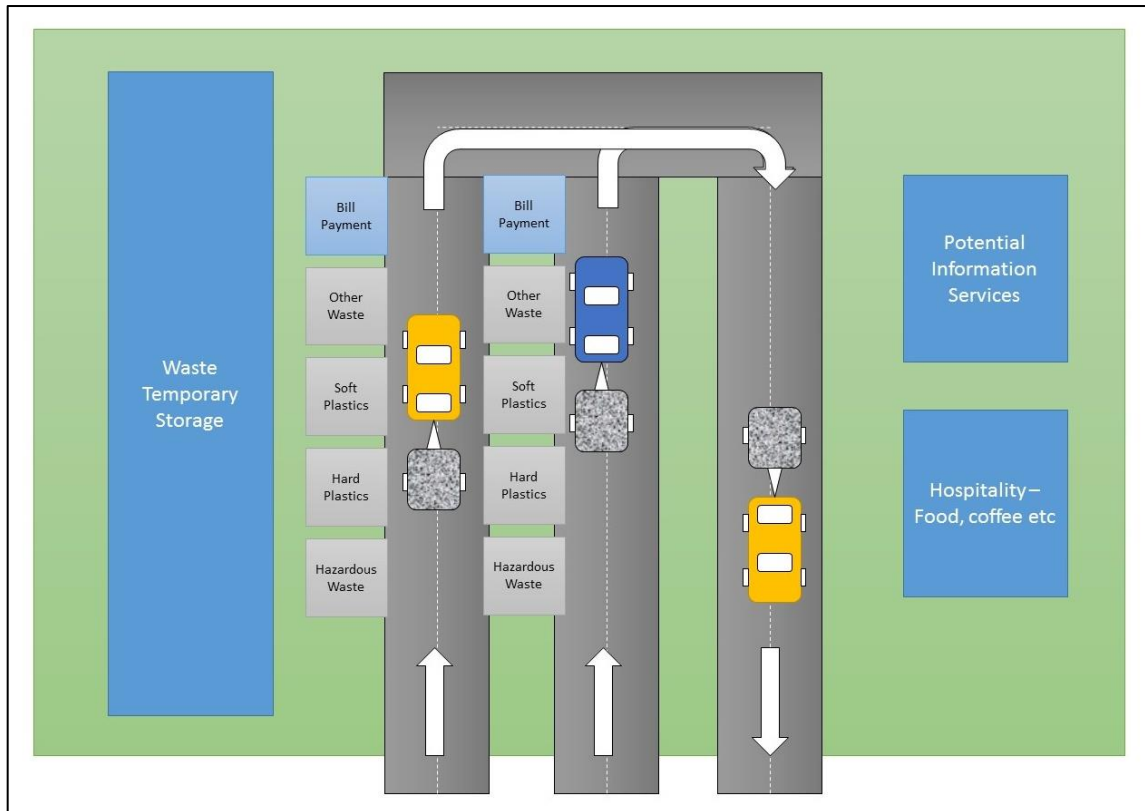
Other than waste streams handled by the transfer station independently of the event, farmers would be required to pre-register waste streams on the service provider's online system. This allows for better planning for the event and ensures that the service provider and on-site contractors are able to efficiently handle the volumes of waste expected.

This obviously raises the question of what happens when a farmer turns up with unregistered wastes or additional volume, as could reasonably be expected. For some waste streams – such as used oil or scrap metal - this is not likely to be a significant issue, and a quick conversation with the farmer as to the importance of pre-registration will suffice. For others, a premium fee may need to be charged on the day for unregistered volume. For others, such as chemicals, a zero-tolerance policy may need to be applied, and farmers asked to remove the wastes from the site.

This aspect of the events will need to be carefully managed and discussed with users to strike an appropriate balance between flexibility and the ability to effectively plan and manage events.

Setting up the site correctly is an important part of the event. The service provider needs to consider traffic-flows and ensure that vehicles do not queue on main roads in a way that impedes normal traffic. This is a key reason for providing attendees timed drop-off slots as noted in Section 3.7.1. Should site access from a main road be an issue, a traffic management plan may be required. This is not a straightforward process, so site selection should consider whether such a plan would be required. The transfer stations originally chosen for piloting the Agrecovery/Envirowaste events – in Matamata and Geraldine – did not require a traffic management plan.





**Figure 6: Pop-up Recovery Event Layout Map**

The event would, in all likelihood, operate from about 9am until 4pm. Hours may need to be adjusted based on farmer requirements, and an earlier start may be desirable. Once events have been undertaken several times in a given area, times may be adjusted to reflect the preferences of the local farming community. As waste is being removed as a commercial activity, and based on feedback from farmers, the events should be run on a weekday. Upon arrival at the event during their allocated timeslot, clear signage will show farmers how to access the site. It is then envisaged, as per Figure 6 above, that two lanes will operate to remove waste from vehicles. Farmers will be advised in advance as to how to pack vehicles and trailers in order to best expedite unloading.

A service provider marshal will initially engage with the farmer to check:

- *The farmer has arrived within their allotted timeframe.* Some discretion will be needed as to how to treat those that arrive outside their window. If the event is quiet, an exception may be made. Otherwise, a holding area for vehicles may be required, or the farmer asked to return during their timeslot.
- *The farmer has pre-registered and paid for wastes.* When registering, farmers will be given a receipt showing the wastes registered, and instructed to bring this to the event. Marshals will need to be able to access this information digitally should farmers not bring the receipt. Where farmers present with wastes that are not registered, or where volumes are materially different than that registered, the marshal will need to know how to proceed, as noted above.
- *The types of waste present.* The marshal will need to brief the farmer as to how to proceed through the line and how to ensure health and safety requirements are met. Depending on how the line is organised, the marshal may put bright stickers on the front windscreen of the vehicle to signify registered wastes, or whether a forklift is required to unload wastes. Instructions will also need to be given for farmers that are proceeding beyond the line to use existing transfer station waste services.

The farmers will then proceed through the line to have waste unloaded. It is likely that hazardous wastes would be dealt with first for safety reasons. This would be done by trained specialists (from an organisation such as JBL Environmental or Chemwaste) who would set handling procedures carefully and ensure that chemicals are offloaded in accordance with these procedures.

Bulkier items such as hard and soft plastics would then be removed, followed by whatever is remaining. At each stage, waste quantities would be recorded in a centralised system so that, once all waste has been off-loaded, the farmer can be emailed a PDF receipt showing exactly what was dropped off. This will help support farm certification programmes and reinforce waste best practice on farms. This PDF should be in the form of a waste disposal manifest that shows not only wastes received, but also the ultimate destination or use for these wastes.

The service provider will need to create a health and safety plan for the events to ensure the safety of all present. This may require that farmers stay within their vehicles while unloading is undertaken, or that farmers wear high visibility vests or adhere to other requirements. The plan will depend on the exact wastes present and the configuration of unloading, but it should be noted that allowing bulkier wastes such as large liners of soft plastics, which may weight up to 500kg, does increase the on-site risk.

Unloaded waste will be placed in a temporary storage area and, depending on the technology the service provider uses, may be crushed, chipped or baled on site as the event progresses. Otherwise, waste may be processed on the day after the event, in combination with wastes collected on-farm. In any event, all waste should be removed from the site no later than 24 hours after the conclusion of the event to ensure minimal impact on the operation of the transfer station.

As part of the partnership with local councils, the event may offer some additional value to farmers in the form of information services. Local councils or non-profit organisations may wish to use the event to provide information to farmers on issues such as household recycling. A council presence at events also reinforces the partnership and the fact that council is active in providing a waste solution to rural ratepayers, and helps build relationships between council staff and farmers.

Councils may also wish – as was suggested for the original pilots – to sponsor the events by providing free coffee for farmers. This is likely to be warmly appreciated and help to build relationships. A sausage sizzle may also be appropriate and assist in creating a positive atmosphere for the event, establishing it as a ‘community event’, although the event is fundamentally about disposing of waste.

Any such add-ons to the events will need to allow for traffic management and ensure a holding area for vehicles is available, so that farmers who stop to engage in this way do not hold up the waste unloading lines.

While these extra aspects are not essential, it will benefit the service provider and the council for the pop-up events to be regarded as an integral part of rural community life; something that is viewed positively and anticipated.

It is not yet known with any certainty how often events will need to be undertaken. It is likely that frequency will be region-specific. In setting timing for events in each region, a user-reference group will need to be formed, as discussed in Section 3.7.2. It should not be assumed that the information from one region will be directly applicable to the next, as frequency of events, and indeed the waste streams that could be expected, will depend on the farming types in each area. It is likely that two to four events will be required in each region annually. In larger regions, events may need to be undertaken in multiple locations. Event timing and locations will need to be carefully considered and planned as discussed in Section 3.8.





### 3.4.3 Fixed Collection Points

Some waste streams, such as scrap metal and paint, are likely to be easily dealt with at occasional events. Others, particularly hard and soft plastics, may require additional disposal channels for farmers. On-farm collection may address these needs to some degree, but there may be benefit in providing fixed collection points for hard and soft plastics to meet farmer needs.

Agrecovery currently provides a range of fixed collection points for plastic containers throughout New Zealand. Many are at rural retail stores. Should pop-up recovery events be deployed nationally, the need for these fixed collection sites may diminish, but may be a valuable customer service to handle overflow volume. The potential exists to add soft plastics fixed collection points to provide a similar level of service. Farmers would still have to use pre-purchased liners but could avoid a collection fee – or potentially pay a nominal drop-off fee - by dropping full liners at a fixed collection point.

It is likely such drop-off would be limited to smaller liners to avoid the need to use heavy equipment to remove the liners from the farmer's vehicle. As an option, a hosting site may wish to provide this service and receive large liners, but would be wise to charge a drop-off fee for such a service to cover the staff time in unloading the vehicle. In either case, a fee may be justified in that staff at the hosting site will need to inspect dropped-off plastic for contamination, and ultimately take responsibility for the state of the plastic.

Alternatively, fixed collection points could be hosted at some rural transfer stations, and operate in the same manner as a service to farmers. Requiring payment at these transfer stations may be problematic but, should farmer demand require a fixed collection point, the transfer station hosting pop-up events is a natural starting point for discussion, particularly if a strong partnership already exists with the territorial authority. Unless large volumes require supplementary collections, the plastics collected at fixed collection points should be picked up in conjunction with pop-up events to minimise transportation movements and service costs.

### 3.4.4 Waste End-markets

One of the key learnings from the Project has been the impact of unreliable waste end-markets on the provision of waste service to rural properties. Plastic, in particular, is an ongoing challenge, particularly given the current limited availability of international markets for rural plastics. Securing stable and reliable outlets for wastes collected must be a strategic priority for the service provider in considering provision of the model described in this report, particularly given the drastic changes in the international market for used plastic for recycling seen in the last six months.

Launching any new service into rural communities requires a degree of faith and trust from farmers. Changing methods for handling waste, and purchasing bins or liners or incurring other costs to participate in a new service requires farmers taking a significant risk. Should a service then fail or 'turn off the tap', farmers are much less likely to take a risk on a service that subsequently appears later. This has been seen with the lingering impact of Agrecovery's failed soft plastics collection service. Even though this service ceased in 2014, many farmers remember this failure and have a degree of suspicion or scepticism about new services in this space.

It is likely, given the current market conditions, that finding secure end-markets for collected waste is the biggest hurdle a new service provider must face. Stockpiling is increasingly seen as unacceptable, and 'service pausing' would not be tolerated by farmers.

There are two key factors that are considered priorities in finding such markets:

- *Focus on domestic recycling.* The plant that Envirowaste has been developing in Christchurch aims to recycle agricultural plastics into new agricultural products for use in New Zealand. This is the ideal scenario. Domestic recycling for the domestic market removes foreign exchange and exportation concerns, and may be the only option in the medium to long-term if export markets continue to disappear as China has. Where products are for use in the agricultural market, this is an added marketing advantage. Securing a domestic market for products that uses this resource for products in sustainable local markets should be the goal for plastics collected by the service provider. Unfortunately, as of time of writing, the Envirowaste plant is not yet operating, and its full operation has apparently been delayed numerous times. Should this plant prove to be feasible, it would be a highly desirable partner for service provision under this model. Conversely, Plasback has recently begun sending a proportion of its collected plastic to Astron Plastics in Auckland for use in manufacturing Tuffboard, a plastic plywood substitute. This is an encouraging development.
- *Focus on avoiding contamination.* Contamination of plastics makes processing more difficult in almost all contexts. The more that can be done to work with farmers and consider how plastics are used on farms to avoid contamination, the better. Initially, it is likely that farmers will not accept that plastics can be kept clean, or that doing so is time-consuming and impractical. As part of its user-engagement process, the service provider would do well to work with farmers (such as by guest-lecturing at agricultural colleges or universities) to determine how on-farm practices can change in realistic ways to minimise contamination. The benefit for farmers in doing so is a lower service cost for plastic recycling, and a sustainable service in the long run.

The service model for soft plastics being offered in this report presupposes that the service provider will earn the bulk of its service revenue from the sale of the plastics. Thus, both of the focus points above are extremely important to ensure and maximise this revenue earning potential.

### 3.5 CRITICAL PARTNER ROLES

The one-stop shop model envisaged in this report is designed to be a partnership between the core service provider, other service providers/contractors and local/regional government. The lead is taken by the private sector, but the model is supported by the public sector to enable a service that is focused primarily on meeting the needs of farmers and aiding them to protect the legacy of their land.

The model is designed to be economically self-sustaining and not require ongoing government subsidies in order to operate. However, governmental partners have a vital role to play in terms of assisting the service provider through marketing, awareness-raising, funding specific waste collections and providing venues for pop-up events. In doing so, these agencies are not subsidising the service but rather utilising it as a platform through which priority waste streams can be dealt with effectively and important environmental messages can be delivered, and through which relationships with farmers can be strengthened. The following sections detail the five critical roles in operating the one-stop shop model:

- The service provider
- Waste contractors and processors
- Rural retail stores
- Territorial authorities and regional councils
- Farming sector organisations

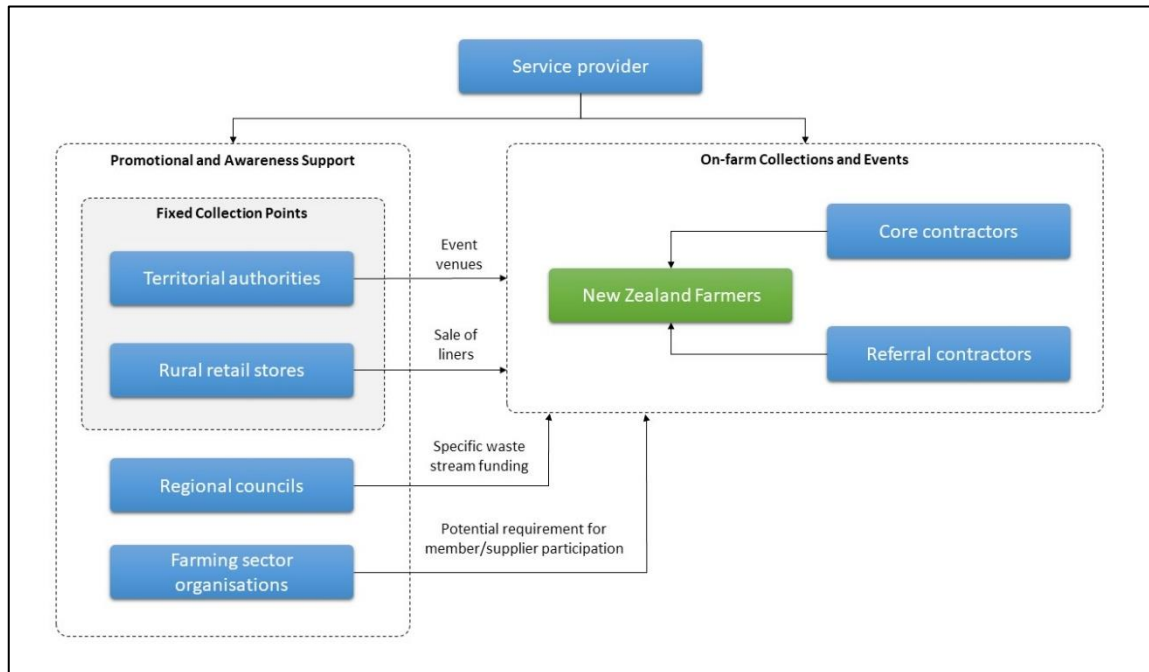


Figure 7: One-stop Shop Model Key Roles

### 3.5.1 Service Provider

This model has been prepared in such a way that any organisation could pick it up and deploy the service. In reality, it must be acknowledged that it would be difficult for most organisations to do so. Specifically, it would be challenging for any other organisation to compete with the advantages that Agrecovery has in moving into this space. Agrecovery, as the operator of a product stewardship scheme that covers both agricultural chemicals and container and drum collections, has an obvious funding advantage in handling these wastes. Its structure as a non-profit organisation with a wide rural waste mandate also uniquely positions it to embrace a more diverse model without needing to account to financial shareholders.

However, Agrecovery's existing focus on agrichemicals and associated packaging does raise the issue of cross-subsidisation should it expand into other waste streams. It is unlikely that those agrichemical brand-owners currently passing levy funding on to Agrecovery would welcome this funding being used to develop other services. Thus, it must be acknowledged that while Agrecovery is well-placed to implement a one-stop shop, it faces some barriers in taking the risks and expending the development funding that would be necessary to deploy the model. However, these barriers are not insurmountable and may be sufficiently mitigated by way of a comprehensive business plan.

Therefore, the role of service provider is outlined in terms that are not specific to any organisation. The service provider role will primarily consist of:

- *Providing overall leadership for service development.* The service provider will serve as the 'owning' organisation for the model and leads the initiative to establish it. In so doing, it will act as an industry leader in addressing rural waste issues and as the 'face' of rural waste recycling. This role will require strong leadership and a willingness to take some risk in establishing a service model that can greatly impact the New Zealand farming sector.
- *Forming partnerships with councils.* Early on in the service development, the service provider will need to engage both territorial authorities and regional councils to gain their support for the service. Providing the service in a region without the backing of the regional council and, particularly, the territorial authority, would be both relatively difficult and a lost opportunity. The service provider will need to develop and maintain strong relationships and provide opportunities for council needs to be met in service provision.
- *Seeking service funding.* Whether through product stewardship schemes, regional council funding for specific waste streams or central government funding for service deployment or development, the service provider will need to identify and secure funding sources that will enable as much waste as possible to be collected from farms. This is not a matter of identifying subsidies for an unsustainable service, but rather accessing grants from schemes such as the Waste Minimisation Fund to support wider service deployment, and securing funding for focus waste streams such as legacy chemicals, for which there is no viable consumer business model.
- *Securing and managing waste contractors and waste outlets.* The service provider will be responsible for identifying contractors to undertake on-farm collections and handle waste at pop-up events. As part of this role, the service provider will need to ensure that stable and sustainable markets for waste products are in place and that these are ethical and environmentally sound. The service provider will have an ongoing role in managing these relationships and outlets and seeking or developing better and more sustainable outlets for waste over time. Depending on the nature of contracts with providers, the service provider may also need to arrange manufacturing of liners for soft plastics.
- *Forming referral partnerships with complementary organisations.* For waste streams such as scrap metal and used oil, the service provider will need to forge relationships with relevant contractors to ensure these waste streams are handled appropriately. This will involve contracts or memoranda of understanding to ensure that customer experiences are consistently positive and wastes are handled in a timely manner. The service provider, through its industry relationships and connections with the farming community, should look for opportunities to expand its service offerings to include additional waste streams where applicable and practical.
- *Seeking support from industry organisations.* It should be a key aim of the one-stop shop model for suppliers (such as Fonterra or Silver Fern Farms) and relevant industry organisations (such as Federated Farmers) to encourage or require farmers to participate in the service. This relationship may involve producing specific reports for farmers to demonstrate their adherence to supplier or organisational requirements. To support this aim, the service provider needs to ensure the service provision is comprehensive, flexible and user-focused so that farmers do not object to being required to participate.
- *Ensuring all service compliance requirements are in place.* Issues such as resource consenting, health and safety, traffic management plans and any record-keeping requirements from industry partners will need to be well managed. The service provider will also, as part of this requirement, ensure that they know at all times what is happening to collected wastes and that issues such as stockpiling do not eventuate.

- *Piloting the service and finalising service design.* In order to validate the assumptions made in this report, the service provider should seek to initiate service delivery with a piloting process and gradual service expansion. Piloting will reveal weaknesses in this service design and evaluation should be rigorous and consistent to identify ways in which the service design needs to be modified to meet user requirements and ensure financial sustainability. There will be an intensive initial focus on this incremental design process, but it will need to be sustained at a lower level through continuous improvement and responsiveness to customer needs.
- *Managing financial transactions.* The service provider will be responsible for all contracts and payments in the model. It will manage all customer payments and ensure contractors are remunerated for services provided. The service provider will need to carefully manage cashflow, particularly as the service grows, and may need to secure external financing to cover working capital during this growth period. This function will also need to include the sale of plastic liners and receiving online payments for service through the online portal.
- *Building a user-focused online information and registration portal.* Providing customers with information, taking service registrations and managing events will require a well-designed and intuitive online system. This system needs to recognise that many farmers have slow internet connections, but that providing staff to manage interactions or registrations over the phone or fax is time-consuming and prohibitively expensive. Section 3.7.1 describes the requirements of this system in more detail.
- *Manage all communications and interactions with customers.* As the 'face' of the model, the service provider will need to manage communications with the customer. As much of this as possible should be online and/or automated to minimise service costs, but face to face engagement with farmers will be important, particularly around issues such as contamination of waste streams. Setting up systems to ensure customers are reminded of on-farm collections and events will be important and tie in with the online system.
- *Managing event logistics and registrations.* The service provider will need to receive and manage event registrations and ensure time slots are appropriately allocated. All the logistical details for events including contractor management, health and safety, council liaison, traffic management and dealing with customer enquiries and complaints will be the service provider's responsibility.
- *Collecting and managing customer and waste information.* In order to build a dataset for planning purposes, collect user-behaviour information and support compliance with external programmes and standards, the service provider will need to ensure that waste quantities are recorded for each waste, and for each farmer. Waste disposal manifests should also be issued to farmers.
- *Undertaking service deployment planning.* The service provider will have responsibility for determining how many events should be run in a region and when during the year these should occur. They will also need to form a deployment plan to decide the order of regions for deployment and the pace with which deployment should be pursued.
- *Preparing and executing a marketing and customer engagement plan.* For the service to work successfully, it will need to be marketed carefully. Ensuring that every eligible farmer knows the service exists and how it works is critical. While some guidance is given by the Project in this regard, the service provider will need to decide how to spend a marketing budget and which channels will be most successful in engaging customers and achieving high participation rates.
- *Building and enhancing a 'rural waste' brand.* In order to maximise the potential of the one-stop shop model the service provider needs to work consistently to build a cohesive brand around the concept. This is not just marketing, but rather building a consistent customer experience that establishes the model as the definitive answer to the problems around rural waste.

- *Undertaking continuous service improvement and user testing.* The service provider will need to continually modify and adapt the service to changing conditions in the rural sector and waste industry. Regional and farm-type differences will also need to be accounted for. This aspect of service development and delivery is often neglected and should be a deliberate and planned aspect of providing the service from the outset. Keeping a close dialogue with the farming community throughout New Zealand and ensuring service design is linked closely with user needs will be important to sustainable success for the model.

### 3.5.2 Waste Contractors and Processors

While a waste contractor/processor could feasibly handle all waste streams and also manage the model as the service provider, it is envisaged that the service provider will act as service manager and subcontract the handling and processing of waste streams to third party contractors. Given the range of waste streams included in the model, it is likely that more than one contractor will be needed and that some will be directly contracted to, and paid by, the service provider, while others will simply receive customer referrals.

The role of contractors and processors will consist of the following (not all will apply depending on whether the contractor is 'core' or a referral recipient):

- *Ensure sustainable and responsible outcomes for all wastes collected.* While accountable to the service provider in this regard, it will be incumbent upon contractors to ensure that waste is processed and disposed of, or recycled, in keeping with industry best practice. It will be critical that contractors are transparent and work closely with the service provider to ensure that hazardous wastes are disposed of carefully and safely. A failure in this regard would threaten the reputation and viability of the service. Likewise, the contractor/processor should seek the best possible markets for recycled products based on environmental impact and financial return. Sending recyclable waste to landfill and stockpiling must be avoided. The service provider will ask for and must receive evidence that wastes are being handled appropriately at all stages.
- *Provide and maintain collection and processing infrastructure.* It is unlikely that the service provider will own and supply all the infrastructure required for collection and processing, such as vehicles and balers. As part of their service contract, it would be expected that the contractor would provide the necessary equipment, ensure it is maintained and upgrade it at appropriate intervals to ensure process efficiency.
- *Undertake on-farm collections to the highest standard.* When an on-farm collection is scheduled, the contractor temporarily takes over the customer relationship from the service provider and must handle this with the utmost care. This means collections must be undertaken at agreed times, with professionalism and with minimal disruption to farm activities. Collectors must be trained to identify unacceptable contamination and respond appropriately and to deal respectfully with any customer issues.
- *Handle waste at pop-up recovery events.* Contractors will be responsible for setting up their own equipment and facilities at events, and managing customer interactions professionally. Unloading, sorting, checking and handling of wastes will be the contractor's responsibility at all times. Contractors will need to ensure they process and remove waste from event sites within agreed timeframes.

- *Comply with health and safety and other legal requirements.* Given the nature of some of the wastes being handled, contractors must ensure that they obey health and safety requirements and have in place all necessary certifications, insurances and licenses to provide on-site services. Once again, the service provider will seek evidence of these being in place.
- *Accurately record customer and waste information.* All waste collected should be checked for contamination and weighed or counted, and this information entered into the service provider information system. Details should be accurately recorded and other information supplied per the service provider's requirements. Waste disposal manifests should be provided to all customers.
- *Support the service provider in service development and deployment.* As the model grows and is deployed, opportunities for the contractors also grow. Collaborative relationships between the service provider and contractors are critical, and each should look to support the other's business. Contractors should be working consistently to improve returns on waste collected and improve service efficiency to constrain costs and improve profitability. Contractors should also assist with deployment of the service to new regions, and contribute ideas for service expansion and enhancement.

### 3.5.3 Rural Retail Stores

Rural retail stores, such as Farmlands and PGG Wrightson, have three key potential roles in the one-stop shop model:

- *Selling soft plastics liners.* While soft plastic liners would be sold online by the service provider directly to customers, it would be prudent to also make these available for sale in rural stores. Having liners available, coupled with eye-catching point-of-sale signage will assist in building customer awareness and volumes around this service. In order to keep sale prices consistent, it is likely that the service provider will have to sacrifice margin on the sale of liners to the stores.
- *Providing fixed collection points for plastics.* Many of Agrecovery's collection points for plastic containers are at rural retail stores. The potential exists to add soft plastic collection points for small liners at stores as a free drop-off, or provide larger liner drop-offs as a fee-paying service for farmers.
- *Partner in marketing and awareness of services.* Engaging one or more rural retail chains as strategic partners in the one-stop shop model is likely to be achievable. The stores could then assist in marketing and awareness with in-store posters and flyers, or communication with customers via printed or email flyers and newsletters. Should the service provider succeed in building a brand that rises to prominence in tackling rural waste issues, the appeal to a rural store in aligning with this brand may be high.

### 3.5.4 Territorial Authorities and Regional Councils

The potential roles for territorial authorities and regional councils are quite different, but both are important. For regional councils a key potential role will be in providing funding for chemical collections, should such funding be available, or for other priority waste streams as may arise. Regional councils can also assist with service promotion and awareness by advising farmers that the service exists and confirming the waste streams that can be managed. The role of territorial authorities will consist of the following:



- *Providing venues for pop-up events.* Council transfer stations are ideal locations for events. Territorial authorities can greatly assist in the provision of pop-up events by providing free access to transfer stations to run the events and facilitating support from whoever operates the transfer station.
- *Assisting with market intelligence, and service marketing and awareness.* As the model expands and services are deployed in new areas, councils will be an important source of information about the region, including key community contacts, influential farmers and organisations, and information about the types and locations of farming activity in the region. Councils can also greatly assist by identifying appropriate avenues for marketing services and events, and directly assisting in such marketing. Council staff can also assist by making farmers with which they come into contact aware of the services provided and waste streams handled. As a community event, council support around events is particularly important and provides value for the service provider and the council.
- *Assisting with event compliance.* Councils can provide useful assistance in confirming that all resource consent requirements for events are fulfilled, and advise whether a traffic management plan is necessary. Where compliance requirements must be met, councils can assist in ensuring this is as straightforward as possible for a community and environmental-focused event.
- *Enhancing community engagement aspects of events.* Councils may wish to provide free coffee or a sausage sizzle to enhance the atmosphere of events and promote their partnership with the service provider in ensuring the events are provided. Opportunities also exist for councils to provide additional waste-related or environmental information to farmers at the events.
- *Providing fixed collection points for plastics.* As with rural retail stores, council transfer stations may provide a convenient location for fixed collection points for plastics.
- *Including waste in Farm Environment Plans.* Farm Environment Plans cover a wide range of activities and are used by farmers to help understand and mitigate the environmental effects from their farms. It is suggested that waste management be incorporated into these plans and for it to become standard practice that farmers deal with this aspect of farm management alongside water use efficiency, nutrient and effluent management.

### 3.5.5 Farming Sector Organisations

Farming sector organisations include suppliers such as Fonterra and industry representative groups such as Federated Farmers. The support and endorsement of these groups will be an important part of establishing the brand for the one-stop shop model.

In order to support services, the potential role for these organisations consists of the following:

- *Encouraging or requiring members/farmers to participate in services.* The service provider should seek to engage all relevant industry organisations and explore whether they would be willing to suggest – or ideally require – that their members or suppliers participate in the services provided. This is already the case for many in the horticultural sector in regard to existing services through NZ Gap and Global Gap. If the service can establish itself and support these organisations with strong evidence of good environmental practice, building utilisation of the one-stop shop into member or supplier requirements is not unlikely over time.



- *Promoting services and events.* Whether or not participation is required, relationships of trust should be built by the service provider with these organisations to make their members or suppliers aware of the services, and their value to the environment and to effective farm management. This may be through direct face-to-face contact or via publications or flyers.
- *Assisting with service development.* If strong relationships can be developed with organisations such as Federated Farmers or Fonterra, the service provider can partner with such organisations to add in service features that align with these organisational goals, provided they are not in conflict with user needs. This might be through information sharing, the inclusion of additional waste streams, or allowing organisations to have a presence at events.

### 3.6 MARKETING AND COMMUNITY ENGAGEMENT

Unlike a purely commercial service, the one-stop shop model would function best in close-knit rural communities by understanding and incorporating into these communities. While the functional benefits of the services provided should prove compelling to farmers, the lack of extrinsic or regulatory drivers for participation suggest that tapping into social networks, and the farmers' 'sense of legacy' around their land, is worthwhile.

The goal here is for participation in services which seek to deal with commercial rural waste responsibly 'off-farm' to become a social norm in rural communities.

#### 3.6.1 Marketing and Communications Plan

Research undertaken in Milestone 2 of the Project sought to understand why farmers might be prepared to pay to recycle farm waste when they are not legally required to do so. The collated responses are contained in Figure 8 below:

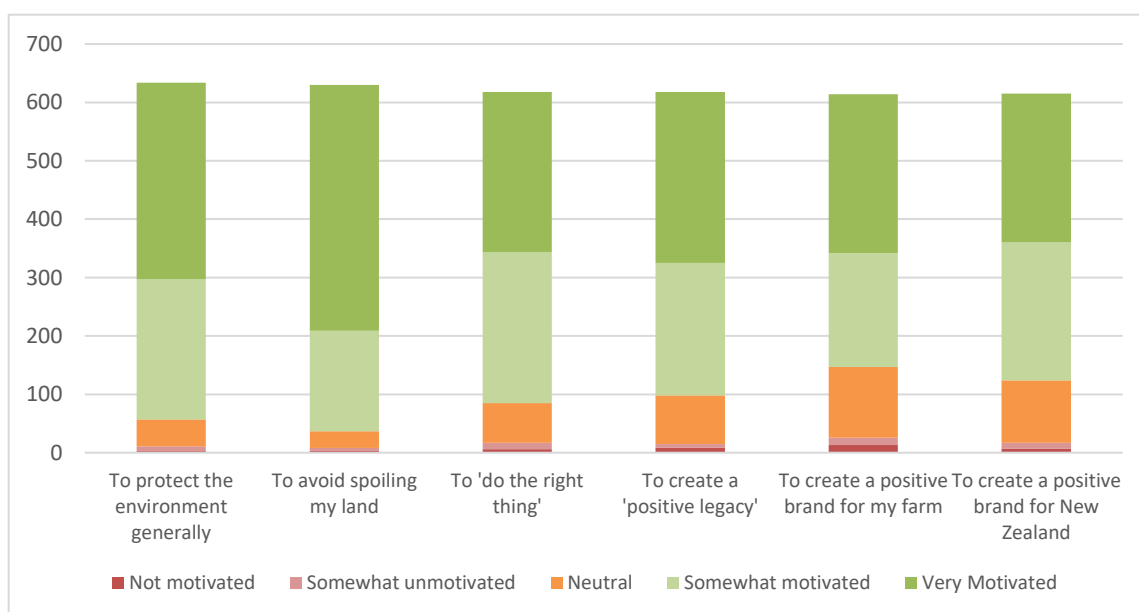


Figure 8: MS2 Farmer Survey Results - What motivates you to recycle farm waste?



The highest scoring motivation in seeking to participate in a service such as that being proposed here, is to 'avoid spoiling my land'. This message of maintaining and building on 'legacy' is a key message to be used in marketing services and securing customer engagement.

A full communications plan for the Agrecovery / Envirowaste Rural Waste Services pilots was prepared by Cherry Red for Milestone 5 of the Project. This plan was focused on two pilot events. However, the discussions, learning and development that went into the creation of this plan have been reviewed to form key elements of a marketing and communications plan for the one-stop shop model, as outlined below.

The marketing and communications plan for the one-stop shop model would focus on the following objectives:

- To promote the recycling and off-farm disposal of commercial rural wastes as a social norm in rural communities.
- To reinforce the importance of 'protecting legacy' by handling rural waste appropriately.
- To ensure that all farmers who would be able to participate in services are aware of them, know how to access further information and know how to register for service delivery.
- To ensure that all farmers that access services feel well informed about service requirements and have sufficient advance information and knowledge to participate in services effectively.
- To ensure service partners (such as territorial authorities) are well informed and equipped to support services.
- To share the story with the wider public and promote the positive activities of the farming community.

The key strategy audiences include:

- Farmers, their families and farm workers.
- Wider rural communities.
- Service partners.
- Rural sector representative groups and supply companies.
- Media.

The strategy key messages include:

- "In 2013 an Environment Canterbury study found that, on average, farms were producing nearly 10 tonnes of non-natural rural waste each year, with on farm burning, burial or storage being used to manage waste".
- "Farmers are busy and don't want to deal with many different organisations in order to safely and responsibly handle the waste from their farms".
- "Farmers are concerned about their land and want to pass their land to the next generation better than they found it".
- "[The service provider] makes recycling and disposing of waste simple, easy and cost effective".



- “[The service provider] provides a flexible range of solutions. If you want to save cost, you can drop waste off at one of our regular pop-up recovery events. Or, if you prefer, we can organise to collect high volume wastes directly from your farm”.
- “Our services have been designed based on talking with and understanding New Zealand farmers.”
- “Our emphasis is on ensuring that you can focus on doing what you do best: growing wealth for New Zealand. We’ll take care of the waste”.
- “Everything you need to know about us you can find on our website. Visit [website] to find out what you can do with your farm wastes and learn more about the range of services available”.

The overall marketing and communications strategy for service delivery should consider the following:

- Potential customers should be pointed back to the service website for more information. An 0800 number should be provided, but this should not be the primary pathway for information as this will be expensive to staff.
- Marketing and communications should not be undertaken until partners are in place. This will likely include the local council, as a key partner in events, rural retail stores, farmer organisations and supplier organisations. All partners should be supplied with detailed information as to how services work and are accessed so that they can handle enquiries effectively.
- Direct marketing through partners is likely to be more effective than mass marketing. Such direct marketing may include promotion through:
  - ‘Email blasts’ or other regular communications.
  - On-farm visits and support by organisational officers.
  - Coverage at farmer meetings and conferences.
  - Inclusion in community newspapers and newsletters.
  - Cross-promotion on websites.
- This informal marketing could be supported through:
  - Point of sale signage in rural stores.
  - Online advertising such as Google Adwords.
  - Rural mailbox drops.
- While this activity would raise awareness – which is critical – the most effective form of encouraging service participation is likely to come through supplier organisations or compliance organisations directly encouraging or requiring participation of its members. Where the method is ‘encouragement’ rather than compliance, the service provider may use promotional tools, such as a member discount or ‘first collection free’ to stimulate interest.
- Given the likely media interest in new regions in which the service is provided, press releases and provision of ‘good news stories’ to local media will be important. Feeding this through to national media may be useful, but may breed frustration if service deployment is slow. Ensuring that the efforts of farmers to be responsible with waste are recognised and celebrated is critical to reinforce such behaviour.
- During the Project, it has become apparent that farmers do not want communications that made demands of them or that came from people outside of the rural community who did not understand the rural lifestyle. This needs to be respected in all marketing and communications.

- In new regions, high profile, well respected rural community leaders should be identified to act as spokespeople and talk about and promote the services as a community good, with a focus on service development being farmer-led.
- Once services are established in a new region, marketing and communications should intensify as events and a regional focus period approaches. Messaging should be in the form of “it’s nearly waste-time in [the region]”. The focus is on, once again, reinforcing the focus on dealing with waste at this time as a social norm.

The overall emphasis in more formal marketing is to ensure that farmers are aware that services are available – and when regional focus periods are occurring – and providing support organisations the means to pass information on to farmers they connect with. More traditional forms of marketing, such as printed flyers and posters, and television and radio advertising are viewed as a secondary strategy here for two key reasons:

- Resources available for marketing of a service of this type may well be limited, and traditional forms of mass marketing are relatively expensive.
- Rural communities are less likely to be persuaded by messages that arrive in an unsolicited manner in the form of media communications. Relational marketing through existing social networks and contacts is believed to offer better opportunities for securing higher participation levels. These forms of community engagement are discussed in the following section.

### 3.6.2 Community Engagement

For the one-stop shop model to be successful, it must be embraced by rural communities. Project research suggests that most rural communities have key ‘influencers’ that are well connected and are able to persuade other farmers that a cause or endeavour is worthwhile. The service provider would, ideally, be able to connect with such influencers and demonstrate that the service being promoted warrant their endorsement.

In order to achieve this, it is likely that services will need to be:

- *Values-based.* If services do not achieve genuinely beneficial environmental outcomes in a transparent way, community support will be difficult to secure. Likewise, services must be provided – and be seen to be provided - in an ethical and community-focused way.
- *User-focused.* A service that demonstrates a lack of understanding of how a community operates and how farming is undertaken in that community will struggle to achieve community acceptance.
- *Affordable and reliable.* Regardless of how noble or considered a service may be, it will be unlikely to be well-received unless it is seen to be priced reasonably, and to offer a reliable quality service.

There are a number of initiatives that the service provider could pursue in order to engage the community and be regarded as a part of the community in order to gain wider uptake of services:

- *Ensure territorial authorities are engaged as partners.* The local council is the best starting point in getting established in a region and from which to start building a presence in the community.



- *Build local relationships and connections.* Rural communities tend to be highly relational, and knowing the right people is important. Federated Farmers and other industry organisation representatives will be key contacts. In Canterbury, water zone committees develop actions and tactics to deliver on the targets of the Canterbury Water Management Strategy and may be a useful pathway for connecting with rural communities. The committees are made up of key people with a wide range of interests in a particular water zone.
- *Engage a customer reference group to learn about local conditions.* A local advisory group can help ensure services are appropriately tailored to local conditions. See Section 3.7.2 for further discussion of this concept.
- *Support local causes.* It is recommended that service users be allowed to nominate a local school or other cause and have a portion of service revenue, particularly around events, be donated to that cause. This demonstrates an initial level of commitment to the community.
- *Build relationships with farmers as services are deployed.* Whether through a relationship and engagement specialist (see Section 3.7.2) or through training given to ordinary team members such as collection drivers, it is important that relationships be built with customers over time. Customer loyalty and referrals will likely come more from such relationships than through service quality or value.
- *Engage with tertiary education providers.* Build relationships with agricultural universities or skills organisations to target young and future farmers. This could also extend into rural schools.

In addition to building a positive reputation in the community, these activities will help identify influencers and provide a basis on which their support can be secured.

### 3.7 CUSTOMER INTERACTION

Managing customer interactions for the one-stop shop model is a matter of balancing user-convenience with service provider costs. Services provided to the rural community have tended to utilise facsimile or phone-based communication, presumably because rural internet speeds have been – and continue to be – relatively slow. This fact, which is hopefully changing over time, needs to be borne in mind when designing systems for managing customer interactions around service delivery.

Websites that are graphic intensive or rely on video content in order to communicate information are unlikely to be well received by the majority of farmers.

Conversely, providing staffed 0800 numbers or receiving and transcribing faxed information into a digital management system are time intensive, and hence expensive. Services that are built around this type of communication are likely to be either inefficient, expensive or both.

Managing customer interaction for this model, then, requires that ‘analogue’ or offline communication (phone and fax) be kept to a minimum and digital communication (SMS, email and website-based) be well thought through and demonstrate an understanding of the bandwidth limitations many farmers experience.

The communication model must also ensure that:

- *Services are rigorously managed.* A system must ensure that requests for service are tracked, contractors are held accountable in terms of service timeliness and customer expectations are met. Customers should not ‘fall through the gaps’ as this is likely to lead to service abandonment, or at least customer dissatisfaction.
- *Data collection is thorough and efficient.* While farmers should not be asked for more information than is necessary to provide services, a system should collect and hold information about service usage, waste streams and volumes in order to support better service planning and to enable service histories to be reported on as evidence of compliance with external standards.
- *Customers are automatically and appropriately prompted.* An intelligent system that can prompt customers as to upcoming services (such as events or on-farm collections) will support better service outcomes while reducing service provider administrative workloads.

In addition to considering how the ‘customer interface’ should be configured, the service provider needs to consider how best to maintain direct customer relationships for the purposes of continuous service improvement, and ensuring service delivery remains primarily anchored in meeting real user needs.

### **3.7.1 Online Registration and Customer Management System**

In Milestone 6a of the Project, a detailed design specification for a service pilot information and registration system was prepared for Agrecovery. This has been supplemented by further work undertaken by True North Consulting to redesign Agrecovery’s process and systems around expired chemical collections. Rather than replicate these designs and processes in detail here (in terms of specific information and fields to be collected) the focus in this section is on the broad design considerations for the system to encapsulate its critical features.

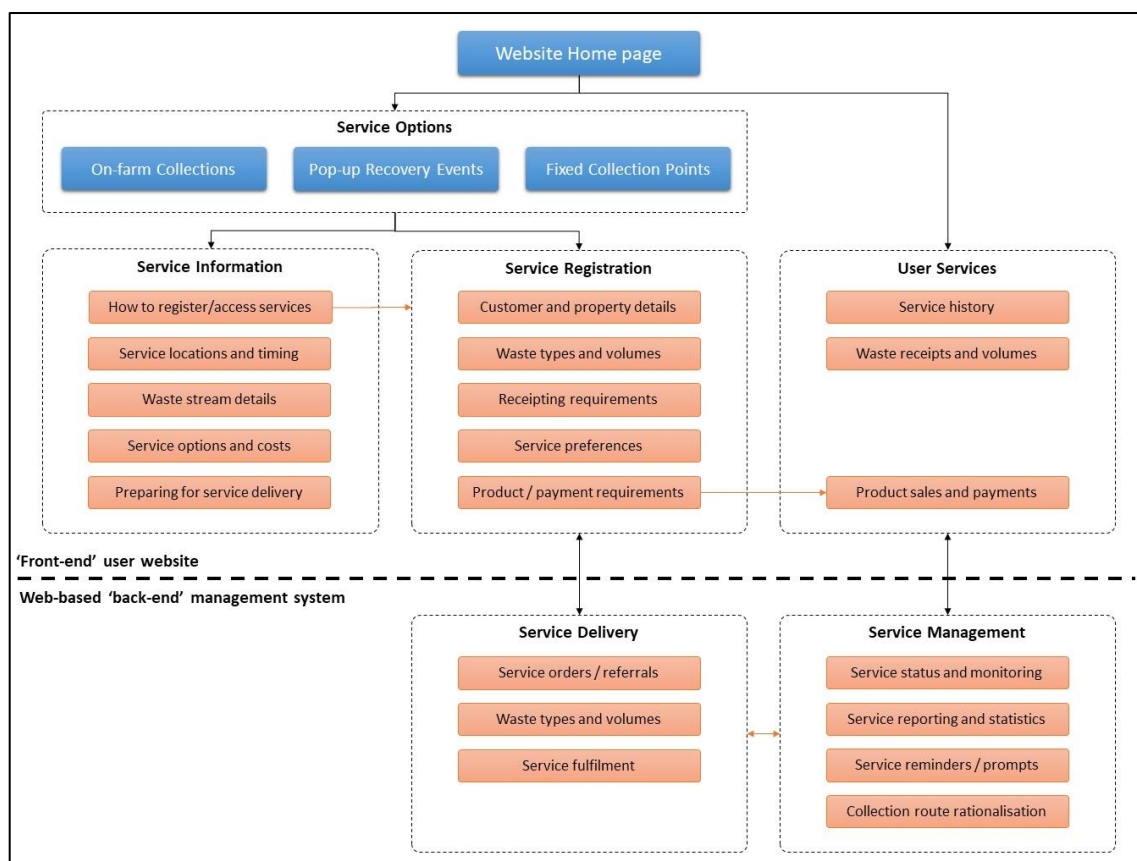


Figure 9: Customer Management System Map

### Service Information

The service provider's website needs to clearly map out and communicate the nature and extent of services provided and how they fit together. This may be done graphically in a way that shows different service pathways (as per Figure 5). It is important that the differences between events and on-farm collections are clearly articulated and the reasons to use each pathway are explained, along with the costs to dispose of different waste streams through the different options.

The service information should allow the farmer to quickly identify what services are available in their area (perhaps by providing a graphical map or allowing farmers to enter their postcode). The search should then show:

- On-farm collections available and for which waste streams.
- Event dates and what waste streams can be disposed of at events.
- Locations of fixed collection points and what wastes are catered for.

Each option should link to a more detailed page that shows:

- A service map, graphically showing each step in service delivery.
- (Where relevant) expected service timeframes and levels of service available.
- Service costs.
- How to register for or obtain services.

- How to prepare for service delivery.

This last point – how to prepare for service delivery - is particularly important. Farmers need to be given clear instructions on handling wastes from the outset to avoid contamination, particularly around soft plastics. Additional information for events (such as how to pack the vehicle in line with the on-site set-up) and for on-farm collection (such as how to store full plastic liners) will also be necessary. It is worth investing considerable time and effort in this area.

Providing downloadable information sheets, videos (for those with sufficient internet connections) and case studies will all support the overall goal of enabling farmers to effectively prepare for the services they require. The more effectively this is done, the lower the chances of high volumes of contamination or of needing to turn farmers away from events because of misunderstandings as to which wastes can be disposed of and how they must be prepared.

This section of the website should be extensively user-tested (see Section 3.7.2) for ease of understanding, clarity and accessibility at different internet speeds.

Key questions to ask in designing this section include:

- Can the farmer quickly identify the best way to handle any given rural waste stream (whether or not it is included in the services available)?
- Can the farmer quickly identify how to best manage their waste to access service effectively?
- Is the service offering easy to understand, especially around potential costs?
- Is the farmer adequately supported and guided to select the appropriate level or type of service delivery?

### *Service Registration*

This section will focus on the collection of information necessary for a customer to access services. It is recommended that this process be initiated by the registration of the user, as one typically does for any user-access website.

This would involve the collection of standard information including address details, contact details and specific information about the farming/growing operation. This registration would create a unique user profile to the overall system and begin a 'history' for the user to support further interactions.

Specific registration information would be dependent on the waste streams and type of service being accessed. To guide the user through this process, it is likely a number of higher-level options would be provided, such as:

- "I want to register to drop waste off at a local pop-up recovery event".
- "I have chemicals I wish to dispose of".
- "I have soft plastics in liners I need collected".
- "I have empty chemical containers I wish to dispose of".

Where relevant, additional questions or options would direct the customer to the appropriate service, such as 'do you have more than 300 chemical containers?'



In general, the following information would be required for waste streams:

- *Chemicals* – name, manufacturer, number of containers, container size, total quantity remaining, state (liquid/solid) and condition.
- *Containers/drums* – number (in range), brand and confirmation that they will be triple-rinsed.
- *Soft plastics* – number of liners (in range) and liner sizes.
- *Paint* - number of containers (in range) and confirmation of requirement acceptance.
- *Oil containers* - number of containers (in range) and confirmation of requirement acceptance.

Users may also need to note preferences, such as:

- Service level type (e.g. immediate collection).
- Drop-off timeslot preference for events or preferred collection window for on-farm collections.
- Preferred method of communication for reminders – SMS or email.

Once service options and preferences are determined, the user should be presented with a summary of their registration information and the specific requirements they must agree to. This may include such factors as:

- Only registered wastes to be taken to events.
- Ensuring contamination is below agreed thresholds.
- Ensuring containers are triple-rinsed.
- Ensuring vehicles are packed as advised for events.
- Ensuring wastes are in the stated location for on-farm collections.

These requirements should be communicated in a clear manner in 'layman's terms' with the consequences of not meeting the requirements clearly illustrated. The registration process should not proceed until the user has specifically acknowledged and individually agreed to the stated terms.

Once the terms have been agreed to, customers should be able to immediately pay for services or products (such as plastic liners) online, although this will be a multi-stage process for some services, such as chemical collections.

Once the registration has been completed, the customer should be emailed the relevant details as a PDF document. This information will also filter into the User Services, Service Management and Service Delivery areas of the overall management system.

As with the Service Information Section, user-testing will be important to ensure the registration processes are simple, clearly explained and require only essential information to be collected. Privacy Act considerations will also need to be part of the design process.

Key questions to ask in designing this section include:

- Does the farmer understand what the service involves and what is being asked of them?
- Does the farmer understand the consequences of failing to comply with service requirements?
- Is any information being collected that is unnecessary?



- Does the farmer know what to expect once the registration has been completed?
- Does the farmer know what to do if something changes (e.g. they can't make the allotted time)?

### *User Services*

The 'members' area' of the website will allow a farmer to view their history with the service. This will include:

- Receipts for waste types and volumes collected or dropped off at events. These will initially be emailed to farmers following accessing of these services, but copies will be accessible via the User Services area of the website.
- Receipts for purchases made, such as pre-paid liners, on-farm collections or user pays wastes at events.

The details of transactions should be supported by a graphical interface that shows a summary of the various waste totals that the farmer has put through the services and 'diverted' from the farm pit or bonfire.

Farmers should also be able to edit their property details, change service requests (such as preferred collection times) or edit wastes to be dropped off for an event and pay supplementary costs.

Ideally, farmers should be able to note here membership of any organisations for which service access evidence may be required, such as Global Gap, so that service receipts can be directly supplied to the relevant organisation. This will depend on having agreements in place with these organisations, but such direct interfaces provide a valuable service to farmers.

### *Service Delivery*

The service delivery aspect of the online system, accessible via a secure logon for contractors, would provide a platform for managing interactions between contractors and customers. Initially this would be by a referral or order being sent to the contractor via the system, with an SMS or email alert to advise the contractor that a service request has been received.

For example, when a customer requests on-farm collection, the appropriate contractor would receive a request that notes the customer details, the nature of the service and the expectations in terms of service fulfilment (e.g. please collect on 23<sup>rd</sup> May between 2pm and 4pm).

The contractor would then be able to record the details of service fulfilment and waste information, such as the waste types and weights or volumes collected or dropped off, and when this occurred. This kind of direct access by contractors to the system will operate both at pop-up events and with on-farm collections.

At any stage, a contractor would be able to see the jobs they have outstanding, or the chemicals being registered for a collection, or any other service status information relevant to service delivery. The level of access a contractor would have would be able to be individually determined by the service provider. Contractors should also be able to view service histories and notes for customers they are interacting with to provide a more efficient and tailored service.

This area of the overall system will connect closely to the service provider's own Service Management area, to ensure that the services provided by contractors are to the highest standard.



## *Service Management*

The service management aspect of the customer management system would act as the central point from which the service provider can access the status of all services, collections and registrations. This area would enable the service provider to see:

- Outstanding requests for collection, and to pass these on to the appropriate contractor.
- Collections awaiting fulfilment, and whether these are within acceptable timeframes.
- Event registrations and the cumulative volumes these represent.

The service provider needs to be able to ensure that customers are receiving timely services and that contractors are being properly managed and prepared for service delivery. Ideally, the system would also support the service provider in transportation movement rationalisation by highlighting collection requests and automatically emailing or texting farmers nearby to see if they are also interested in accessing a collection. By ensuring that customer service histories, purchases and postcodes are on file, this is actually a relatively easy task from a systems perspective, but would have a considerable impact on service effectiveness and cost.

In addition to service status and monitoring capabilities, the system should also support customisable reporting to enable customer and waste volume data to be able to be effectively 'mined' for useful service planning information. Knowing, for example, the times of year in which most farmers register for collections, or the average waste yields for events in a specific region, would help to guide service development.

## *Technology Solutions*

Service provision in rural communities has tended to focus on using 'information over the phone or fax' solutions, and has shied away from using smartphone and computer-based technologies. There is some basis for this in that some farmers have not traditionally been comfortable with technology, and rural internet speeds are often slow, but rural communities are slowly changing on this front.

Farming in New Zealand is becoming increasingly data-driven and 'smart', and technology is becoming more commonplace and central to how farming is being undertaken. Providing smart ways for farmers to interact with the one-stop shop model both aligns with this trend and potentially saves considerable service delivery costs. While farmers would be provided with the opportunity to use more traditional methods of communication, investing in smarter platforms and incentivising farmers to use them should be part of service design thinking for this model from the outset.

Some of the potential applications of smart technology to this service include:

- Offering a smart-phone app that allows farmers to quickly request an on-farm collection, scan barcodes to log chemicals they no longer use, or quickly access upcoming planned collections or pop-up recovery events.
- Using GIS capability to build optimal collection routes based on collection requests, and providing discounted collections to additional farmers on that route if they participate.
- Using data on farm types and locations to support decision making for regional deployment priorities and map likely participation in events based on farmer driving distances.

### 3.7.2 User Testing and Continuous Improvement

As a matter of good practice and effective service design, it is imperative that the service provider under this model be well connected with end-users in each area in which it operates. At its most basic, this may involve a reference group of farmers that represent different sectors of the industry to help with high-level service development. Being able to talk through service design with target users will enable obvious service deficiencies or gaps to be identified early, and ensure assumptions are tested. This reference group should be engaged from the earliest stages of service design, and certainly prior to piloting. Ensuring that participants are actually representative of wider user sectors will be important and may not be straightforward, as those that come forward to speak on behalf of farmers may not in fact be representative of majority views.

It is recommended that a second tier of farmer input be sought in terms of specific aspects of service delivery. There may, for instance, be a group chosen to assist with testing and refining the website and registration systems. Another group may be assembled to focus on the process for on-farm collection. These groups are likely to be temporary.

A third tier, which will develop as the service is deployed, are regional reference groups. These groups will serve two purposes:

- *Guide local service delivery.* Assembling a regional reference group would ensure that the way services – particularly pop-up recovery events - are provided is customised appropriately for a given area. Variability may come from geography, farming types or simply different local cultural norms that influence how farming is done. This group would help the service provider avoid alienating a local audience and ensure service delivery is well conceived and effective in engaging a new region.
- *Promote service delivery.* The marketing plan for the one-stop shop model stresses the importance of engaging local influencers to promote service delivery. Recruiting such people prior to service launch to assist in service design and refinement is a valuable opportunity to achieve greater buy-in and increase the chances that the endorsement of key local social ‘hubs’ will help increase service uptake.

It will be important to appropriately remunerate those farmers that lend their services through participation in reference groups. This may be by a cash payment, support of a local school or charitable cause or the provision of free or discounted services.

Interface with reference groups on an ongoing basis is part of the overall strategy that the service provider must have in place for continuous improvement. Avoiding complacency in service delivery, adapting to market changes and quickly identifying any issues in service delivery are critical in providing a sustainable service. If farmers are unhappy with the service, or feel it is out of date in its understanding of how they operate, economic viability may be quickly threatened.

This level of commitment to user satisfaction will be, in all likelihood, a challenge to the service provider, particularly if they operate a functional monopoly. A single provider model, in any industry, tends to result in diminishing service standards, reduced customer satisfaction over time and unnecessary price increases. Monopolies tend to be relatively inefficient as they lack the influence of competitors to demand continual service reviews and an emphasis on lean operation.

For these reasons, any external funding provided to the service provider, through public or private organisations, should be on the condition that permanent customer reference groups are maintained and customer satisfaction surveys or audits are regularly undertaken to ensure that a user-focus orientation is being maintained in service delivery.

The need to maintain a dialogue with users, combined with the need to ensure farmers prepare for services properly and avoid contamination, may indicate a specialist role is required. The focus and effort demonstrated by community organisations in engaging farmers to reduce contamination in wastes collected is done by building relationships and providing face-to-face input for farmers. It is recommended that the service provider invest in this kind of role by appointing a 'Farmer Engagement Specialist' to meet with farmers that join the service with the intent of utilising services over time, particularly around on-farm collection. This person, through building relationships, may also naturally support continuous improvement and the assembly of reference groups.

### 3.8 MODEL DEPLOYMENT STRATEGIES

The one-stop shop model has been conceived as a national service, catering to the needs of farmers in all regions in the North and South Islands. Obviously, launching the service in all regions simultaneously would be prohibitively expensive and very difficult to manage. Therefore, a progressive regional rollout is envisaged. This would commence with service piloting.

Determining the basic model design and elements needs to occur prior to deployment. In establishing a model ready for piloting, the following steps are recommended:

1. *Engage contractors.* Ensuring that there are providers for all required services and sustainable outlets for wastes is the top priority action to undertake.
2. *Engage service partners.* This will include the local territorial authority as well as farmer representative organisations. Securing a venue for events and pathways for effective marketing will require this step to be undertaken.
3. *Prepare web-based management system and website.* The user and registration systems, plus draft information for services, need to be in place and tested from a technical standpoint.
4. *Engage reference group (and refine plans).* Prior to any marketing activity, a local reference group should be convened to finalise service planning, the marketing plan and timing for service delivery. This group should also be tasked to review information on the website and the processes for registration to test for intuitiveness and clarity.
5. *Prepare marketing and communications plan.* Engage marketing partners, prepare materials and seek publicity for services.
6. *Undertake pilots.* Undertake pilots in as many regions as can be reasonably managed. Ideally, these will be configured to test key variables in the model (such as service delivery in materially different geographic locations or with different prevailing farming types) and should be by invitation only to manage customer expectations. For pilots to be meaningful, they must be as close to the fully deployed model as possible.
7. *Evaluate pilots (and refine plans).* Rigorous evaluation of pilots is a critical step in incremental optimisation of the model. Working closely and transparently with the local reference group, contractors and service partners is vital to ensure the model that is subsequently deployed is as good as it can be.

The following questions should be considered in preparing for wider deployment:

- *Do we understand what went right and what went wrong in the pilots?* This is a process of grappling with feedback from the evaluation process and ensuring that issues with service delivery have been satisfactorily resolved or mitigated.
- *Are our contractors ready?* Ideally, a nationwide agreement will be in place for each contractor utilised in service delivery, but this may not be possible or desirable in some cases. In any event, an open and honest dialogue needs to be maintained with contractors to ensure they are ready and able to move forward with wider deployment. Issues around staffing, infrastructure and even cashflow should be discussed to ensure that contractors are able to provide a quality service. Contracting and service standards may need to be refined post-piloting and these should be in place before considering a wider deployment.
- *Is our team and infrastructure ready?* It may be tempting, as with contractors, to offer a downgraded service or customer experience, and build this over time. This would likely be a mistake, as the brand that is being established will be diluted, and the vital word of mouth that will help build the service will not be as positive or enthusiastic as it might otherwise be. All of the key elements need to be in place, including staff that can effectively engage farmers and an effective web-based management system that reinforces a positive customer experience.
- *Do we have stable and sustainable markets for waste?* To launch a service and then 'turn off the tap' would be disastrous in establishing a new brand. While not every secondary waste stream (paint, oil, scrap metal etc.) may be able to be handled in every region, markets for core waste streams (chemicals, hard plastics, and soft plastics) must be reliably in place before service deployment. This is an area, unfortunately, where unpredictability is the norm and good intentions do not always result in action. The service provider should seek to have strong contracts in place, with contingency plans in case an outlet ceases to be available. Ultimately, this issue, which threatens the fundamental viability of such services, suggests that funding or supporting the development of a domestic processing and reuse system for core wastes should be a strategic priority of the service provider, and indeed for the country.
- *Do we understand where we are going?* Recommendations for deploying services to new regions are given below, but it is critical that the service provider build an understanding of any new region that is being targeted for service provision. This should include effective engagement with the local council, establishment of a reference group, an understanding of existing services and the competitive environment, and considerable research into local conditions that might make providing services different in the new region than in existing regions.

It is recommended, at least initially, that regional expansion be undertaken one region at a time. Once the process of establishing new regions is refined and a level of comfort in doing so is gained, multiple regions may be launched simultaneously, but this should be approached with caution to ensure complacency is not developing or users are not being inadequately considered.

Selecting which regions to expand to is not a straightforward task, but should consider the following:

- *What regions are near?* Minimising distance from an established region to a new one is obviously a consideration, as service provision may be simply extended to a geographically contiguous region.



- *Where do our contractors have a strong presence?* Contractor limitations may be a key constraining factor in deploying the model to new regions. Regions where contractors have a strong presence, relevant infrastructure or existing operations should be borne in mind in the selection process.
- *Where is there demand?* Indications of market demand in particular regions should be taken into account. There may be areas where farmers have been vocal about their desire for service provision, or where a particular farming type is both dominant and more likely to use services. Having strong relationships with farmer representative groups and supply organisations will assist here.
- *Where is there support?* Priority should be given to regions where strong council support and partnership is in place.
- *What regions will be easier?* While the service model is designed for nationwide deployment, some regions will be easier to deploy to than others. Those that are close to main centres or where farms are more tightly clustered will offer an easy service provision proposition than those where farms are widely spread or where the region itself is relatively remote. The initial focus should be on building momentum in relatively easy regions and learning from this experience, before tackling those that present a greater challenge.
- *What are the costs?* Closely related to the issue in the previous question – where transportation distances will impact profitability – other costs will also vary from region to region. The logistics of collecting and processing waste may be more expensive in some regions than others, and contractor costs may vary from region to region. Early deployment should seek to place minimal strain on the service provider’s finances to ensure economic sustainability, with – once again – more economically marginal regions following later.



**Figure 10: Districts of New Zealand**

(Source: Korakys - Own work, CC BY-SA 4.0,

<https://commons.wikimedia.org/w/index.php?curid=56957024>)

There are 53 districts in New Zealand, excluding city councils and the Chatham Islands Council. The original pilots planned for the Agrecovery / Envirowaste Rural Waste Services pilots were to be located in Timaru District and Matamata-Piako District. It is likely that a district is the right unit size by which to consider deployment, but deployment maybe be gradual even within a district.

This suggests that the service provider has to, over time, deploy services to 53 districts, which raises the question: how long will this take?

Simply put, 5 – 6 new regions a year will require ten years for deployment, while 10 new regions a year will require 5 – 6 years for deployment. It is likely that the longer timeframe is more probable than the shorter, and even this may be difficult to achieve.

This question will, of course, depend on the resources of the service provider, their commitment to the market and their success in constructing a profitable and successful service. The sheer number of districts requires that the service provider plan deployment very carefully and understand where deployment priorities should lie. This will not be a simple exercise.

As the service is deployed in new regions, it will not be sufficient to focus merely on preparing for the next region; an emphasis also needs to be placed on growing participation rates and looking for new customers for services.

Some key recommendations in securing service growth are as follows:

- *Measure and notify results.* Building evidence about the effectiveness of the service is paramount. The management system should automatically collate the amount of waste being collected, and this should be regularly notified to relevant organisations and government departments. Current practice suggests that the majority of the waste likely to be received would be burnt, buried or bulk stored, so the environmental impact of the service will, in all probability, be significant.
- *Tell the story.* The service provider should be proactive in pursuing opportunities for publicity. Case studies and personal stories about the impact of getting waste off farms and the level of service offered should be told in farming communities, and to the wider public. The service provider has the opportunity to become a champion of the positive environmental efforts being made by farmers in an environment where farmer environmental behaviours has been widely criticised. The service provider should also make extensive efforts to recognise and promote the contributions made by local councils and other service partners.
- *Keep talking to users and improving.* Word of mouth will be key to service growth. The brand will be built by users have a positive experience in dealing with the service provider and accessing services, and in telling others. Ensuring users feel heard, following reasonable suggestions and continually improving services will be a reliable pathway to service uptake growth.
- *Equip and incentivise users to tell others.* There are many strategies for helping satisfied users to encourage their peers to participate. The service provider should make this process as easy as possible, and potentially reward farmers with service discounts or other incentives if they successfully encourage others to access services.
- *Develop new partners.* Finding new ways to raise awareness and promote services is important. Any organisation that comes into regular contact with farmers should be a target for building partnership. The most important partnerships to develop over time, however, will be those that offer a potential pathway for requiring farmers to utilise services – in the same manner as NZ GAP or Global GAP – or directly endorse services to farmers. These directions act to mitigate the lack of regulatory imperatives to recycle farm waste.

### 3.9 MODEL RISKS

It is quite evident that there are a number of risks in pursuing the one-stop shop model, both for the service provider and for other interests.

Key risks and mitigation strategies are considered below:



Risk	Mitigation Strategy
Lack of, or loss of, sustainable markets for wastes.	<p>The inability to secure stable and sustainable markets for collected recyclable wastes is possibly the most significant risk to this model, and indeed, to any that seeks to operate in this space.</p> <p>Securing supply contracts for wastes collected must be a key priority for the service provider, and services should not be launched until these are in place. Alternatives and contingencies must continually be scoped by the service provider. Identifying or supporting the development of domestic processing operations and markets for outputs should be a strategic priority for the service provider.</p>
Lack of start-up capital or cashflow shortages.	<p>The service provider must invest in planning around deployment for at least the first three years of operating and expanding the model. This will include forecasting infrastructural requirements and working capital needs. Both optimistic and pessimistic models should be included here, and deployment to new regions should be contingent upon service performance to date.</p> <p>Given the strategic value of launching this model in terms of waste minimisation in New Zealand, it would be wise for the service provider to investigate whether any start-up support may be available via public funding mechanisms such as the Ministry for the Environment's Waste Minimisation Fund.</p>
Lack of service demand.	<p>Research undertaken in the Project provides base level evidence in terms of service demand, but this must be tested with users based on a more defined service model and accurate costings. The model should then be piloted to test assumptions and understand the nature and extent of demand.</p> <p>In addition to a robust marketing plan and collaboration with a wide range of service partners and supporting organisations, effective engagement with farmers is the best mitigation to avoid launching an unpopular service.</p>
Inability to secure, or loss of, key contractors.	<p>Collaboration in developing the model is important, and strong relationships are required between the service provider and its contractors. The service provider must find contractors who are both skilled in service delivery and have sufficient vision and belief in the service model to want to take a level of risk in providing it.</p> <p>Ultimately, however, this is a matter of effective contracting and launching a service which delivers value at all levels of the supply chain. Contractors are likely to depart only if they do not feel they are being adequately remunerated for their efforts or they do not have the capacity or resources to provide services. These issues need to be identified and addressed prior to contracting.</p>
Inability to deploy service widely.	<p>A detailed deployment plan will need to be drafted and refined as the service progresses. Ultimately, deployment will be driven by demand and profitability. If the service is configured and priced in such a way as to provide good value to farmers and a compelling return to the service provider, deployment to new regions should simply be a matter of timing.</p> <p>Slow deployment, while unfortunate from a waste minimisation and best practice farming perspective, is still worthwhile, and a sustainable and robust operation should be seen as preferable to one that grows too quickly.</p>



Risk	Mitigation Strategy
Inability to offer services for core waste streams.	<p>Offering farmers convenience through the ability to deal with all wastes at once is a key goal of the service, and every waste which is excluded equals diminished value. The core waste streams – hard plastics, soft plastics and chemicals – should be seen as essential in order to offer value materially above existing services. Removing any of these from the model fundamentally impacts its viability as a solution for farmers.</p> <p>Solutions should be based on these core waste streams as a minimum and should not be launched without confidence that services can be offered for them.</p>
Insufficient service profitability.	<p>Profitability with this service model, as with any, will be driven by maximising revenue and constraining costs. Revenue will be maximised by effective partnerships, a strong customer orientation and a compelling business model that meets genuine farmer needs.</p> <p>Costs will be constrained by offering customers the opportunity to drop-off waste, rationalising collection processes and directing customers to a web-based portal rather than staffing an 0800 extensively for phone-based communication.</p>
Service failure or withdrawal.	<p>There is a risk the service may fail or be withdrawn from the market, and this would impact both the service provider and the wider industry. Launching a service of this nature in an inadequate manner or subsequently removing the service from the market would make it very difficult for another service provider to subsequently launch something similar. Farmers are unlikely to embrace such a service more than once in the medium term.</p> <p>Once again, this risk can never be completely removed, but is mitigated by effective planning, collaboration and a consistent customer focus.</p>
Lack of territorial authority support.	<p>The level of territorial authority support should be a factor in determining when and how the service should deploy. This support should be secured before determining which regions to deploy into.</p> <p>Such support is not, however, essential, and services could be provided without it. The challenge would be in securing a location for pop-up recovery events and ensuring pathways to engage the community are found. It may be that, while initial council support cannot be confirmed support may follow successful services being launched. Overall, council support should not be particularly difficult to obtain, as no funding is being sought, and the potential value to councils in supporting the service is considerable.</p>
Lack of community support.	<p>If service deployment is rushed or maintains a purely commercial focus, community support may not be forthcoming. It is difficult to see anything about the model's inherent design that would be off-putting to farmers.</p> <p>As with many of the potential risks, effective engagement with farmers in advance of service finalisation and launch should identify any such issues early. Design modifications may need to be made or, in the worst-case scenario, a region may not be suitable for launching the service.</p>



Risk	Mitigation Strategy
Lack of sector organisation support.	<p>The support of sector organisations such as Federated Farmers is important, and significant efforts should be made from the outset of planning for service delivery to engage these organisations and ensure the service design supports the goals of these organisations.</p> <p>The services provided should, however, be customer-focused and should offer sufficient value in and of themselves to succeed in the marketplace even without the active support of such organisations. The lack of this support is likely to impact service take-up negatively, however, and may affect the speed of deployment.</p>
Health and safety issues at events or on-farm.	<p>The injury of a farmer or service provider/contractor team member during an on-farm collection or at a pop-up recovery event would be tragic and, obviously, have a negative impact on the service.</p> <p>The service provider must oversee a rigorous health and safety process and policies and ensure these are adhered to, particularly given the potential harm of handling heavy and hazardous wastes.</p>
Undermining existing services.	<p>A well-conceived and comprehensive service model in this sector may undermine existing services.</p> <p>Ultimately, however, this will only occur if farmers that are using existing services move to the new service, as they believe it offers better value. If the service fails to deliver, farmers will – in all likelihood - quickly abandon it and return to incumbent services. Pursuing this service model should not be avoided because it may result in competition in this market sector. Such competition, if it offers a better level of sustainable service to farmers, is a net positive.</p>
Creating a rural waste service monopoly.	<p>The all-encompassing nature of the model may result in the service provider having a monopoly in providing such services. This is primarily a risk to farmers, as monopolies tend to increase costs and decrease service quality over time.</p> <p>Currently, the lack of extrinsic drivers for farmer participation provides some protection here; if farmers are unhappy with the service, they can simply stop using it. Should such drivers begin to appear, either through regulation or through enforced participation by supply organisations, these requirements must also act to enshrine genuine customer-centricity in the model, and ensure that prices are monitored if not regulated.</p>

### 3.10 MODEL BENEFITS

The one-stop shop model, as described in this report, offers many benefits to farmers and to other industry stakeholders. Key benefits offered include:

*For farmers:*

- Access to a single point of contact for the off-farm management of all major non-natural commercial farm wastes.

- Flexibility in service provision, with access to on-farm collections or drop-off sites. Soft plastics can also be disposed of in small or large liners. On-farm collections can be urgent and more expensive, or cheaper and take a little longer. The farmers can choose to pay more for a high-end service, or less for a drop-off service.
- Service costs that are likely to offer considerable savings over incumbent service providers, even at higher levels of service.
- Better use of technology to enable easier service access.
- Detailed and robust documentation to provide evidence of effective and responsible waste management practices.
- Opportunities to be directly engaged and consulted on how services are provided.
- Support of community-based causes through service participation.

*For the service provider:*

- Strong revenue opportunities through diversification of waste streams, offering customers higher levels of service and service flexibility, and by building a brand that is respectful of, and focused on, end users.
- Sustainable competitive advantages through range of wastes handled, flexibility of service provision and smarter use of technology.
- Opportunities to identify new services or enhance existing service delivery through strong relationships with end users.
- Relatively low costs of operation through economies of scale, rationalised on-farm collection logistics, and greater use of centralised waste collection points. Better use of technology and a move towards online communications and automation should also lower operational costs.
- Opportunities to create extrinsic drivers for service participation through relationships with service partners.
- Increased monitoring and control of service provision through smarter use of technology.
- Manageable growth through phased regional deployment.

*For contractors/processors:*

- Access to a predictable workflow and greater volumes of recyclable wastes.
- Growth opportunities as the service provider moves to new regions.
- Stimulates opportunities for technical innovation, particularly around domestic recycling.
- Integration with an efficient service management technology system to support service delivery.

*For territorial authorities:*

- Partnership in a tangible solution for rural waste, with no or minimal funding requirements. This allows farmers to see councils being proactive in helping them to manage waste.
- Opportunities to connect with and provide education to farmers through pop-up recovery events.
- Better waste minimisation and environmental outcomes in rural communities.



*For rural sector organisations:*

- The ability to point members, or require participation in, a recognised programme which comprehensively deals with farm waste.
- Access to detailed documentation that serves as evidence of effective waste management.

*For New Zealand:*

- Diversion of a range of rural wastes from burning, burial or bulk storage, resulting in better community and environmental outcomes. This is particularly relevant in terms of hazardous and potentially hazardous wastes. Specifically, this will involve reducing discharges to air, land and water. This may avoid land value reductions from contamination and potentially reduce legislative requirements in terms of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.
- Creation of a sustainable, nationwide, industry-led solution to a persistent waste problem without the need for ongoing government funding.
- Increased rural community awareness of, and focus on, responsible waste management and diversion.
- Ideally, increased domestic recycling of wastes to create local jobs and reduce use of virgin materials such as plastics.
- Increased economic activity in rural areas. The one-stop shop model potentially enables rural New Zealand to play a key role in establishing a circular economy.



## 4. ROSE OIL RECYCLING SCHEME PILOT EVALUATIONS AND DEPLOYMENT PLAN

### 4.1 INTRODUCTION

The Project has worked with Farmlands and Fulton Hogan in Canterbury to encourage farmers to participate in the Recycling Oil Saves the Environment (ROSE) Used Oil Collection Programme, which is a government accredited product stewardship scheme. ROSE was set up with the purpose of managing the collection of waste lubricating oils to be reused as an alternative fuel source. The scheme helps minimise the illegal discharge of oil and provides a sustainable end use. Fulton Hogan is consented to collect and use the oil as a burner fuel to heat aggregate in asphalt plants across the South Island.

As part of the Project, pilots were established in Farmlands' Darfield and Leeston Stores in June of 2017. The pilots involved the placement of two 660L bins (as pictured in Figure 11) at each store. The bins were padlocked and Farmlands staff were required to open these for customer use to avoid contamination with inappropriate wastes. Fulton Hogan provided training for Farmlands staff when containers were delivered to ensure appropriate waste collection and safe handling. The Project sought to have staff record the number of enquiries or interactions related to the pilot, but this was not deemed to be feasible by Farmlands management.

Once containers were filled with used oil in plastic containers, Farmlands staff would contact Fulton Hogan via an 0800 number to arrange collection. Collections would take place within 48 hours of the request. Farmers were able to drop used oil containers at no charge, and Fulton Hogan emptied the bins at no charge.



Figure 11: ROSE Collection Bins at Farmlands Darfield

Participants were advised that 'acceptable used oil' comprises engine oil, brake fluid, gear and compressor oils, refrigeration oils and bottom clean out waste from fuel storage tanks along with a number of other oils. Petrol and diesels, antifreeze, paints and solvents and oils derived from animal or vegetable fats were excluded.

In addition to collection points at the two stores, the service also included the ability to access a free on-farm collection for waste oil volumes in excess of 200L. This was notified to Farmlands customers as part of the piloting process.

To support the pilot a marketing and communications plan was created by Cherry Red, with implementation to be shared by Cherry Red and Farmlands. The plan sought to promote the service at a low level to determine whether farmers would be keen to engage.

This plan included:

- Issuing a media release for local papers publicising the pilot services.
- Preparing an article for the Farmlands newsletter.

- Preparing article for the individual store (Darfield and Leeston) customer emails newsletters.
- Producing stickers for oil packs sold in-store (see Figure 12).
- Producing posters and flyers for use in store (see Figure 13).



Figure 12: ROSE / Farmlands Pilot Oil Container Sticker

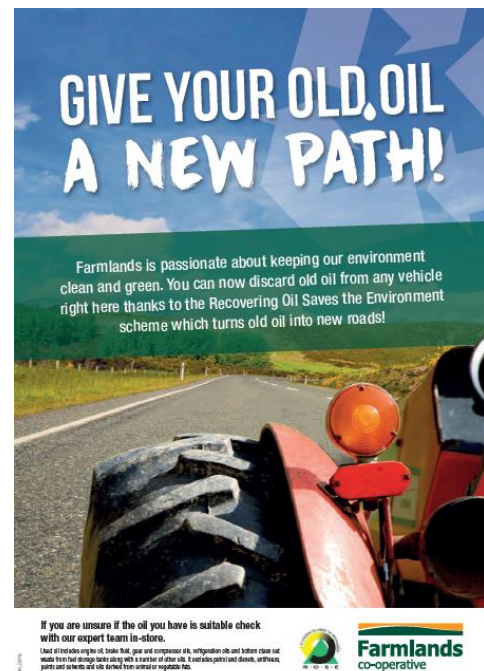


Figure 13: ROSE / Farmlands Pilot Flyer

The pilots were formally concluded in February 2018, but bins are understood to still be on site at the stores as of the time of writing.

## 4.2 PILOT OUTCOMES

The project success criteria for the pilots were determined to be:

- The service model is sustainable as a free service to farmers and to Farmlands.
- High farmer participation is achieved. As a minimum, the routine equivalent volume of one bin per store per week (two bins per fortnight) with minimal (<5%) contaminants is received. Ideally, the routine equivalent volume of two bins per store per week (four bins per fortnight) with zero contaminants is received.
- Farmers interact with the service appropriately with minimal contamination or dumping of unacceptable wastes on site.
- Fulton Hogan collects full bins within the stated timeframes.
- Waste collected is able to be promptly and responsibly processed.
- Farmer feedback on the service is positive and it is seen as a convenient and cost-effective option.
- Both Fulton Hogan and Farmlands are willing to pursue a wider service rollout.

After approximately seven months of running the pilots, Fulton Hogan advised that they had emptied only four bins from Leeston and two bins from Darfield. This is at a level far below what would be considered



strong participation. No contamination in bins was reported, likely because of the need for staff to unlock bins and supervise their use.

Staff at both stores felt that the service was not extensively marketed by Farmlands, perhaps due to staff changes (the Project contact at Farmlands, who had championed the service, left partway through the pilot). Some flyers and stickers were produced, but in very limited numbers and as a one-off.

The press releases undertaken resulted in a small number of media articles including <https://www.stuff.co.nz/business/farming/94423870/getting-rid-of-waste-oil-no-longer-a-problem-for-mid-canterbury-farmers> and <https://www.farmlands.co.nz/NewsAndEvents/Promotions/ROSE-oil-project/>.

The on-farm collection service was seen as more successful. At least five on-farm collections were initiated directly as a result of the pilots, and many more may have been; participants were not asked how they heard about the service. The general view from Fulton Hogan is that a substantial number of on-farm collections are likely to have resulted from the pilots. Some of these were at a large scale, with over 50,000 litres of waste oil being removed from one site alone.

From Farmlands' perspective, at a store level, the prevailing view is that the service is a positive and easy one to offer customers, but that it had not yet been adequately marketed. Fulton Hogan noted that similar services launched to residential markets are also slow initially, but grow steadily over time. Farmlands are open to extending services, based on a detailed proposal of how this might work.

In the interim, however, Fulton Hogan – through its Green Fuels division – has advised that the plastic in the used oil containers is a problem for them. While the oil can be easily recycled, the plastic containers are currently being chipped and stockpiled. Green Fuels is working on a potential use for this plastic, but this is not imminent, so they have advised they do not wish to progress with the collection of plastic containers of oil at this stage.

It was suggested to Green Fuels that they may wish to contact Agrecovery to see if the same outlet used by Agrecovery for HDPE containers (Astron Plastics) may be available for used oil containers. Green Fuels advised that North Island-based outlets had been investigated, but deemed not feasible due to the costs of freighting the plastic.

Ultimately, this is a disappointing result, as the full potential of this arrangement has not really been adequately explored. While there is potential for the on-farm collection service to have an impact, the difference that an in-store drop-off service could make cannot be definitively stated here, as promotional activities have not been fully implemented and, in all likelihood, insufficient time has been allowed for the service to gain momentum. However, until Green Fuels finds a sustainable outlet for plastic collected, the drop-off service cannot responsibly be continued.





### 4.3 DEPLOYMENT RECOMMENDATIONS

The recommendations of the project in relation to this pilot and service are as follows:

1. *Promote free on-farm collections.*

It has been recommended to Farmlands that they collaborate with ROSE to actively promote free on-farm collections of used oil for quantities over 200L. This is a convenient service for farmers and has a disproportionately large impact on the goals of the Project by identifying and collecting large volumes of oil being bulk-stored on farms. ROSE, through Fulton Hogan, has a sustainable outlet for this collected oil and it is worthwhile for them to collect directly from farms.

Farmlands can assist by promoting the service in-store and via customer flyers and through promotional emails. Farmlands has expressed support for this idea.

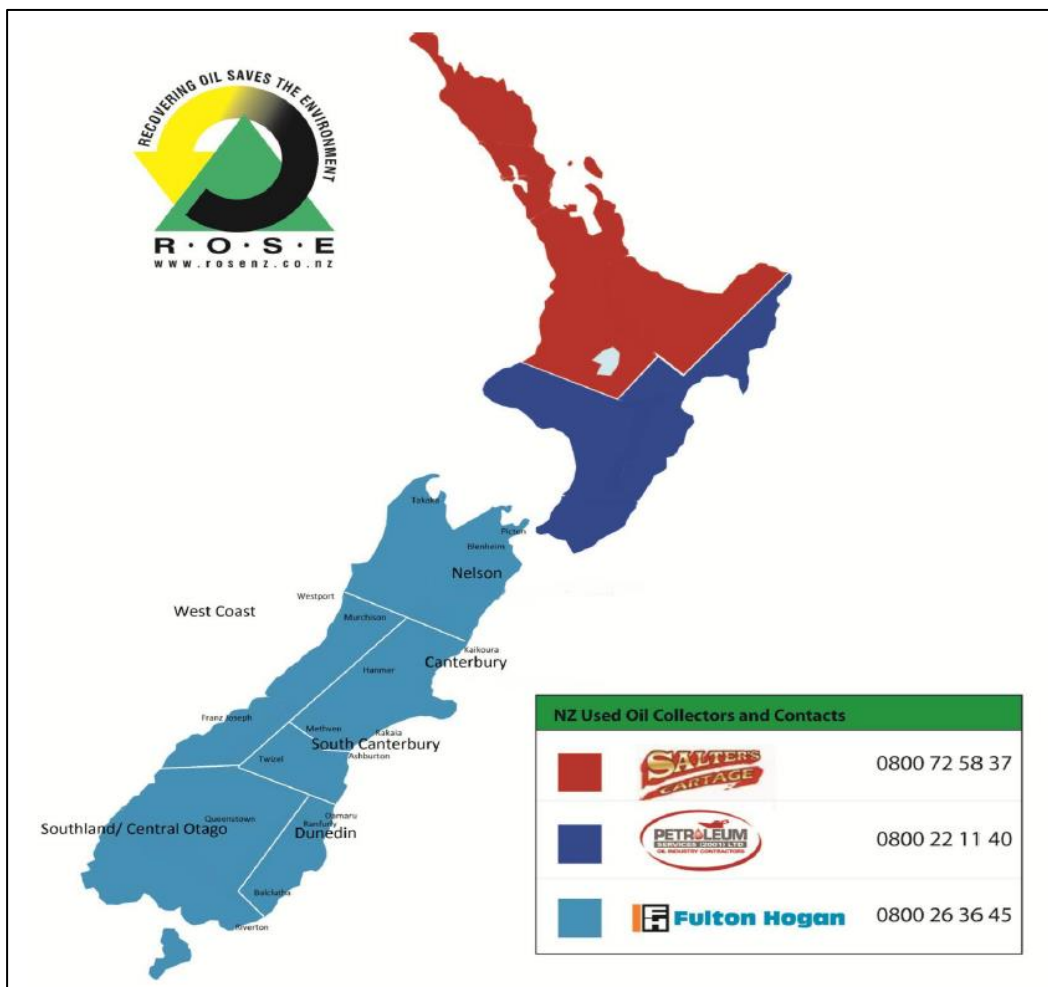


Figure 14: ROSE Service Provider Coverage Map

Salters Cartage, which provides ROSE services in the upper North Island reports that its situation is similar to Fulton Hogan, in that it has difficulty accessing markets for plastics collected. Salters are willing in principle to connect with Farmlands to promote the free on-farm collections, although their collection minimum is 400L rather than Fulton Hogan's 200L.

Petroleum Services, which provides services in the lower North Island, has not collected plastic containers from retail locations for some time, and is unlikely to revisit this service. It would, however, have an interest in collecting large volumes (400L plus) of used oil from farms. Such a free service would be conditional on oil having been stored safely in proper containers (not small plastic containers) and on there being a cluster of farms, rather than travelling for a single location. Petroleum Services also believes there is potential for council transfer stations to host an oil tank for farmers to empty used oil into. This would not provide a solution for plastic containers – which would probably end up in landfill – but would provide a more rationalised solution for collecting used oil.

2. *Identify an alternative market for plastics, then re-launch pilots.*

While an on-farm collection is likely to capture larger focused volumes, there is still merit in determining whether an in-store collection for smaller volumes and packaging might work. Should a reliable market for plastics collected be found, this concept should be revisited.

It should be noted however, that collections from stores are only free in the South Island. For Farmlands to provide such a service in the North Island, they would need to pay to have bins collected. It is unlikely Farmlands would do so unless they see considerable uptake and value for their business.



## 5. COMMUNITY ORGANISATION ON-FARM COLLECTION UPDATE

### 5.1 INTRODUCTION

One of the key learnings under the Project is the value of, and niche filled by, community organisations providing on-farm rural collections. While only a few have provided on-farm rural waste collections, those that have done so to any degree have had considerable success based on an innovative, relationship-based approach.

As the exemplar in this space, Wastebusters Canterbury has seen strong growth in their service provision both in terms of numbers of farmers and the range of waste streams being collected. Wastebusters Canterbury has also seen relatively low contamination rates, based largely on the role they take in building relationships with farmers and providing ongoing feedback and education on waste management. This is the area where community organisations have an advantage; their mandate enables them to spend more time on behaviour change and on building relationships. This is a critical feature of a successful rural waste service, and the best practitioners of it appear to be community organisations.

With this in mind, during Milestones 4 and 5 of the Project, support was provided to a number of community organisations interested in pursuing on-farm rural waste collections. The Project offered strategic development support to these organisations to aid them in preparing service provision plans.

At the conclusion of Milestone 5, an update was provided as to the status of ongoing dialogue with these organisations as follows:

Organisation	Status Following Milestone 5	Support Offer Response
Seagull Centre Thames (SCT)	SCT considered it 'somewhat likely' that they would pursue the development of on-farm collection services for rural waste in the Hauraki Plains area, with a particular focus on items which could be reused or upcycled such as building materials.  This development would likely occur over the next 2 to 3 years.	SCT noted that the reality of actively targeting the rural sector in new business is likely to be in the 2+ years' timeframe.  SCT was focused on assisting a group from Matamata in establishing a Seagull Centre operation that will potentially involve operations across the Hauraki Plains / South Waikato rural area.  No immediate support was sought.
Waitaki Resource Recovery Trust (WRRT)	WRRT considered it 'somewhat likely' that they would begin development of such services in the Waitaki region over the next 6 to 12 months.	WRRT stated that rural waste was on the mid to long term agenda.  Waitaki District Council was reviewing rural waste and a WRRT representative may be involved with the steering committee. Next steps would depend on the outcomes of these discussions.  No immediate support was sought.

Organisation	Status Following Milestone 5	Support Offer Response
Innovative Waste Kaikōura (IWK)	IWK considered it 'somewhat likely' that they would seek to develop on-farm collection services for rural waste in the future, but no indicative timeframe was given.	IWK's manager had recently left the organisation and responsibility had been handed to Kaikōura District Council.  No immediate support was sought.
CRew / Pou Whakaaro (CRew)	CRew considered it 'somewhat likely' they would pursue services over the next 9 to 15 months with a particular focus on Whakatane, Edgecumbe and Kawerau.  Such services would likely focus on recyclables, some plastics, paint and some chemicals.	CRew advised that they had been researching farm waste locally to determine where opportunities lie. Possible operational sites and logistics were being considered.  CRew considered the next likely stage to be discussions with the regional council to determine if support would be available.  CRew were keen to take advantage of any available business planning support.
Helensville Community Recycling Centre (HCRC)	HCRC considered it 'very likely' that on-farm collection services would be developed for the greater Helensville area over the next 12 months, with a focus on silage wrap and baling twine.	HCRC were to take over the Agrecovery chemical container collection from PGG Wrightsons, giving direct contact with farmers and an opportunity to initiate conversations on rural waste.  As farmers would already be visiting HCRC they could then arrange for them to drop off a wider range of waste streams. HCRC's plan was to bring new streams on board a few at a time to allow management of volume.  No specific plans for providing business case development support were finalised.

At the initiation of Milestone 6b, updates were sought from each of these organisations as to the status of their collections programmes, their plans for the future and whether any business planning or expansion support was desired.

In addition, support was offered to Wastebusters Canterbury, which has served as an exemplar for organisations of this type in providing on-farm collection services.

The updates from these communications are included in Section 5.2.



## 5.2 COMMUNITY ORGANISATION ON-FARM COLLECTION UPDATES

### 5.2.1 Seagull Centre Thames

Seagull Centre Thames (SCT) believes its location at the edge of the Hauraki Plains lends itself well to a focus on rural waste issues, and this is still very much part of their longer-term strategy. One of the key challenges in pursuing this strategy is that SCT does not have any external contracts, and must generate sufficient revenue through its activities to operate. This makes the risk of initiating new services high.

SCT is currently partway through a three-year expansion project at its site. A new 180m<sup>2</sup> warehouse is under construction, and arrangements are being made to relocate a building to the site to focus on community education and workshops. As part of the redesign of the overall site – with SCT serving as a diversion opportunity for landfill-destined waste – better public access and visibility will be secured. More land will also be made available for SCT’s expansion.

SCT says, in terms of rural waste, that they will not look at anything hazardous, but focus on items with resale value, particularly building materials or broken equipment. They also remain interested in soft plastics, provided a stable market for the plastic can be found. Despite having their own truck and trailer unit, SCT believes that trying to collect plastics from such a wide catchment area would be difficult, and may consider a drop-off option.

SCT has confirmed they do not require any support in this venture in the short to medium term, but will make contact with the Project to seek assistance if required.

### 5.2.2 Waitaki Resource Recovery Trust

The Waitaki Resource Recovery Trust (WRRT) has had an ongoing involvement in rural waste as a contractor baler for Plasback, and as a drop-off point for local farm plastics. In its role with Plasback, WRRT receives baleage and silage wrap collected by Plasback’s contractors and bales it ready for transportation. For those farmers closer to WRRT’s base in Oamaru, a drop-off service is provided for plastics independent of the Plasback programme.

The drop-off service is provided for farmers at a low cost – a donation – but requires that the plastic be largely free of contamination. WRRT says they achieve this both by building strong relationships with farmers and advising them that contaminated plastic will be treated and charged as landfill. In order to avoid the latter situation, WRRT works closely with farmers and provides advice on how they can handle plastics to avoid contamination. WRRT says that farmers are generally receptive to this input. Younger farmers, in particular, tend to be open to behaviour change provided it does not come with significant increased expense.

WRRT is currently working with Waitaki District Council to explore extending services outside of Oamaru. This includes managing drop-off sites, providing additional collection services and providing advice and education to farmers. These discussions are not yet complete, so the exact nature of WRRT’s involvement in providing services for farmers beyond what they currently do is not yet known.

WRRT found the Project-facilitated forum for community organisations particularly helpful and would like to see more of this collaboration. Beyond this, however, no immediate Project support is sought.

### 5.2.3 Innovative Waste Kaikōura

The last year has been a time of considerable change for Innovative Waste Kaikōura (IWK). In addition to the devastating earthquake that hit Kaikōura in November 2016, there have been more than a few staff changes in the organisation.

IWK is currently without a permanent General Manager, and an appointment is not expected until April or May 2018. IWK's interim manager, Averil Stephenson, says that IWK's existing waste collections, which focused on soft plastics, have been stopped as they were unprofitable. However, IWK does maintain a drop-off for Plasback collections.

IWK is in a consolidation phase and Stephenson believes they are unlikely to look at new services, including those relating to rural waste, in the medium term.

### 5.2.4 CReW / Pou Whakaaro

CReW are currently in a recruitment process, having lost their General Manager. This has had an obvious impact on strategic direction. CReW have given some consideration to rural services, but feel somewhat constrained by a lack of space, infrastructure and resources to move forward.

CReW have recently begun work on a new site opportunity – which is very much the current strategic focus – and this may stimulate further evaluation of rural waste services. To date no detailed analysis has taken place. CReW believes that it is unlikely to proceed with rural waste services on its own, and would likely need to secure external partnerships to proceed. This will, undoubtedly, be a task for the newly appointed General Manager to consider.

### 5.2.5 Helensville Community Recycling Centre

The Helensville Community Recycling Centre (HCRC) has recently taken over an Agrecovery container collection and has a continuing interest in rural waste recycling. Of particular interest is expansion of their piloted soft plastics drop-off service.

Under this service, farmers sign a contract that enables them to drop off silage wrap at HCRC at no cost. The contract specifies that the plastic must be 'very clean' and that a landfill tonnage rate will be charged for contaminated wrap. To bolster this, HCRC works with the farmers to consider where the silage is made in the first place, and how it is distributed, to minimise contamination. Given the absence of a regular drop-off fee, it is not surprising that farmers are prepared to agree to such an arrangement. HCRC also provides free bulk bags for farmers to put the wraps in.

Farmers load the plastic on their own vehicles and drop it off at HCRC. Bags are individually marked to identify the farm they have originated from, and are closely checked. HCRC has a forklift available to lift the plastic off. The collected plastic, largely free of contamination, is sold to a plastics company for, according to HCRC, 'good money'. The service is attractive in this regard and because the plastic is 'very quick to bail'. HCRC has determined, based on its organisational objectives, that the revenue generated by selling the plastic is sufficient and there should be no cost barrier for farmers to participate.

HCRC has considered collection from farms but believes this type of service is too expensive to set-up and maintain, and too expensive for farmers. Drop-off has worked very well and, while the service is not yet widely available, the intention is to make it in a measured way so that they are not 'overwhelmed by demand'.

HCRC has confirmed they do not require any support in this venture in the short to medium term.

### 5.2.6 Wastebusters Canterbury

Wastebusters Canterbury (WBC) have seen their service provision to South Canterbury farmers grow and grow. Demand for the service has – according to WBC – 'gone crazy'. Despite a recent price rise – to \$45 per bin collection – WBC advises that farmers have continued to support the service and several more initiate a collection each week. The service is currently provided to 216 farms.

WBC believe the key element in their success is that they have designed every aspect of the service around the realities of being a farmer. One of WBC's team members is an ex-farmer and is very knowledgeable about 'how life works' on a farm. This, says WBC, is a key advantage and enables them to better engage farmers and design solutions around them.

WBC also believe that their 'all in one solution' approach is also very beneficial to farmers. Initially farmers tend to purchase bins for silage wrap and bale wrap. Once they are used to the service, a bin for twine/string is often added. Bins for bulk bags and seed bags and other waste streams start to follow as farmers become used to sorting waste. Some farms have ten or more bins. WBC advises that once the concept of having all of their waste dealt with at once is understood, commitment and satisfaction with the service increases. Throughout their interactions with the farmer, WBC refers any enquiries regarding chemicals or chemical containers to Agrecovery, and WBC is very keen for farmers to support this service.

WBC says the bulk of their service growth is coming from young farmers. WBC believes this demographic is more motivated to handle waste responsibly and to pay a reasonable fee for the service. While WBC offers a drop-off service (at \$10 per bin rather than the \$45 per bin charged for collection plus a flat collection fee) most farmers want waste collected from their farm; convenience is apparently preferred to cost-minimisation for WBC's target demographic.

WBC says two of their biggest lessons in providing rural waste services are that output markets are critical, and relationships are the key to avoiding contamination. In terms of the first lesson, WBC says that many rural waste contractors are currently stockpiling plastic, as no viable outlet currently exists. This is a huge issue and securing reliable outlets is essential for a sustainable service.

In terms of the second issue, WBC says that keeping contamination low is key to financial viability, and actually knowing the farmer helps in this regard. Being able to jump on the phone or 'have a chat' with a farmer with whom you have an existing relationship to deal with any contamination issues tends to ensure they do not crop up again. If contamination is a regular occurrence, WBC believes the viability of a recycling programme is unlikely to be sustainable.

### 6.1 INTRODUCTION

Following the decision for the Project to step back from directly overseeing pilots of the Agrecovery / Envirowaste Rural Services model, a proposal was received from Agrecovery in January 2018 to directly oversee and undertake two pilots along similar lines to those originally intended by the Project, with material differences only in terms of how soft plastics services would be provided.

The proposal indicated a desire to provide the following:

- Agrecovery will deliver two pilot events, with service delivery including collaboration with Envirowaste Services NZ and Plasback.
- Two events will take place: Geraldine in April 2018 and Matamata in May 2018.
- Agrecovery will have responsibility for:
  - All marketing and promotion.
  - Coordinating and delivering two pilot events.
  - Ensuring attendance of approximately 100 participants per event, with a minimum of 40 registrations per event.
  - Engaging a Waste Contractor (EnviroNZ) to coordinate the collection and disposal of all wastes received.
  - Engaging Plasback to service all high volume soft plastic pickups within a fortnight of the scheduled event.
  - Arranging all funding and payment systems for waste streams accepted.
  - Providing customers with a clear and competitive pricing schedule at time of booking.
  - All site management and health and safety requirements for each event.
- Farmers and growers who have registered for the event will be able to drop-off the following waste streams:
  - HDPE Containers and Drums – Participating brands are free for disposal with non-participating brands attracting standard user-pays fees (\$2.30 per 10L). To be managed by Agrecovery through its contract with EnviroNZ.
  - Unwanted Agrichemicals – Agrichemicals that have been booked through Agrecovery are eligible for drop-off. User-pays fees will be applied to chemicals that are not from participating brands or covered by regional council funding. To be managed by Agrecovery via a contract with ChemWaste.
  - Used Oil – Disposal of used oil will be free for participants under the ROSE oil scheme (South Island). Fees will apply if necessary in the North Island. To be managed through the ROSE oil scheme and/or EnviroNZ.
  - Woven Polypropylene Bags – Will be free for disposal. To be managed by EnviroNZ.



- LDPE Soft Plastics – Collection of high volume LDPE soft plastics will be facilitated through the Plasback programme and must be booked through their existing channels. Plasback will ensure that collections undertaken as part of this event will be undertaken within a week either side of the collection event.
- Additional waste streams will also be added if possible.

The events took place on May 25 (Matamata) and May 31 (Geraldine) of 2018. The events and supporting activities are evaluated in the following sections.

## 6.2 PILOT EVENT MARKETING

Section 6.2 has been prepared by Cherry Red Consulting.

### 6.2.1 Background

The communications review for the Agrecovery-led rural waste pilot events has been commissioned to understand the communication channels used to inform the farming community about the events and based on that information, provide recommendations for future events. The communications were based around a plan prepared and developed by Cherry Red Consulting as part of the original Project plan. Four months prior to roll out of the events, there was a change in administration with Agrecovery taking over project management, including communications. This review covers the communications implemented by Agrecovery.

The original objectives of the communication plan were:

- To ensure that farmers who want to participate, and who live within the catchment, are aware of the event and feel motivated to register their participation (measure - 100 participants at each event).
- To ensure farmers that register, feel well informed about event requirements and have sufficient advance information and knowledge to participate in the pilot events effectively (measure – informal and formal feedback indicates that participants felt well informed about process).
- To ensure partners in the project feel well informed.
- To share the story with the wider public (measure – minimum of five pilot project stories in various media).

This review is based on:

- A review of marketing and communications material distributed to the farming community.
- A desktop review of material produced (news media clippings, marketing material, online material).
- Dialogue with stakeholders and on farm suppliers included in the original project plan.
- Questionnaire response at the events.
- Territorial Authority communications teams (Timaru DC and Matamata DC).

## 6.2.2 Independent Review of Communications

It is important to note that a key driver for Agrecovery was to ensure that they did not over-promote the event due to limited space availability. This restriction was reflected in the communications. Bearing this in mind, the overall recommendations made in terms of event communications are as follows:

- Direct communication from Agrecovery is the key to engaging with stakeholders; however this does mean that only existing members of that organisation receive information.
- The local community paper is a key option for communicating about the event.
- Reminder texts are important in communicating event details.
- A mix of online and phone registrations seems to meet registration requirements.
- There were high levels of confusion about details regarding what can be dropped off and how to store waste for drop off. It is essential to be clear in all communications about detail.
- Partnerships are essential to make this programme work and to ensure wide participation from the sector. It is recommended that developing relationships and encouraging participation and information sharing from advisory groups and membership organisations be a focus of future event communications.
- Supporting material for future events needs to have a more visual focus and demonstrate “how to” prepare in a way that appeals directly to the farming community. Consider the use of videos and real-life photos using farmers to show what to do when gathering and storing waste material.

As part of the evaluation, four questions with a focus on communications were included in the questionnaire that was conducted at each event with attendees. These were:

- How did you hear about the event?
- Did you feel like the type of wastes being dealt with at the event and the preparation requirements for the event were well communicated?
- Was it easy to register for the event?
- How could we have improved communications to make it easier for you to participate?

The findings from each event are summarised as follows:

### *Geraldine Event Surveys*

Question	Finding	Responses
How did you hear about the event?	Geraldine News (local paper)	6
	Communications from AgRecovery	7
	Timaru DC	1
	Other	1
Did you feel like the type of wastes being dealt with at the event and the preparation requirements for the event were well communicated?	Yes	11
	No – uncertainty over details	4
Was it easy to register for the event?	Online (yes)	8
	Phone (yes)	6
	Unsure	1

Question	Finding	Responses
How could we have improved communications to make it easier for you to participate?	Twelve respondents felt communications were excellent and they appreciated the reminders	12

#### Matamata Event Surveys

Question	Finding	Responses
How did you hear about the event?	Local paper	1
	Communications from AgRecovery	12
	Young Farmer	1
	Other	1
	Flyer in store	
Did you feel like the type of wastes being dealt with at the event and the preparation requirements for the event were well communicated?	Yes	11
	No – uncertainty over details	4
Was it easy to register for the event?	Online (yes)	5
	Phone (yes)	9
	Unsure	1
How could we have improved communications to make it easier for you to participate?	Seven respondents felt communications were excellent and they appreciated the reminders. One person felt over-communicated with. One person suggested radio ads.	12

Recommendations from the on-site research include:

- Direct communication from AgRecovery is the key to engaging with stakeholders. However, this does mean that only existing members of that organisation receive information.
- The local community paper is a key channel for communications with the local farming community.
- Reminder texts are important in communicating event details and communicating updates. This should be built into future event planning.
- A mix of online and phone registrations seems to meet registration requirements. It appears important to have the phone in option available.
- There were levels of confusion about details regarding what can be dropped off and how to store waste for drop off. It is essential to be clear in all communications about detail.

The original communications plan from Cherry Red indicated that relationships with key stakeholders and partners are essential in creating interest and commitment to the event. As part of the handover notes, contacts were provided with several key stakeholder groups that had been involved in the original phase of the project.

Follow up research with these groups, and with contacts listed by Agrecovery as being key, has shown that there was limited communication about the events shared through identified partner agencies. Several contacts spoken to (including those provided by Agrecovery) had no recent knowledge or communication over the pop-up events but they indicated a commitment to the principles of the programme. This could be as a result of the limited capacity to cope with large numbers of drop offs and was a potential strategy by Agrecovery to manage numbers.

Partnerships are essential to make this programme work and to ensure wide participation from the sector. It is recommended that developing relationships and encouraging participation and information sharing from advisory groups and membership organisations be a focus of future event communications.

A total of twelve articles appeared in media outlets in relation to the Orari, Geraldine or Matamata event. All media was positive and well communicated. The publications were as follows:

- Central Rural Life - 2 May
- Central Rural Life - 18 April
- Coast and Country - May 2018
- Central Rural Life - 16 May
- Matamata Chronicle - 2 May
- Ashburton Chronicle 19 April
- Ashburton Courier - 10 May
- The Courier - Timaru 12 April
- Timaru Herald - 26 April
- Stuff - 18 June
- Radio NZ - 18 June
- Te Awamutu Courier - 12 June

Original research with the farming community managed by True North Consulting and Cherry Red indicated that farmers wanted visual material that was easy to understand, was timely and that clearly demonstrated how to prepare waste for drop off.

Research results of participants on the day indicate that one third of participants felt under-prepared regarding preparation requirements. This is backed up by a review of communications prepared in support of the event. The material is text heavy and there is little visual documentation to support participants with preparation requirements, although preparing such material is a challenging exercise for such a small trial.

It is recommended that supporting material for future events has a more visual focus and demonstrates “how to” prepare in a way that appeals directly to the farming community. Consider the use of videos and real-life photos using farmers to show what to do when gathering and storing waste material.

Agrecovery were able to use their membership database extraordinarily effectively and included texts and personal emails as part of their marketing campaign. The value of an existing and extensive membership database cannot be underestimated for an event of this nature.

### **6.2.3 Agrecovery Marketing and Communications Plan**

Agrecovery developed a revised communications plan to accommodate the shift in implementation strategy and to reflect resources and available time. Details of the plan are as follows:

The communications strategy objectives for the Agrecovery Pilots are:

- To ensure that farmers who want to participate, and who live within the catchment area, are aware of the event and feel motivated to register.
- To ensure that farmers who have registered have sufficient information regarding requirements. This is especially in relation to agrichemicals and arranging on-farm collection for soft plastics where additional steps are required.
- To ensure project partners feel informed.

Key identified audiences for the pilots are:

- Pastoral farmers in Geraldine and Matamata with focus on those in the local district council.
- Key industry stakeholders with particular focus on Federated Farmers, DairyNZ and Beef and Lamb.
- Project funders and other stakeholders.
- Media.

The key messages for the pilots are:

- “In 2013 an Environment Canterbury study found that, on average, farms were producing nearly 10 tonnes of non-natural rural waste each year, with on farm burning, burial or storage being used to manage waste”.
- “The rural waste minimisation project aims to provide alternative methods to manage this waste and we will be piloting a rural pop up event for farmers to trial options”.
- “Agrecovery and Plasback are partnering to deliver the events and enable a one-stop-approach to rural waste”
- “On Friday 25 May 2018, 10.00 am – 4.00 pm Matamata will host a rural pop up recovery event at the Matamata transfer station on Mangawhero Road”.
- “On Thursday 31 May 2018, 10.00 am – 4.00 pm Geraldine will host a rural pop up recovery event at the Geraldine Transfer Station in Te Moana Road”
- “Because we want to ensure safe and effective management, participation will be limited to 100 participants – you will need to make sure you register early so that you qualify”.
- “You will need to register on the Agrecovery website if you want to participate in this event. When you register, you will receive all the information that you need on the type of waste we will take, how to sort your waste, times for drop off and costs. If you don’t register you will not be able to participate at the event”.
- “A wide range of partners are involved in the project including regional and district councils, industry groups and waste minimisation organisations”.
- “The success of these pilot events will pave the way for national collection scheme providing a reliable, cost efficient, rural waste recovery programme”.
- “To find out more visit [www.agrecovery.org.nz](http://www.agrecovery.org.nz)”.

The events themselves will not have the specific location and timing details advertised as the risk of having non-registered farmers wish to participate on the day needs to be managed. Therefore, early advertising and awareness will focus on getting people to register for the particular day and utilise narrower mediums such as industry publications (e.g. Federated Farmers Member Advisories).

Tactics to be implemented are:

- A registration portal on the Agrecovery website is developed and tested
- Stakeholder organisations are engaged to discuss the events and the wider rural waste project context. Federated Farmers will be a particular focus and a key source of registrations for the event.
- Direct Advertising and a media release will be distributed in early April.
- Flyers/brochures will be developed and distributed by way of mail drop.
- All current Agrecovery members will be contacted via text and email encouraging them to register for the event.
- Social media will also be utilised to gain awareness of the event.
- An open day will be held for the Geraldine event on the 18th of April to offer tips on participating in rural waste initiatives and get people registered for the event.
- Once registrations are complete, each registered member will receive an email/letter providing information on the event and how to participate. Those that have indicated that they wish to dispose of chemicals will be instructed to book through the online portal and sent a corresponding invoice if appropriate.
- Registered members will again be contacted a week prior to event via email to remind them of the event. This will be repeated via text two days prior to the event.
- A media release will coincide with both events post completion with members of the media being invited to both events.
- Agrecovery will invite farming leaders to both events.
- The Associate Minister for the Environment will be invited to open the first event in Matamata.

Date	Tactic	Responsibility
April 6 2018	Media release discussing pilot trials and urging members to register for events	Agrecovery
April 6 2018	Minister invited to attend event	Agrecovery via the Ministry for the Environment
April 6 2018	Content for industry newsletters provided to stakeholders including Federated Farmers, DairyNZ and Beef and Lamb	Agrecovery
April 6 2018	Direct email to all relevant members urging them to register	Agrecovery via email
Week of April 9 2018	Advertising of events takes place in local publications and through social media platforms	Agrecovery via local publications

Date	Tactic	Responsibility
April 13 2018	Flyers distributed to rural supply stores	Agrecovery with Farmlands, PGG Wrightsons and Farm Source
Two weeks prior to event	Media contacted advising of event and details associated	Agrecovery with stakeholders
One week prior to event	Registered members contacted reminding them of event and to prepare	Agrecovery via email
Two days prior to event	Registered member receive final reminder	Agrecovery via text
Day of event	Media release including photos from the day	Agrecovery

## 6.2.4 Event Results

Interest in the events was high right from the outset of the marketing and communication plan. This included interest from media with a number of articles published and directly from farmers and growers with a noticeable increase in phone calls to the Agrecovery Freephone.

Agrecovery have reported that event registrations were relatively low in initial stages with many farmers and growers who queried the events indicating that they would register at a later date. It was not until Agrecovery sent a text message directly to members in the area – approximately two weeks prior to each event – that there was an increase in actual registrations with the vast majority of these occurring over the phone (approximately 70% of total registrations). The graphs below show the growth in booking numbers for both events.

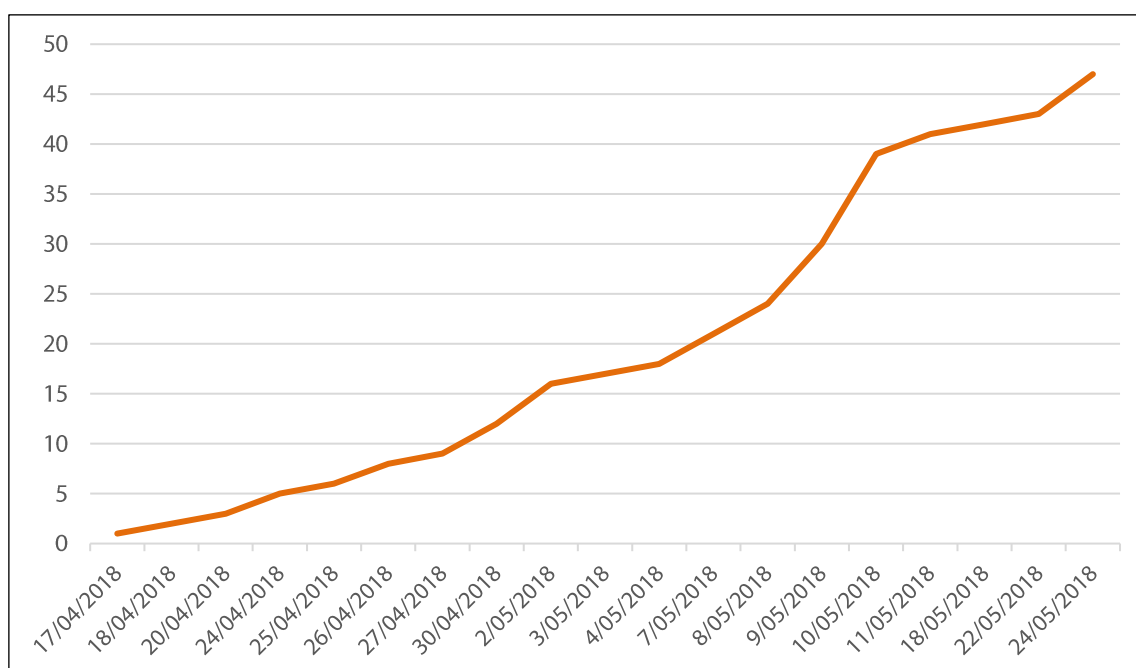
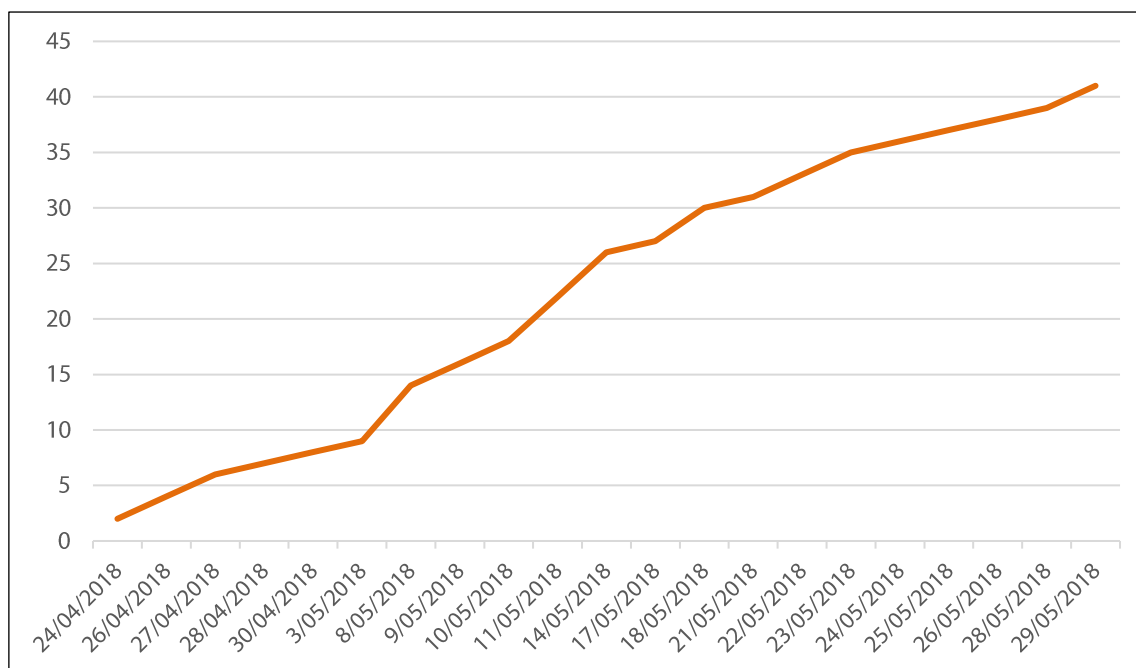


Figure 15: Matamata Pop-Up Event - Cumulative Bookings by Date



**Figure 16: Geraldine Pop-up Event - Cumulative Bookings by Date**

### 6.2.5 Agrecovery Communications Findings

Agrecovery has identified several key observations in relation to communications that will help refine the communications and engagement process for any future pilots and eventually, a national roll-out of similar events:

- Members found the online registration process cumbersome. It is clear that for future events, the registration process needs to be streamlined.
- The majority of members registered for the event by way of phone. This is symptomatic of a less than efficient online portal and a general desire on behalf of members to be ‘talked’ through the registrations over the phone. Even if an efficient registration portal is developed, first time users of the process may need administrative support.
- The use of text messages was a great way of generating interest in the event. Agrecovery sent a message to all members in the catchment stating ‘interested in a recycling event in your area? If so, respond yes and we will contact you to get registered’. This initiative saw the biggest increase in registrations in both areas.
- Marketing efforts were well received but more engagement with potential event ‘partners’ is needed. This could include formalising relationships with stakeholder organisations to deliver the events and to ‘co-host’.
- Having a strong Agrecovery presence at the events is absolutely necessary to support members through the process and ensure the event runs smoothly and to act as the key point of contact. Relying on contracted parties to undertake this solely is not advisable. Agrecovery needs to take ownership of the delivery of these events.

Overall, Agrecovery was pleased with the success of the events and sees real potential on the basis of further refinement and subsequent trials. It is Agrecovery’s intention to continue to progress these trails under a new application to the Waste Minimisation Fund.



### 6.3 GERALDINE FIELD DAY

Prior to the pilot events being headed by Agrecovery, and as part of the initial development of the Geraldine pilot with Timaru District Council, it was determined that an on-farm event would be held to explain to farmers how the pilot event will work and how to adequately prepare for it.

The original intention behind such an event was that this would be held four to six months prior to the pop-up recovery event to encourage farmers to store waste appropriately over time and to, for example, purchase liners for storage of soft plastics. Such preparation would enable farmers to plan and prepare for pop-up events more successfully. The Geraldine Field Day, which was based on this concept, was undertaken on 18 April 2018, about five weeks prior to the pilot event.



**Figure 17: Geraldine Field Day participants**

The event was organised by Timaru District Council with assistance from Agrecovery, and included presentations from Timaru District Council, Agrecovery, Plasback and Environment Canterbury. In addition, a local spraying contractor – and Agrecovery board member – undertook a demonstration on triple rinsing chemical containers. The event was reasonably well attended, with about 30 local farmers present.



**Figure 18: Triple-rinsing demonstration**

Ultimately, however, the opportunity to ‘cast a potential new vision’ around the ‘one-stop shop’ model pilot and explain what was being tested was somewhat lost. The presentations were primarily of a functional nature, explaining:

- Rules around air discharge and offfal pits.
- How Agrecovery’s services work.
- How Plasback’s services work.
- Timaru District Council services available.

While the upcoming pilot event was briefly mentioned, a clear introduction of the new model and the potential for a new comprehensive service was not given. The date for the upcoming event was not actually mentioned in any of the presentations. There was no discussion of how waste services might potentially change or improve, what is being tested with the new model or how this might impact rural waste in the area. Farmers were not really recruited to participate, other than mentioning that they could register for the event if interested.

While each of the organisations present did well in overviewing the services they provide, the event seemed to lack a cohesive message and it was not clear whether all of the organisations present actually knew in advance they would be giving a presentation.

The level of attendance at the event was encouraging, and demonstrated a high level of community interest in the service available and in what may be on offer. Farmers also appeared genuinely interested in waste and in the demonstration conducted. More practical advice as to how to keep waste clean and how to specifically prepare for the pop-up rural waste event might have been useful.

It would also have been beneficial to inspire farmers to participate and communicate to them that their concerns and desires have been heard and services are coming which – if they support them – have the potential to make responsibly managing waste easier. A presentation from a local farmer well engaged in rural recycling would also have lent additional credibility to the event.

An event such as this has real potential, and appeared to attract farmer interest, but the opportunity to promote pop-up events and challenge or encourage farmers to participate should perhaps be more robustly embraced. The addition of practical advice aimed at allowing farmers to better prepare for recycling – including packing vehicles or trailers for pop-up events – might also have been beneficial. Such advice would, however, need to be delivered several months prior to pop-up events being undertaken.

#### 6.4 REGISTRATION PROCESS

As part of its funded commitment to hosting the pilot events, Agrecovery altered its online system, which is currently used for Agrecovery member registrations and bookings, to allow for registrations at pilot events. Marketing activities have pointed farmers towards Agrecovery's website (<http://www.agrecovery.co.nz>) to complete event registrations.

As part of its post-event reporting, Agrecovery advised the following:

- Agrecovery utilised its existing booking system to provide a registration process for the events. The process enabled members to book a 30-minute time slot. The first available time-slot was 10am with the last available being 3.30pm for a 4pm event finish. Ten places were available for every time-slot.
- In total, Agrecovery spent \$6,980 + GST on the development of the registration portal.

The design for the registration system, as communicated by Agrecovery in its reporting, was as indicated in Figure 19 below:

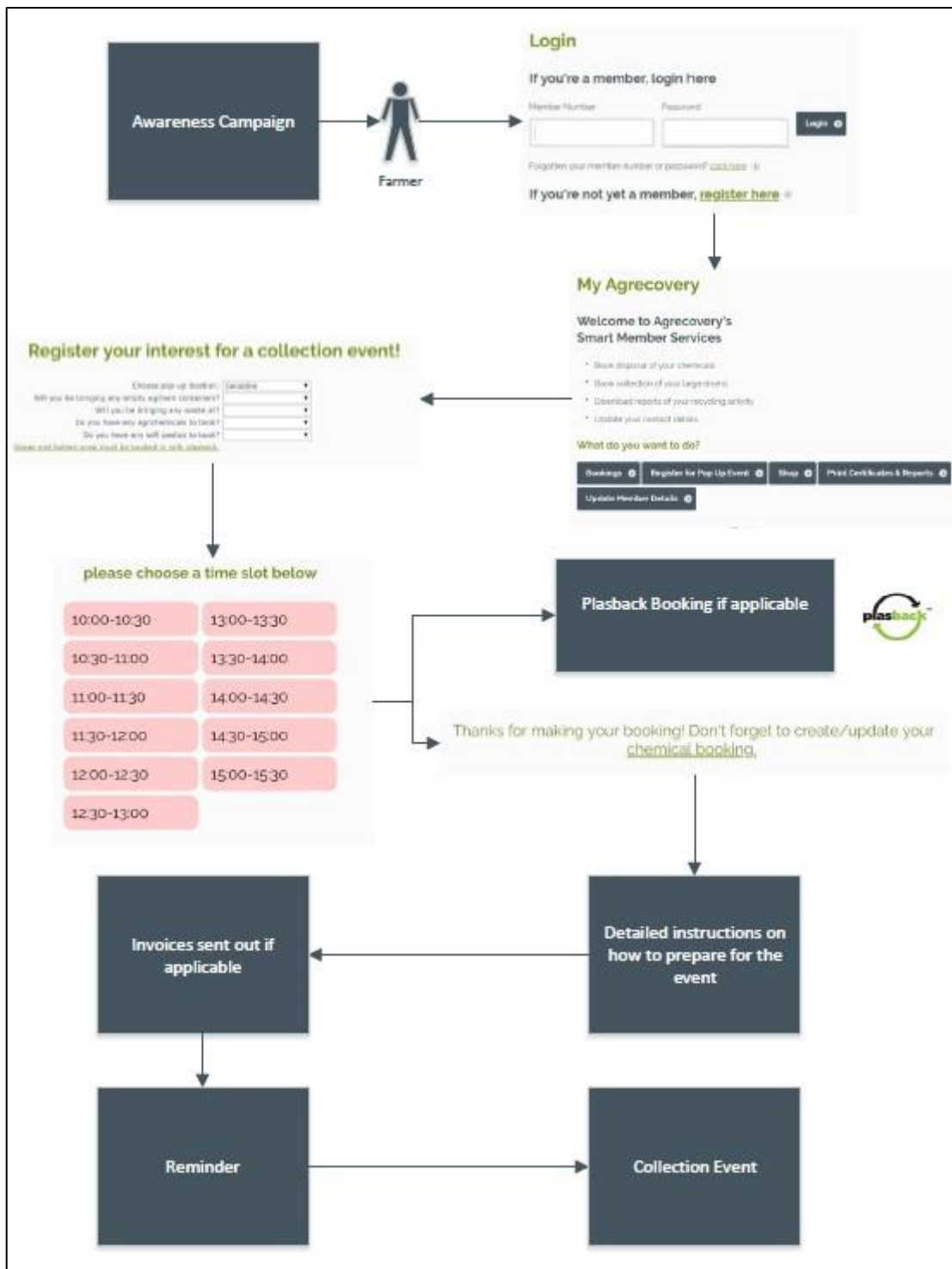


Figure 19: Agrecovery Registration System Map

The Agrecovery homepage appears as shown in Figure 20:

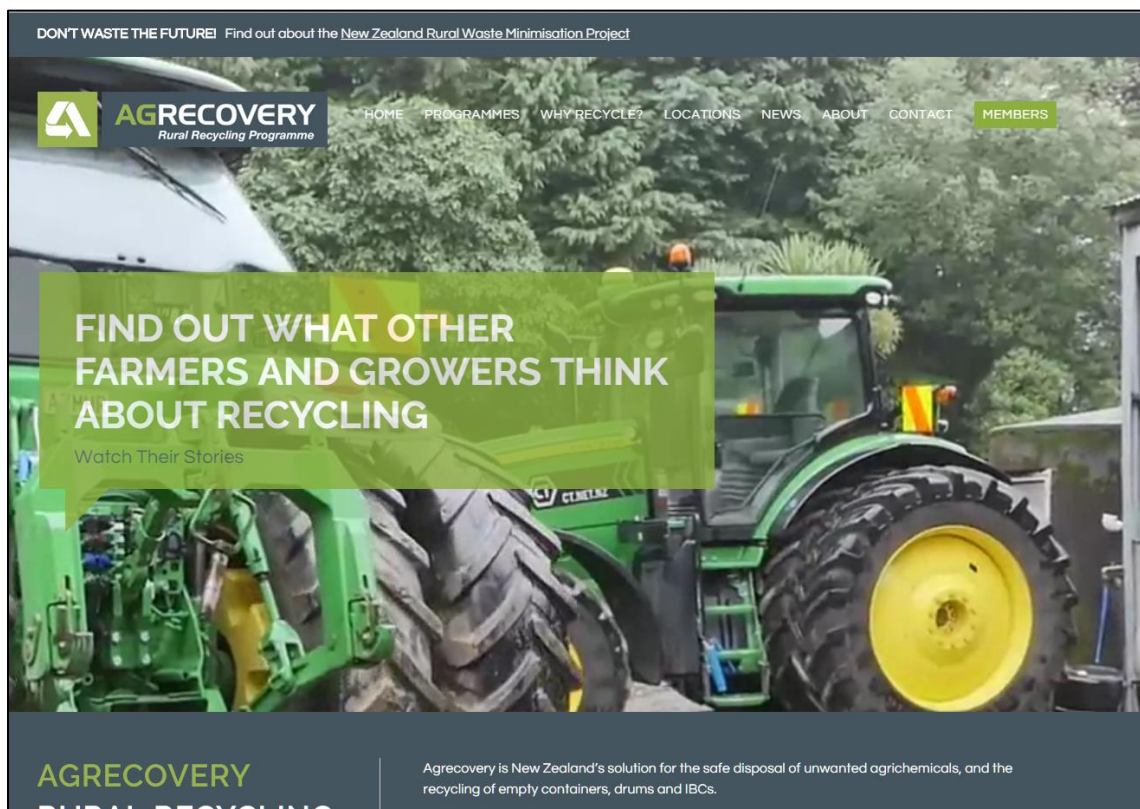


Figure 20: Agrecovery Homepage (<http://www.agrecovery.co.nz>)

The link for event registration is found at the top of the page (*DON'T WASTE THE FUTURE! Find out about the New Zealand Rural Waste Minimisation Project*). This is not particularly noticeable and the front page would benefit by making the registration link more prominent.

The link, when clicked, takes the user to a page for the 'Rural Waste Project'. This page (<http://www.Agrecovery.co.nz/rural-waste-project>) contains the following text:

Participants must register with or be an Agrecovery member in order to participate. This process is quick, free and simple and does not commit participants to participate in any other Agrecovery services. You can register to be a member here via our homepage.

To participate in the pilot, you will then need to register your interest, which you can do so via the 'My Agrecovery' home page, after logging in.

During the booking process we'll need to get some details from you so we can help you prepare to dispose of your waste and ensure a smooth and easy experience on the day, in particular, if you have any agrichemicals for disposal you will need to provide detail on the type of chemical.

Please indicate on the form which types of waste you'll be bringing along. We'll also ask you to select a time slot for drop off so that we can make sure everyone is given enough time to dispose of their waste at the event.

Following registration, you will receive additional information on the event and how to participate.

Following the pilots, the information gathered will be used to investigate longer term solutions for managing rural waste in effective and environmentally friendly ways.

For further information on the pilot event or help in how to register, please call us on 0800 AGRECOVERY or email [info@Agrecovery.org.nz](mailto:info@Agrecovery.org.nz).

The page also provides the following information about the waste streams included in events:

- Recently expired chemicals as per the existing Agrecovery programme
- Empty plastic chemical containers and drums as per the existing Agrecovery programme.
- Used oil and their containers
- Fertiliser bags – woven polypropylene
- Baleage and silage wrap will also be available for disposal but will be collected on-farm by Plasback. This will not be eligible for drop off due to its bulky nature.

The information on this page is clear and explains the process well. However, to continue from here, the only link provided is back to the homepage, with the instruction to 'join' or 'login'. It is likely that existing members will know how to login, but there is no 'join' button or link on the homepage, but only a 'Members' link. This is not particularly clear for new users. It would be preferable to have a link directly from the project page to the login/registration page.

Once at the Membership page (<http://members.Agrecovery.co.nz/MemberLogin.aspx>) new users can join Agrecovery and existing users can register for an event. For a new user, this process may be slightly confusing, as there is nothing to indicate that a user interested in events only is in the right place.

The membership process requires the following information:

- First and last name and position.
- Company and property name.
- Phone, mobile and fax numbers/
- Email address:
- Physical address and postal address.
- Tanker number and AgriBase number:
- Property type (e.g. arable, livestock) from a list
- Area of Interest (e.g. chemicals, drums) from a list. Events are not an option, but there is an 'other' category.

Users then select a password, agree to standard terms and conditions, and are sent a confirmation email and physical information via post. This process is not onerous and does not ask for any unnecessary information.



Once successfully logged in, members are taken to a 'My Agrecovery' page (<http://members.Agrecovery.co.nz/MyAgrecovery.aspx>) as shown in Figure 21 below:

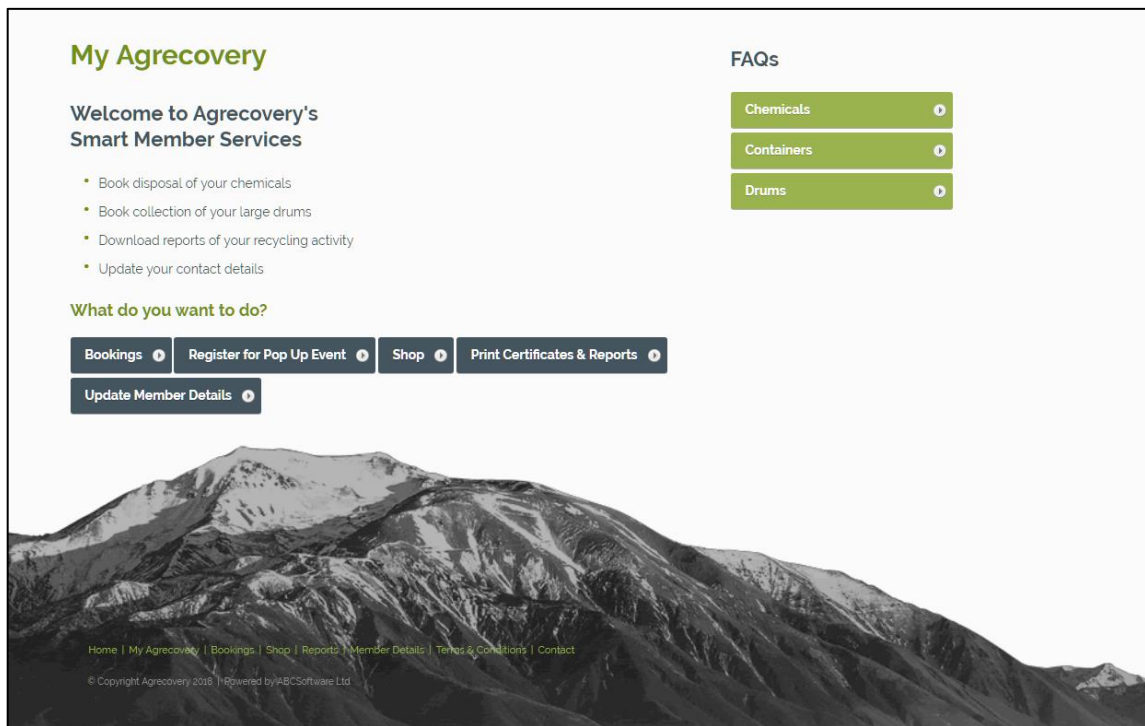


Figure 21: My Agrecovery page (<http://members.agrecovery.co.nz/MyAgrecovery.aspx>)

Once at this page, it is fairly clear that participants need to click the 'Register for Pop Up Event' button, which takes the user to a dedicated event registration page (<http://members.Agrecovery.co.nz/RegisterPopupEvent.aspx>).

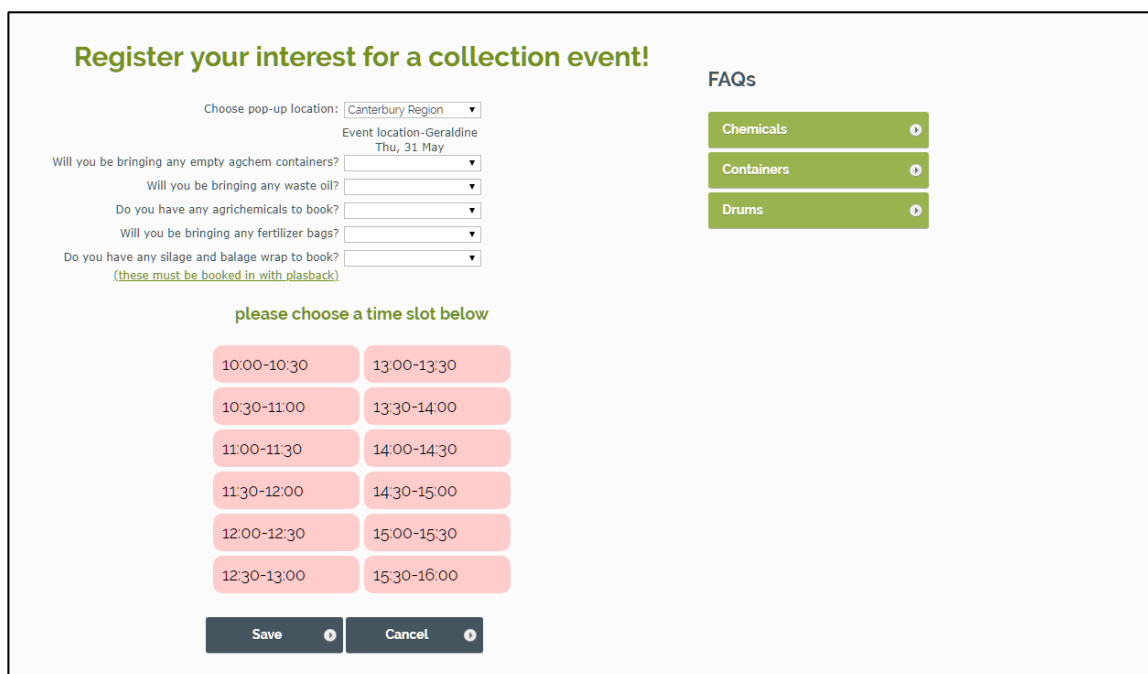
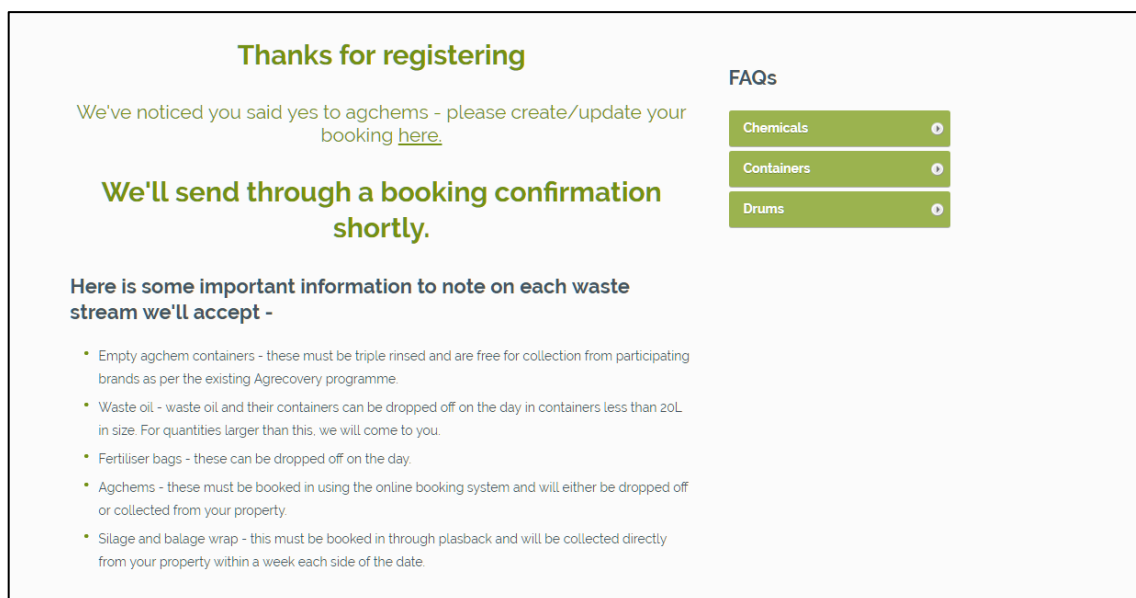


Figure 22: Event Registration page (<http://members.agrecovery.co.nz/RegisterPopupEvent.aspx>)

The registration page asks the following questions:

- Choose pop-up location. This is automatically populated, presumably based on the member's physical address from registration details.
- Will you be bringing any empty agchem containers?
- Will you be bringing any waste oil?
- Do you have any agrichemicals to book?
- Will you be bringing any fertilizer bags?
- Do you have any silage and baleage wrap to book (these must be booked in with PlasBack)?

Users also need to select a time slot at the event, with unavailable slots being greyed out. Once the registration has been saved, the user is taken to a Confirmation page (<http://members.Agrecovery.co.nz/ChemicalBooking.aspx>) as shown in Figure 23 below:



**Figure 23: Confirmation page (<http://members.agrecovery.co.nz/ChemicalBooking.aspx>)**

This page includes some useful hints and tips for preparing for the event, as well as providing a link for registering agrichemicals. It would be useful here to keep this page open and ensure that the user completes the agrichemical registration process. An email reminder may be needed if this does not happen. Likewise, it would be useful to provide a link here to Plasback and a reminder to users that, if they have indicated an interest on soft plastics, they will need to register with Plasback.

Where a user has expressed an interest in agrichemicals, they must then register the chemicals they have through the usual Agrecovery process (<http://members.Agrecovery.co.nz/ChemicalBooking.aspx>).

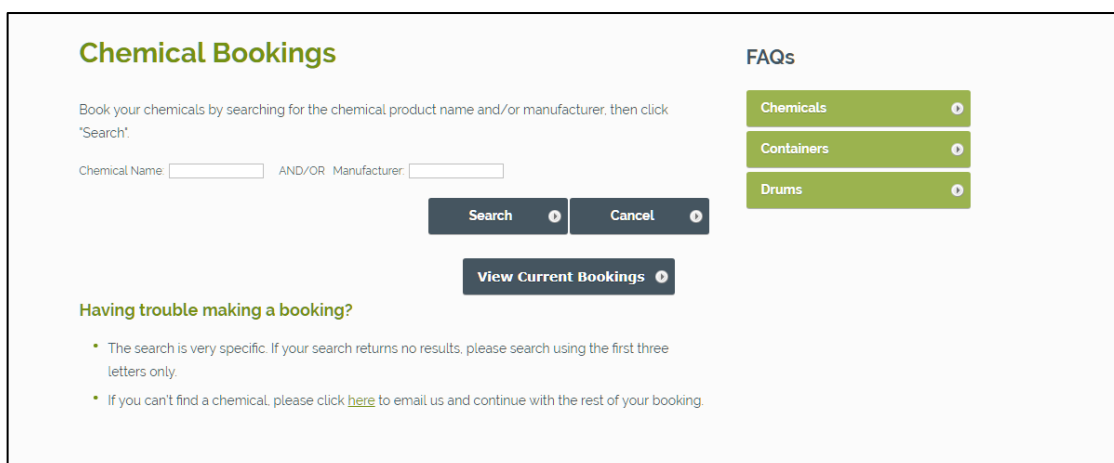


Figure 24: Chemical Bookings page (<http://members.agrecovery.co.nz/ChemicalBooking.aspx>).

The chemical bookings process is detailed and requires individual chemicals to be logged. This, however, is an existing aspect of Agrecovery's service and is under review already with a view to making the process more user-friendly.

The final stage of online registration for users seeking to dispose of soft plastics, is to purchase liners and arrange collections through Plasback. In all likelihood, users will need to Google Plasback's web address at this point, unless they have previously noted the address.

A user arriving at Plasback's home page (<http://plasback.co.nz>), as shown in Figure 25 will see a link for booking a collection on the top menu bar or via the image near the centre of the page. This is the obvious link to click for a user unfamiliar with Plasback's services.

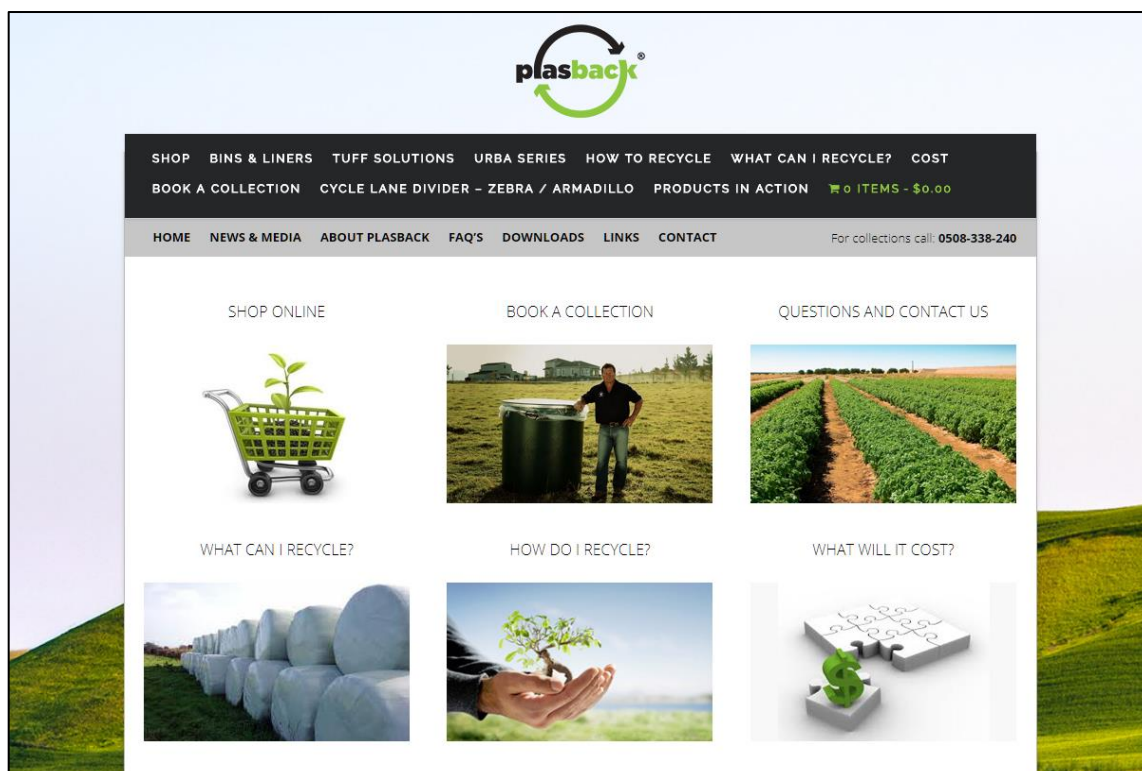
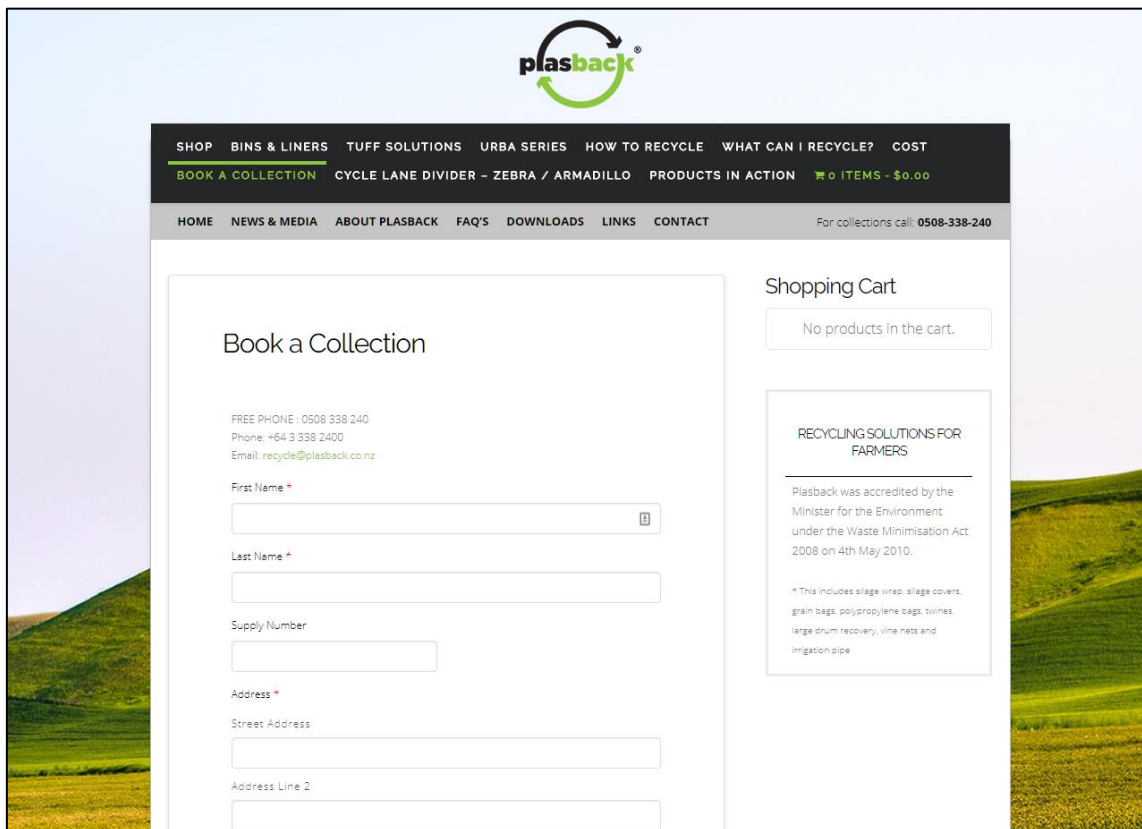


Figure 25: Plasback home page (<http://plasback.co.nz/>)



Doing so will then take users to a page (<http://plasback.co.nz/collections/>), as shown in Figure 26 for booking in a physical collection.



The screenshot shows the Plasback website's 'Book a Collection' page. The page has a dark navigation bar at the top with the Plasback logo and menu items: SHOP, BINS & LINERS, TUFF SOLUTIONS, URBA SERIES, HOW TO RECYCLE, WHAT CAN I RECYCLE?, COST. Below this is a secondary navigation bar with 'BOOK A COLLECTION' highlighted, along with 'CYCLE LANE DIVIDER - ZEBRA / ARMADILLO', 'PRODUCTS IN ACTION', and '0 ITEMS - \$0.00'. A third navigation bar contains 'HOME', 'NEWS & MEDIA', 'ABOUT PLASBACK', 'FAQ'S', 'DOWNLOADS', 'LINKS', 'CONTACT', and 'For collections call: 0508-338-240'. The main content area is split into two columns. The left column is titled 'Book a Collection' and contains contact information (FREE PHONE: 0508 338 240, Phone: +64 3 338 2400, Email: recycle@plasback.co.nz) and a form with fields for 'First Name \*', 'Last Name \*', 'Supply Number', 'Address \*', 'Street Address', and 'Address Line 2'. The right column is titled 'Shopping Cart' and shows 'No products in the cart.' Below this is a section titled 'RECYCLING SOLUTIONS FOR FARMERS' which states 'Plasback was accredited by the Minister for the Environment under the Waste Minimisation Act 2008 on 4th May 2010.' and lists services: silage wrap, silage covers, grain bags, polypropylene bags, twines, large drum recovery, vine nets and irrigation pipe.

Figure 26: Collections booking page (<http://plasback.co.nz/collections/>)

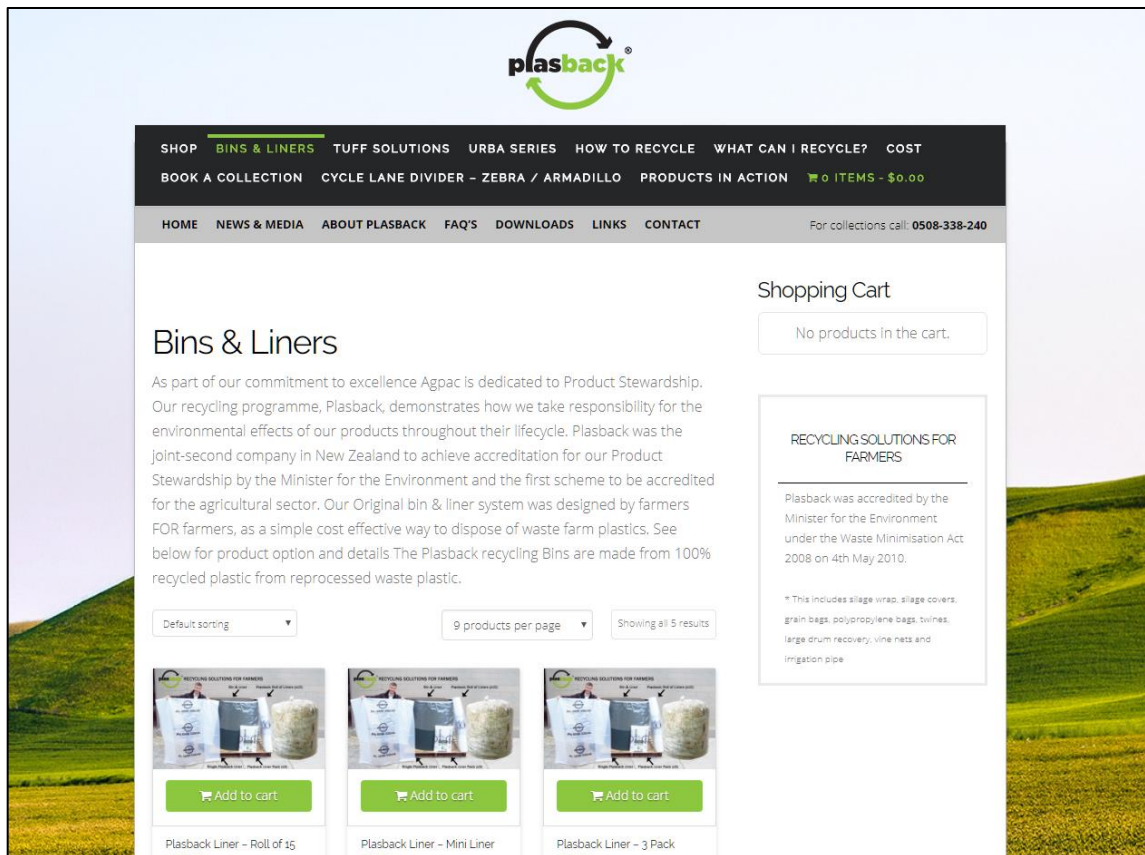
This page requests the following information:

- First and last name.
- Supply number.
- Street address and billing details.
- Phone and mobile numbers.
- Large liners quantity, contents (LDPE or PP), colour (to determine if collection prepaid) and whether more liners are required.
- Mini liners quantity, contents (LDPE or PP), colour (to determine if collection prepaid) and whether more liners are required.
- Other streams quantity - 100/200 Litre Ecolab Drums, Fibre Fresh Liners

There are a number of issues here for users arriving as part of an event registration process:

- To access Plasback collections, users must pre-purchase liners. This is not explained on this page, and users are likely to become confused in booking a collection if they are not familiar with the model.
- There is no link to a page to pre-purchase liners on the page.
- There is no pricing information on the page for liners or collection charges.

If users deduce that they must first purchase liners before booking a collection, they will need to click the 'Bins and Liners' link (<http://plasback.co.nz/product-category/bins-liners/>) at the top of any page on the Plasback website.



**Figure 27: Bins and Liners page (<http://plasback.co.nz/product-category/bins-liners/>)**

Once at the Bins and Liners page, as shown in Figure 27, the user will need to select the products they require, add them to a Shopping Cart and pay for them online. Users will need to enter billing details, address and credit card details as part of this process.

They will then need to return to, or proceed to, the Collections Booking page and request a collection, entering address details once again. As none of this information is ported over from the Agrecovery site, it is likely a user would experience some frustration at having to repeat this process again. Furthermore, there is nothing on the Plasback site mentioning the events, so users may be somewhat concerned as to whether they are registering correctly.

Overall, it seems unlikely that the average user, especially one that is unfamiliar with Plasback, would persevere through the entire registration process. Obviously this process has not been optimised given that the services is just a pilot, but its awkwardness may have discouraged interested parties in registering for events. Agrecovery would, if the service was to be more widely deployed, need to reconsider and redesign the registration process from a user-centric perspective.

## 6.5 MATAMATA PILOT

The Matamata pilot event took place on May 25, 2018 (from 10am to 4pm) at the Matamata Transfer Station (owned by Matamata Piako District Council (MPDC) and operated by Smart Environmental) about five minutes out of Matamata.

The weather for much of the day was very poor, with torrential rain, and it was expected that this might negatively influence attendance. In fact, there was no identifiable effect on attendance as a result of the weather. In addition, a discussion event around the Mycobacterium Bovis (M. Bovis) outbreak was held nearby at 11am. This was also expected to result in a number of farmers – for whom this is a serious concern – withdrawing from the pilot to attend the discussion. Again, no such impact was observed. Out of 47 registrations, 45 turned up as expected.

A coffee cart was provided and paid for by Agrecovery for the entire day. Attendees were also provided a plastic reusable coffee cup by Agrecovery. An invitation to stop after the event for a free cup of coffee assisted in securing feedback from attendees, and was a welcomed opportunity to discuss the event and engage with farmers on farm waste issues.



**Figure 28: Matamata Pilot Event set-up**

The site was set up to allow customers to drop off chemicals and oil containers first, followed by empty drums and containers. Agrecovery had determined the set-up in advance and there were no apparent issues with how this ran on the day. Timed arrival slots worked well and the flow of customers was steady, with only a few periods in which no customers arrived. One customer turned up 20 minutes before the event commenced and was accommodated, but almost all the others turned up within their timeslot. It is likely that the overall length of the event could have been shortened, but organic growth may mean, in the future, that events are better attended and the length about right. No issues with offloading waste were reported, nor were there any reported health and safety issues.

The set-up and process for agrichemicals, which was to the left in the image above under cover, was noted as offering a tarpaulin with large raised edges to avoid any spillages from contaminating the surrounding area. This was considered to be a good feature, particularly where the transfer station is not owned by the company handling agrichemicals.



This approach to safety was echoed by the robust health and safety briefing undertaken prior to the event by Chemwaste staff and the provision of at least three spill kits on-site. Envirowaste had prepared a thorough health and safety plan in advance of the day, and this was discussed in detail with those present before the event began.



**Figure 30: Agrichemicals set-up showing edged tarpaulin**

The new Agrecovery truck for processing plastics was set-up for processing and operated more or less continually throughout the day. As well as being an impressive looking unit, it is understood to have performed well on the day and minimised the time required to clear the site at the end of the day.



**Figure 29: Agrecovery plastics truck feeder conveyer**

After dropping off waste, attendees were invited to enjoy a free cup of coffee, at which point they were asked a series of questions about their views of the day and on the concept of a one-stop shop for waste. Feedback interviews were undertaken with 26 attendees, and the results were as follows:

- 17 out of 26 interviewed attendees (65%) were from dairy farms. Other types of farms represented included beef (4), sheep (2), goat (2) and lifestyle farms (2).
- 23 out of 26 interviewed attendees (88%) were the farm owner. The remainder (3) were sharemilkers.
- The average travel distance for attendees was slightly under 25 minutes. The maximum travel time was two hours.
- 16 out of 26 interviewed attendees (62%) heard about the event based on an email from Agrecovery sent to its membership database. Other ways attendees heard about the event included the local newspaper (3), Facebook (2) and a flyer from a local farm store (2).
- 16 out of 26 interviewed attendees (62%) registered for the event by phone. The remainder used the website. 10 attendees (38%) reported some difficulties with the registration process, particularly around registering expired agrichemicals.
- Most attendees said they participated in the event based on a commitment to recycling and a desire to clear out stored waste. A number noted that they had been waiting for some time for such an opportunity.
- Almost all attendees considered communications around the event to be very good, and they particularly appreciated the event reminder texts/emails from Agrecovery. Individual attendees suggested advertising on the local radio station, or more print advertising generally.
- 12 out of 26 interviewed attendees (46%) said they had brought in expired agrichemicals.
- 21 out of 26 interviewed attendees (81%) said they had brought in empty agrichemical drums or containers.
- 15 out of 26 interviewed attendees (58%) said they had brought in used oil containers.
- 12 out of 26 interviewed attendees (46%) said they had brought in used fertiliser bags.
- 3 out of 26 interviewed attendees (12%) said they had arranged a Plasback collection in conjunction with the pilot event.
- 19 out of 26 interviewed attendees (73%) said they would like to be able to drop off soft plastics at an event to avoid a collection fee. One attendee said they prefer an on-farm collection. One attendee said they prefer to simply landfill plastics. The remainder did not use soft plastics extensively. Several attendees noted they currently pay a fee to drop off plastics at the site for Plasback's local contractor. Three attendees noted that they considered Plasback's fees to be too high.
- Every interviewed attendee liked the idea of a 'one-stop shop' approach to rural recycling. Most attendees were strong in their support for the idea and stressed the importance of making the events regular.
- A number of attendees suggested additional wastes for inclusion at future events, including: scrap metal (suggested by 3 attendees), rubberware (3), paint (3), syringes (2), netting (2), wool sacks, meal bags, tyres and antifreeze.
- Other general feedback received from attendees included:
  - Events should be held at least every 12 months, and preferably every 6 months.
  - The time of year in which the pilot was held (May) is ideal for an event. November or December for a second event would be preferable.

- Dates of events should be communicated well in advance to allow farmers to adequately prepare.
- Having a timeslot was well-received by attendees as they understood this would limit their waiting time.
- A number of attendees noted that the event was particularly well run and efficient.
- A number of attendees noted that they would assist neighbours to participate if the events were regular, and offered to participate in consolidation of wastes among neighbours.

Following the event, Agrecovery confirmed receiving the following waste volumes:

- 1,136 kg of unwanted agrichemicals (20 registered participants).
- 2,342 kg of unwanted oil (25 registered participants).
- 1,030 kg of fertiliser bags (20 registered participants).
- 2,100 kg of agrichemical containers and drums (39 registered participants).
- In addition, an estimated total of 12 on-farm collections (2,000 kg) of silage wrap took place through Plasback.
- In total, 45 registered participants contributed approximately 8,600 kg of waste products for diversion from potentially harmful disposal practices.

Agrecovery advised that there were no major instances of contamination with agrichemical containers and drums, however, a small number of containers and drums were rejected (approximately 12 in total).

In addition, Agrecovery advised the following:

- Initially, discussions with the council were relatively stagnant with internal changes at MPDC making it difficult to identify who to liaise with. However, once George Ridley, Solid Waste Project & Contract Advisor, was identified as the correct point of contact, planning was straightforward with good support.
- Dealing with Smart Environmental, the site operator, was straightforward. They had direction from MPDC to support the event and just needed to be satisfied that an adequate health and safety and operational plan was developed and that these were followed alongside any of their relevant procedures.
- Envirowaste developed the health and safety and operational plans for the events. These were ready three weeks prior to the event dates and shared with relevant stakeholders.
- Plasback were engaged to undertake on-farm collections of silage and bailleage wrap through their regional contractor – Slattery's.
- No major issues with contamination of product outside of one individual with unacceptable levels of organic contamination of fertiliser bags.
- Free-riding brands for containers and drums were a problem – particularly Ecolab.
- Of the 47 registrations, only two members did not turn up.
- The wet weather and M.bovis meeting at Karapiro may have reduced numbers. Some members requested earlier spots or turned up at different times to make the M.bovis meeting.

- The shredder unit was unable to process the large drums quick-enough so approximately 60 needed to be stored at the transfer station post-event.
- Driver hours were problematic for Chemwaste who were operating the agrichemical and oil collections. They travelled from Auckland.

As partners in the event, Matamata-Piako District Council provided the following comments:

- There were two small safety issues noticed. The first was the need to include the location of the coffee cart on the site plan. The second was to locate the coffee cart next to the kiosk or in a position to avoid the power extension lead been exposed or at least protected. These issues were considered minor, and simply as references for future events.
- In addition, MPDC consulted with Smart Environmental staff who operate the Matamata Transfer Station on their behalf. The only comment was that there were some drums left onsite.
- Overall, MPDC were happy and keen to continue with the recovery initiative and to take it to the next phase.

## 6.6 GERALDINE PILOT

The Geraldine pilot event took place on May 31, 2018 (from 10am – 4pm) at the Geraldine Transfer Station (owned by Timaru District Council (TDC) and operated by Waste Management) about 10 minutes out of Geraldine.

The day of the event was particularly cold, but clear and weather was not likely to have been a factor in attendance. In order to assist with attendee engagement, a coffee cart was provided and paid for by TDC.

Unfortunately, the cart ordered was not able to attend, and an alternative was sourced at short notice. This did not arrive until approximately an hour and a half after the event commenced. The absence of the coffee cart made securing feedback for the event much more difficult, and overall interview numbers were considerably lower than the Matamata event. Where, for future events, some level of engagement with farmers is desired, the provision of a free coffee will need to be a part of the overall event strategy, as persuading farmers to stop to chat without such an offer was particularly challenging.

The event was set-up and run in much the same way as the Matamata pilot, but with the order of drop-offs altered. Containers and drums were to be dropped off first, followed by chemicals, then oil containers and finally fertiliser bags in a walled off area. Access was slightly more difficult at the event based on the location of existing skip bins and farmers stopping to drop off fertiliser bags would block anyone behind them seeking to exit the site.





**Figure 31: Geraldine pilot event set-up. Farmers moved from left to right.**

The Agrecovery truck set-up was much the same as in Matamata, but using Envirowaste’s South Island-based unit. The shredding unit on this truck failed part-way through the day and required repair. It is understood that this particular unit has had some mechanical challenges and may need further attention. The result of this break-down was a large accumulation of drums awaiting processing.



**Figure 32: Agrecovery plastics processing set-up**

The agrichemicals set-up was, again, similar to that in Matamata, but lacked the raised-edge tarpaulin used at the first event. Chemwaste had two trucks present in Geraldine for chemicals, apparently allowing for more efficient processing of the chemicals on site.







**Figure 34: Agrichemicals collection set-up**

A large oil receptacle was set up in Geraldine and oil containers were emptied into this as received. This service proved to be surprisingly popular at both events, and the volume of oil collected in Geraldine required that a truck from Fulton Hogan arrive partway through the event to empty the receptacle.



**Figure 33: Oil receptacle being emptied by Fulton Hogan truck.**

Partway through the event, one attendee arrived with several Plasback liners on the back of a trailer. The attendee advised that they were told by Plasback's local contractor that they could drop plastics off at the event. At least two other attendees reported the same. It was initially assumed that this had been authorised by Agrecovery, but it was later confirmed that neither Plasback nor Agrecovery were aware that this would be happening. Later in the day the Plasback contractor, as they had arranged directly with a number of customers, loaded the dropped off plastic and subsequently departed. It is not known if farmers were charged a fee for dropping off the plastics or whether this was done without charge.





**Figure 35: Soft plastics liners being loaded onto Plasback contractor truck**

This arrangement was surprising as Plasback had, during preparation for the event, declined to trial a soft plastics drop-off for a number of reasons, including that they believed farmers would not be interested in such a service.

There had been some concern on the part of the Project team that the logistics for loading and unloading large liners of soft plastics might be challenging, and Plasback's presence at the event provided a useful opportunity to test this. In fact, the process ran smoothly and the positive feedback provided by attendees at both events demonstrated a strong desire to see such a service offered in the future.

As in Matamata, attendees were asked to provide feedback as they left the event. The lack of a coffee cart for a significant proportion of the day limited the number of attendees willing to stop. Feedback interviews were undertaken with 15 attendees, and the results of the feedback are as follows:

- 5 out of 15 interviewed attendees (33%) were from dairy farms. 5 out of 15 interviewed attendees (33%) were from beef and sheep farms. Other types of farms represented included arable (1), deer (1), vineyard (1) and lifestyle farms (2).
- 12 out of 15 interviewed attendees (80%) were the farm owner. The remainder (3) were farm workers.
- The average travel distance for attendees was slightly under 30 minutes. The maximum travel time was two and a half hours.
- 6 out of 15 interviewed attendees (40%) heard about the event based on an email from Agrecovery sent to its membership database. 6 out of 15 interviewed attendees (40%) heard about the event via the Geraldine News local paper. Other ways attendees heard about the event included the Timaru District Council (1), word of mouth (1) and from the Agrecovery website (1).
- 8 out of 15 interviewed attendees (53%) registered for the event via the Agrecovery website. The remainder used the phone or were unsure. 6 attendees (40%) reported some difficulties with the registration process, particularly around registering expired agrichemicals.

- Most attendees said they participated in the event based on an opportunity being presented to deal with stored wastes. Only 4 out of 15 attendees (27%) said they were specifically motivated by environmental concerns.
- Almost all attendees considered communications around the event to be very good.
- 9 out of 15 interviewed attendees (60%) said they had brought in expired agrichemicals.
- 10 out of 15 interviewed attendees (67%) said they had brought in empty agrichemical drums or containers.
- 7 out of 15 interviewed attendees (47%) said they had brought in used oil containers.
- 5 out of 15 interviewed attendees (33%) said they had brought in used fertiliser bags.
- None of the 15 interviewed attendees said they had arranged a Plasback collection in conjunction with the pilot event.
- 10 out of 15 interviewed attendees (67%) said they would like to be able to drop off soft plastics at an event to avoid a collection fee. One attendee said they prefer an on-farm collection because of the volumes they use. One attendee said they preferred to support Canterbury Wastebusters' service. The remainder said they did not use soft plastics. Four attendees (27%) noted that they considered Plasback's fees to be too high.
- Every interviewed attendee liked the idea of a 'one-stop shop' approach to rural recycling. Most attendees were strong in their support for the idea and stressed the importance of making the events regular.
- A number of attendees suggested additional wastes for inclusion at future events, including: bale string/twine (suggested by 3 attendees), netting (2), plastic grain tubes, meal bags, treated timber and spray cans.
- Other general feedback received from attendees included:
  - Events should be held at least every 12 months, and preferably every 6 months.
  - The time of year in which the pilot was held (May) is ideal for an event.
  - Having a timeslot was well-received by attendees as they understood this would limit their waiting time.
  - A number of attendees noted that the event was particularly well run and efficient.

Following the event, Agrecovery confirmed the following volumes:

- 1,646 kg of unwanted agrichemicals (22 registered participants).
- 3,000 kg of unwanted oil (19 registered participants).
- 1,000 kg of fertiliser bags (18 registered participants).
- 2,900 kg of agrichemical containers and drums (33 registered participants).
- In addition, an estimated total of 8 on-farm collections (2,000 kg) of silage wrap took place through Plasback.
- In total, 42 registered participants contributed approximately 10,500 kg of waste products for diversion from potentially harmful disposal practices.

In addition, Agrecovery advised the following:

- There were no issues associated with planning for this event. In large part, this was due to ongoing commitment from TDC to ensure the events were successful. Like Matamata, Envirowaste prepared a health and safety and operational plan for the event.
- Plasback arranged to have collections undertaken on-farm through McCarthy Contracting. There was a slight issue on the day with McCarthy's arranging drop-offs at the event without either Plasback or Agrecovery knowing. The McCarthy vehicle blocked access to the Fertiliser bag drop-off; however, this was addressed on the day with the vehicle moving.
- No major issues of contamination outside of fertiliser bags, which continued to be problematic.
- Volumes of oil far exceeded expectations with over 3,000 litres being dropped off. Volumes of agrichemicals also exceeded expectations – double the volume that was formally booked in. In large part, this was due to two members bringing in vast quantities of agrichemicals.
- Only one registered booking did not turn up.
- The shredder unit had a blockage issues mid-way through the afternoon caused by processing a larger drum. The blockage was addressed and containers processed. However, like Matamata, drums needed to be stockpiled at a local fixed Agrecovery site in Temuka. Agrecovery engaged a third party contractor to remove the drums from the site as Envirowaste did not have capacity and did not take the initiative to solve this issue.

As partners in the event, Timaru District Council provided the following comments:

- The responses from most of the farmers spoken to on that day were very positive, with many saying arranging a twice-yearly day would be most beneficial. There were also several comments that having it at the end of May was very good timing, even for those involved with 'Gypsy Day', when sharemilkers move from farm to farm.
- Although the site plan showed a nice tidy 'U-shaped' arrangement, many attendees were clearly unsure of where to go and often turned right instead of going straight ahead. Could have some directional arrows at the entrance. Agrecovery staff were on hand to direct, but often needed to be elsewhere.
- The food truck was unable to attend due to frozen pipes but an alternative coffee cart was available at short notice to attend. This was a popular area for talks, but suggest it is placed on the left towards the exit next time to avoid interchange with exiting traffic. Food would have been great to encourage farmers to linger and chat a bit.
- In terms of agrichemicals and containers:
  - Some containers for recycling clearly had not been rinsed very well, and there were very strong odours from some containers.
  - 70 x 200L blue drums containing residual water/chemicals caused some spillages.
  - It was time consuming to remove lids from chemical containers due to be shredded. Many have two lids, and at least one had to be removed prior to shredding.
  - Insufficient spill kit material was present. One farmer turned up with 6 x 100 l (approx.) containers full of waste oil, which had spilled all over his trailer and onto the tarmac. Although a bag of rags was available to mop up, there was not enough kitty litter to cover the areas affected.

- Farmers were very interested in the shredder – which ended the day with 1,500kg of shredded chemical containers plus 70 x 200L blue drums in storage for future processing.
  - At the end of the day, when Chemwaste had left the site, Envirowaste, Agrecovery, TDC and Waste Management staff remained to deal with the 200L drums, and all worked together to find alternative storage for the drums. This issue arose as the Envirowaste shredder seemed to struggle a bit and jammed several times during the day. Council and Waste Management staff were unwilling to have such a large number of chemical containers held onsite, as the transfer station would be open to the public the following day. Earthworks Aoraki assisted by providing a bulldozer, truck and staff member to transport the drums to Progressive in Temuka, which is a drop off point for Agrecovery.
  - Fertiliser bags were thrown loose on top of returned chemicals. This may not be the best methodology.
- Overall, TDC were happy with the field day and the event and would be keen to do more of both.

## 6.7 CONCLUSIONS

Prior to providing an overall evaluation of the events for the perspective of the Project, it is worth noting Agrecovery's view as the organisation that would ultimately be tasked with delivering one-stop shop rural waste events. Agrecovery noted, in regards to the pilots:

- Members found the existing online registration process cumbersome. This was especially evident for those with agrichemicals to book in, as it required two registrations processes. It also made it difficult for Agrecovery to match member bookings i.e. event and chemical bookings. It is clear that for future events, the registration process needs to be streamlined.
- The majority of members registered for the event by way of phone. This is symptomatic of a less than efficient online portal and a general desire on behalf of members to be 'talked' through the registrations over the phone. Even if an efficient registration portal is developed, first time users of the process may need administrative support.
- The use of text messages was a great way of generating interest in the event. Agrecovery sent a message to all members in the catchment stating 'interested in a recycling event in your area? If so, respond yes and we will contact you to get registered'. This initiative saw the biggest increase in registrations in both areas.
- While the minimum number of registrations were met, the overall numbers of registrations were slightly disappointing. Some contributing factors could be:
  - The time of year the events were held – having an event close to 'Gypsy day' should be avoided.
  - Competing priorities – M.bovis meeting in Karapiro may have reduced numbers at Matamata.
  - Existing services in both areas are quite good, with both areas having relatively good access to existing Plasback and Agrecovery services.
  - The events are new and potentially cater to only 'early adopters'.

- Marketing efforts were well received but more engagement with potential event ‘partners’ is needed. This could include formalising relationships with stakeholder organisations to deliver the events and to ‘co-host’.
- The development of health and safety and operational plans is critical and development should reside with Agrecovery to give flexibility over contracting partners.
- Having a strong Agrecovery presence at the events is absolutely necessary to support members through the process and ensure the event runs smoothly and to act as the key point of contact. Relying on contracted parties to undertake this solely is not advisable. Agrecovery needs to take ownership of the delivery of these events.
- The volumes of waste oil were surprising. Agrecovery was able to free drop-off through its partners but this would not be sustainable in future. It would need to be formalised through a product stewardship programme.
- Fertiliser bags often had unacceptable levels of organic contamination. As these are not currently incorporated in a formalised programme, raising awareness of the acceptance criteria was difficult. Farmers often included other types of woven polypropylene bags such as those used for seed and feed. This will need to be addressed for future events.
- Agrichemical volumes were far higher than anticipated and budgeted for. On several occasions, farmers would turn up to dispose of containers and return with agrichemicals or encourage neighbours to do so. This was especially the case for Geraldine where we doubled the budgeted disposal figures. This needs to be managed better at future events.
- Containers are straightforward given Agrecovery’s experience; however, drums continue to be problematic given their bulky nature.
- In the view of Agrecovery, it is clear that for these events to rolled out further, new mobile infrastructure will be required. The most logical solution would be a mobile baler given its flexibility and reliability. They can address multiple waste streams on the day.
- Future events need to ensure there is processing window post-event to ensure that product dropped off is processed and dispatched for recycling. Undertaking drop-off and processing within a single day is ambitious at best.
- Overall, Agrecovery was pleased with the success of the events and sees real potential on the basis of further refinement and subsequent trials. It is Agrecovery’s intention to continue to progress these trials under a new application to the Waste Minimisation Fund.

From the perspective of the Project, the pilot events were a resounding success. Customer feedback clearly demonstrated that a ‘one-stop shop’ that incorporates as many waste streams as possible, keeping costs to a minimum, is a model that is likely to be embraced by farmers. Many of the questions that lingered in developing the model, particularly around whether farmers are prepared to travel and transport wastes, have been positively answered. Farmers have also endorsed the mix of wastes to be included – with a particular emphasis on the inclusion of soft plastics – and on the importance of events being regular and at predictable times of year.

There were, undeniably, small issues with how the pilots were undertaken. Marketing through industry stakeholders and key community connectors was not strong, and would likely have influenced numbers of attendees. The information and promotion undertaken to ‘cast the vision’ to farmers and instruct them how to prepare for the day was minimal. The registration process was unwieldy and would have increased the administrative burden on Agrecovery staff, and potentially resulted in some abandoned bookings.

There are also obvious improvements to be made in laying out and undertaking events on the day to ensure smooth traffic flow and efficient management of different waste streams.

However, these are the kinds of missteps and lost opportunities that pilot events are designed to unearth, and the overall positivity of the pilot events should not be lost in these factors. The endorsement of the events by participants, by the overall provider – Agrecovery – and by both partnering territorial authorities is encouraging. Following minimal publicity, several other territorial authorities have made contact to register their interest in partnering on future events.

Ultimately, Agrecovery should be congratulated for conducting two very successful events that demonstrate the desirability of a new way of connecting with farmers to manage on-farm waste. Despite the complete absence of a regulatory or legislative imperative, farmers drove as much as two and a half hours to dispose of their waste responsibly. The net result was nearly 20 tonnes of waste that was collected and disposed of safely. In all likelihood, this waste would have otherwise been burned, buried or stored indefinitely.





## 7. PROJECT LEARNINGS AND CONCLUSIONS

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### 7.1 KEY LEARNINGS

It must be acknowledged that the Project has not proceeded in line with the initial plan that was developed in 2015. This is due, in large part, to the inherent difficulties in providing the types of services that are being sought for New Zealand farms. These challenges have, however, stimulated considerable investigation, problem solving and exploration of the issues related to the alternatives to burning, burying and bulk storage of waste on farms. This work has created a body of knowledge and understanding that has considerably advanced the discussion on how to address these issues, and how the rural waste industry should adapt to move forward. The key learnings from the work done are outlined below:

- *Farmers are already motivated to protect the land.*

Both the research done in the early phases of the Project, plus discussions with focus groups and individual farmers, dispel any notion that farmers, on the whole, do not care about the environment. These interactions strongly suggest that farmers are, in fact, deeply concerned about the impact of burning, burial and bulk storage of waste on their land. They are concerned about the environment, but they are particularly concerned about the fact that these issues affect *their land*. This is a legacy concern; farmers are aware that they will one day hand their land on to another, which may well be a family member, and they indicate a strong desire to pass the land on in a better state than they received it. Anecdotal evidence suggests that farmers are very willing to address on-farm waste issues, provided the solutions meet their needs.

- *Service uptake depends on flexibility in cost and convenience.*

The question is often asked: why don't more farmers use the services that are currently available to them in terms of rural waste? The answer appears to be threefold:

- Some are not aware of the services provided.
- Some feel the services are prohibitively expensive.
- Some feel the services are not reliable or conveniently located.

Based on the learnings from the Project, and farmer feedback, it appears likely that the second and third points are more prominent than the first. Some farmers are willing to pay considerably for a service that is easy and understands how they do business, whereas others are willing to pay little, but will drop waste off at a reasonably convenient location. Services to farmers need to be flexible and allow farmers to select whether price or convenience is more important to them. A 'one size fits all' approach to service provision may be easier for the service provider, but is unlikely to achieve high levels of customer uptake.

- *Waste should be dealt with all at once.*

Farmers are typically busy and have many things to worry about on the farm. Communicating and coordinating with a range of different organisations in order to deal with waste is unrealistic for many. Encouraging farmers to handle waste safely and responsibly, particularly where they are having to pay considerable sums to do so, means that accessing service should be as simple as possible.



Dealing with a different service provider for each waste stream is less than ideal and asks more of farmers than they are likely prepared to give. High service take-up will be achieved by a service provider handling as many of the key waste streams as possible.

- *Solutions need to be designed around farmers.*

Where there is no regulatory imperative for farmers to use waste services, nor a groundswell of market demand, it is quite understandable that services would appear that focus primarily on the needs of those selling products into the agricultural space. Whereas some product stewardship schemes, whether official or certified, may be instituted genuinely to meet farmer needs and protect the environment, others may be initiated simply to avoid government regulation or the threat of mandatory product stewardship. If the focus of such a programme is not on the needs of the end user, the service often fails to understand the realities of managing a commercial farm. This type of service can treat farmers as if they should 'be grateful for the service', rather than as fully-fledged customers deserving of service excellence. Building a service on such principles will tend to result in failure, and certainly struggle to achieve any level of farmer goodwill and loyalty.

Instead, any solutions that hope to achieve critical mass and broad uptake must be built around consultation and collaboration with farmers, and demonstrate a resonance with farmer needs. Doing so helps ensure a viable business model and economic sustainability. It is not suggested here that those that sponsor or create a service should not benefit or profit, including avoiding government intervention in market activities, but that such interests are also best served by putting the end user first. A service that genuinely respects its end users has greater prospects for longevity and growth.

- *Waste end-market sustainability is the key threat to service viability.*

Each of the solutions in this Project that was chosen to be piloted eventually stumbled because of issues around a market for recyclable wastes collected. Engaging customers and collecting waste from farms or at collection points is challenging, but achievable. Finding sustainable markets for wastes – particularly plastics – is currently the biggest issue hindering the achievement of the objectives of the Project.

The Agrecovery / Envirowaste Rural Waste Services solution developed under the Project was negatively affected by the apparent inability of Envirowaste's Christchurch Plant to handle agricultural LDPE plastic. It was indicated in 2016 that the plant may be able to receive such wastes from 'late 2016', but Envirowaste has recently advised that the plant will only be processing polypropylene for the time being, and others wastes will not be considered until at least 2019. This is unfortunate, as the ability to process such wastes in New Zealand and use the outputs to create new products for the New Zealand market, as Envirowaste is understood to be contemplating, is exactly the model that would best support agricultural waste services. Sending waste overseas has recently become all but untenable for most service providers, and the options for plastics in particular in New Zealand are very limited.

Without sustainable options, the short to mid-term options for service providers and their contractors is stockpiling or landfilling. The longer-term outcome is potentially service failure, as considerable revenue in service provision needs to come via recovered value from wastes collected. Any existing or potential service providers in the agricultural space are strongly cautioned against initiating any new services until they are confident a sustainable and economically viable outlet for any waste collected is secured.



- *Legislation is unlikely to be the primary solution to current farmer waste management issues.*

In progressing with the Project, it has been suggested that the issues of burning, burying or bulk storage on farms are best addressed by passing legislation or regulation to require farmers to behave differently. While there is strong potential for legislation or regulation to support market-led activities, or to step in where the market is unable or unwilling to function effectively, legislation or regulation is unlikely to lead the way in this space for a number of reasons:

- Existing rules around farm wastes, such as bans on burning plastics, do not appear to prevent such activity from occurring. Enforcement of such rules is difficult given the nature of farm locations.
- Farmer opposition to restrictive legislation is likely to be strong, and pursuing regulations around such activity may actually result in higher rates of non-compliance. This may bring an end to the forward momentum being experienced as farmers pursue better waste management from a positive disposition.
- The services that are currently in place are not universally affordable, accessible or reliable to such a degree that compulsory participation would be seen as fair or acceptable.

Territorial authorities have a key role to play in supporting the ‘one-stop shop’ model through partnering to promote and host events. This role, rather than a stronger compliance one, is likely to sit better with both councils and the rural community.

As services become more established and accessible, regulation or legislation may be required to address ‘stragglers’ that do not participate once services have a high level of participation.

- *Service participation is best ensured by partnering with industry organisations.*

Rather than government or councils enforcing better waste management practices on farms, industry organisations and supply organisations are likely to be the best vehicles for this. Considering the high levels of uptake for existing services in the horticultural sector, it is the combination of compliance organisations (such as NZ GAP) and normalised industry behaviour that have created very strong participation. Such encouragement does exist in other sectors, such as with Synlait in the dairy sector, but this is not widespread. Once universally accessible, affordable, sustainable and reliable services are in place in the rural sector, increasing effort should be put into encouraging those that buy from, or represent, farmers to encourage or require participation.

- *Effective service provision and farmer engagement is being modelled by community organisations.*

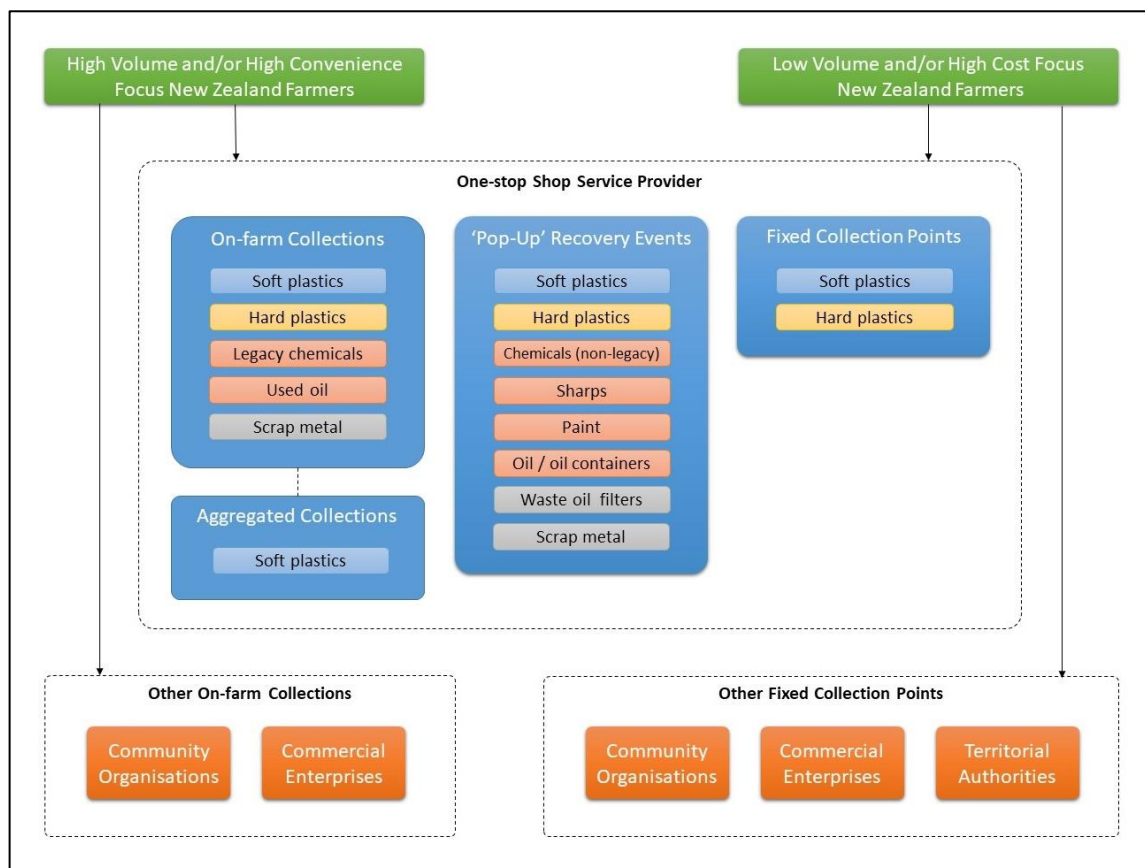
Providing services into the rural sector requires a community orientation. To deal with farms as purely commercial enterprises is short-sighted and likely to result in difficulties in the supplier/farmer relationship. Service providers need to partner with, and support, farmers in handling waste more effectively as a community good. Working on strategies to address issues and building personal relationships between service provider team members and farmers over time helps to reduce contamination and increase the normalisation of effective on-farm waste management.

Perhaps the best practitioners of this are community organisations such as Wastebusters Canterbury. Their services have been effectively designed around farmers, and they have taken the time to engage farmers successfully. In doing so, they see lower rates of contamination, higher levels of service uptake and a greater willingness in farmers to pay for services. Commercial service providers have much to learn from these small community organisations.

## 7.2 SOLUTION MODEL

A model for achieving the goals of the Project through effective service provision has evolved as the Project has progressed. At the centre of this model since the earliest stages of the Project has been the notion of a single service that can meet most, if not all, the waste needs of New Zealand farmers. While this was originally identified to be a service provided by Agrecovery and Envirowaste – as indeed it might be in time – the model has been further explored and articulated in Section 3 in terms that are not specific to any particular service provider. It should be noted, however, that given its support from the agrichemical industry and the reach of its product stewardship scheme, it would be very challenging - if not impossible - for any organisation other than Agrecovery to provide such a service in New Zealand in the near future.

As the model expressed in Figure 36 demonstrates, the ‘one-stop shop’ model, does not sit alone in addressing rural waste issues in New Zealand, however, and other on-farm collection services and fixed collection points are envisaged.



**Figure 36: Rural Waste Solutions Model**

In this overall model, the ‘one-stop shop’ service sits as the dominant solution to the problem of farmers burning, burying or bulk storing waste. Most of the priority waste streams under the Project would be dealt with through this service utilising a range of service options and a mix of drop-off and on-farm collection.

The role of community organisations and other organisations offering on-farm collection will be to provide a niche collection or to directly compete with the one-stop shop model through comparable services. Such competition would be both helpful and desirable in the marketplace, particularly when there are currently such low uptake rates in certain areas and with certain waste streams. There is no evidence to suggest the market could not bear more than one service provider in this space.

While competing based on price will be difficult, community organisations will likely be able to compete based on service levels and relationships. The growth in services such as that provided by Wastebusters Canterbury demonstrates both their effectiveness and appeal to local farmers. It is recommended that central government, local councils and industry organisations do as much as they can to support such organisations in service provision, particularly in the absence of a service provider offering a 'one-stop shop' model.

Existing commercial service providers will need to innovate in order to compete with a new service provider. This may involve new pathways for products or increasing the range of products collected, or may instead involve a niche focus, such as 'the largest commercial farms' or 'farms close to cities and towns'. Existing organisations offering product stewardship schemes may need to move to levy products for sale so that farmers essentially pay up-front for collection. This is not understood to be desirable to many manufacturers, and may also prove unpopular with customers, who may move to a cheaper product.

Beyond the fixed collection points offered under the 'one-stop shop' model, other service providers and councils may seek to offer additional, strategically located collection points. The wider this network of drop-off points for key farm wastes, the better, as it makes it easier for farmers to move waste off farms while undertaking other business on the way to, or in, a town centre. This approach 'shares' the cost of collection and logistics between the service provider who collects the waste, and the farm, by centralising waste at a particular location.

Ultimately, however, encouraging farmers to address waste on their farms is not the greatest challenge. Nor is it moving waste from remote farms to places where it can be handled, bundled, shredded, baled or otherwise prepared for transportation. The greatest challenge is what to do with waste once it is collected.

For hazardous wastes such as chemicals, this is difficult, as each container must be checked and each chemical carefully disposed of in accordance with New Zealand law and industry best practice. Yet it is not agrichemicals that poses the biggest barrier to moving farmers away from burning, burial and bulk storage of waste: *it is plastic*.

At a time when New Zealand is moving away from single use plastic, recognising what a difficult waste stream it is to deal with, it continues to cause issue in the agricultural sector. Until New Zealand has one or more domestic plants in place - and proven - for processing large volumes of agricultural hard and soft plastics sustainably, the goals of the Project will always be hard to achieve. There are certainly plants in New Zealand that can do the job, but only in limited quantities. Or only if the plastic is very clean. Or only sometimes. Or perhaps 'at some point in the future'.

Such uncertainty is an insufficient basis in which to build expensive, time-consuming and difficult 'front-end' mechanisms for collecting waste off farms. The 'back-end' must precede the 'front-end'. Only when these end-markets for plastic are in place, and are shown to be sustainable, can services confidently be launched into the marketplace.





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# Today's the day to sort out waste issue

**ALEXIA JOHNSTON**

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Farmers will today learn how to best give their waste the heave-ho in Geraldine.

A field day, to be hosted on Orari Estate at 2pm, will teach farmers how to participate in rural recycling schemes.

The event will focus on products requiring specific handling, including plastic agri-chemical containers, chemicals, silage and baleage wrap as well as waste oil and its containers.

It aims to be a "primer" for farmers before a Timaru district rural recycling day on May 31.

The district is one of two in the country taking part in a pilot programme to provide alternatives for agricultural waste and help shape future options.

Today's field day will include a speaker from Environment Canterbury who will give an overview on the regulatory environment that farmers now work in.

Rural recycling specialist Agrecovery will also give a demonstration of how to handle chemicals

and chemical containers.

Plasback has also planned a demo of its system for dealing with baleage and silage wrap and a speaker from the Timaru District Council (TDC) talk about compost supply, kerbside collection systems, business assistance for zero waste and options for treated timber.

TDC waste minimisation manager Ruth Clarke said the field day was a great opportunity for farmers to learn about available programmes for dealing with waste on their farms.

"As a rural district that prides itself on being ahead of the curve when it comes to recycling and waste minimisation, it's great that we can take part in this pilot project to help farmers recycle some difficult farm waste types," she said.

"The pilot will assess the response to offering a drop-off service, so it's important that people take this opportunity to participate."

She encourages farmers to come along to the field day to make the most of the advice that will be on offer.





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# Interest growing in farm waste disposal

ALEXIA JOHNSTON

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Safe disposal of farm waste is gaining attention across South Canterbury's rural sector.

About 40 farmers recently attended a field day at Orari Estate to learn about farm waste disposal.

The event, which took place on April 18, featured speakers from Environment Canterbury (ECan), AgRecovery, Plasback and Timaru District Council.

Participants were given an overview of the regulatory environment around waste management and how to participate in current rural recycling schemes.

They were also informed about possible future options.

The event was held ahead of rural recycling day, taking place in the Timaru district on May 31.

Timaru will host the event as part of its involvement with a pilot programme which aims to provide alternatives for agricultural waste and help shape future options.

Council waste minimisation manager Ruth Clarke said it was great to see so many farmers at the field day who were keen to find out how to improve their waste management performance.

"Many farmers are keen to improve environmental outcomes on their farms by adopting rural recycling practices," she said.



**Learning the way ...** A field day to help farmers recycle was recently hosted at Orari Estate. Among those who took part were (from left) Timaru District Council waste minimisation manager Ruth Clarke, Environment Canterbury land management adviser Helen Risk and Woodbury farmer Ange Blair.

PHOTO: SUPPLIED

"A key part of this project is not only outlining [and] highlighting the recycling options that farmers already have, but also to gauge the response to councils [which are] making these services more readily available."

She encouraged farmers to make sure they booked in to the recycling day on May 31 to extend their knowledge further.

Next month's event, which is expected to be a one-off at this stage, is part of the New Zealand Rural Waste Minimisation Project led by ECan with support from the Ministry for the

Environment.

ECan senior scientist, environmental quality and hazards Isla Hepburn said dealing with inorganic waste could be a challenge for farmers and growers.

"This project focuses on identifying alternatives to burning, burying and bulk storage on farms," she said.

"By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling."

★ To find out more or to register visit [agrecovery.co.nz/rural-waste-project/](http://agrecovery.co.nz/rural-waste-project/)



16 May 2018

Central Rural Life, Canterbury/Otago

Section: General News • Article type : News Item • Classification : Rural  
Audience : 16,729 • Page: 42 • Printed Size: 342.00cm<sup>2</sup> • Market: NZ  
Country: New Zealand • ASR: NZD 471 • Words: 392 • Item ID: 954811336

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# Recycling day for Geraldine farmers

Farmers in Geraldine can take part in a one-stop-shop recycling event on May 31.

It is part of a project to trial new ways of helping farmers to recycle farm waste and avoid harmful disposal practices such as burning, burial and bulk storage.

The trial events are part of the New Zealand Rural Waste Minimisation Project, led by Environment Canterbury with support from the Ministry for the Environment.

"Dealing with inorganic waste can be a challenge for farmers and growers," Environment Canterbury environmental quality and hazards senior scientist Isla Hepburn said.

"This project focuses on identifying alternatives to burning, burying and bulk storage on farms. By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be

helping farmers and growers to participate in rural recycling."

Rural recycling programme Agrecovery was chosen to implement the events — in Matamata on May 25 and Geraldine on May 31. Agrecovery is partnering with Plasback to deliver these events.

Farmers can dispose of agrichemical and motor oil containers, unwanted agrichemicals, used motor oil and fertiliser bags on the day. Farmers can also dispose of silage and bale wrap, which will be collected on-farm within a week either side of the event date.

"The events provide an opportunity to trial a collection system for rural waste, so it can be tailored for future nationwide events in the most efficient and reliable way," Agrecovery general manager Simon Andrew said.

"We have high ambitions to clear more rural waste by

partnering with industry groups, product stewardship schemes and councils."

There are 100 spots available at each event for farmers to dispose of items, so they are encouraged to register quickly to avoid missing out.

Waste must be booked through the Agrecovery website or by phoning 0800 247-326.

The booking system clarifies what waste is included and what needs to be done before bringing it in for disposal.

Participants will become members of Agrecovery and need to be from within the catchment area.

*Copy: Supplied*

## Coming to Geraldine ...

Agrecovery is offering a trial recycling event in Geraldine at the end of the month. PHOTO: SUPPLIED

“This project focuses on identifying alternatives to burning, burying and bulk storage on farms. By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling.”





May, 2018

Coast and Country, Central North Island

Section: General News • Article type : News Item • Classification : Rural  
Audience : 31,050 • Page: 38 • Printed Size: 151.00cm<sup>2</sup> • Market: NZ  
Country: New Zealand • ASR: NZD 243 • Words: 323 • Item ID: 950309012

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## Trial recycling event for Matamata farmers

Farmers in Matamata can participate in one-stop-shop recycling events in May. This is part of a project to trial new ways of helping farmers recycle farm waste and avoid harmful disposal practices such as burning, burial and bulk storage.

The trial events are part of the New Zealand Rural Waste Minimisation Project led by Environment Canterbury with support from the Ministry for the Environment.

“Dealing with inorganic waste can be a challenge for farmers and growers. This project focuses on identifying alternatives to burning, burying and bulk storage on farms,” says Environment Canterbury’s senior scientist, environmental quality and hazards Isla Hepburn.

“By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling,” says isla .

Rural recycling programme Agrecovery was chosen to implement the events – in Matamata on May 25

and Geraldine on May 31. Agrecovery is partnering with Plasback to deliver these events.

Farmers can dispose of agrichemical and motor oil containers, unwanted agrichemicals, used motor oil and fertiliser bags on the day. Farmers can also dispose of silage and bale wrap, which will be collected on-farm within a week either side of the event date.

Agrecovery general manager Simon Andrew says the events provide an opportunity to trial a collection system for rural waste, so it can be tailored for future nationwide events in the most efficient and reliable way.

“We have high ambitions to clear more rural waste by partnering with industry groups, product stewardship schemes and councils.”

There are 100 spots available at each event for farmers to dispose of items, so registration is essential.

Waste must be booked through the Agrecovery website or by calling 0800 247 326. The booking system clarifies what waste is included and what needs to be done before bringing it in for disposal. Participants will become a member of Agrecovery and need to be from within the catchment area.



02 May 2018  
Matamata Chronicle, Waikato

Section: General News • Article type : News Item • Classification : Community  
Audience : 11,440 • Page: 8 • Printed Size: 551.00cm<sup>2</sup> • Market: NZ  
Country: New Zealand • ASR: NZD 1,073 • Words: 491 • Item ID: 947537957  
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# Rural sector encouraged to be clean, green

## STAFF REPORTERS

Agricultural recycling has never been so easy.

Farmers in the Matamata-Piako district can sign up for a one-stop-shop recycling event held later this month.

This is part of a project to trial new ways of helping farmers recycle farm waste and avoid harmful disposal practices such as burning, burial and bulk storage.

The trial events are part of the New Zealand Rural Waste Minimisation Project led by Environment Canterbury with support from the Ministry for the Environment.

“Dealing with inorganic waste can be a challenge for farmers and growers,” said Isla Hepburn, Environment Canterbury’s senior scientist, Environmental Quality and Hazards.

“This project focuses on identifying alternatives to burning, burying and bulk storage on farms.

“By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling.”

Rural recycling programme Agrecovery was chosen to implement the events.

Agrecovery chairperson and dairy-farmer Adrienne Wilcock said the event provides an opportunity to trial a collection system for rural waste, so it can be tailored for future nationwide events in the most efficient and

reliable way.

“We have high ambitions to clear more rural waste by partnering with industry groups, product stewardship schemes and councils,” she said.

Farmers can dispose of agrichemical and motor oil containers, unwanted agrichemicals, used motor oil and fertiliser bags on the day.

Farmers can also dispose of silage and bale wrap which will be collected on-farm within a week either side of the event date, by booking a time on the website on-line form.

There are 100 spots available at the event for farmers to dispose of items, so are encouraged to register quickly to avoid missing out.

Waste must be booked through the Agrecovery website [www.agrecovery.co.nz](http://www.agrecovery.co.nz), where farmers can also find more information or by calling 0800 247 326.

All farm waste will be recycled or ethically disposed of.

“This event is part of a project providing sustainable solutions for recyclable farm waste.

“So this trial event is a great way to get rid of that surplus waste that farmers may have been scratching their heads over what to do with.”

The booking system clarifies what waste is included and what needs to be done before bringing it in for disposal.

Participants will become a member of Agrecovery and need to be from within the catchment area.

## Your Feedback

We’re keen to hear about more programmes and initiatives used on rural operations to reduce waste in the Matamata-Piako district. Send in your thoughts and ideas to: [lawrence.gullery@stuff.co.nz](mailto:lawrence.gullery@stuff.co.nz)

**“This project focuses on identifying alternatives to burning, burying and bulk storage on farms.”**

Isla Hepburn  
Environment Canterbury’s senior scientist





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Audience : 11,440 • Page: 8 • Printed Size: 551.00cm<sup>2</sup> • Market: NZ  
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Chair of Agrecovery, Adrienne Wilcock, said the recycling event provides an opportunity to trial a collection system for rural waste, so it can be tailored for future nationwide events.

REXINE HAWES



Silage and ball wrap can be collected on farm and recycled through the recycling event.

PIAKO POST/STEVE EDWARDS



19 Apr 2018

The Ashburton Courier, Canterbury

Section: General News • Article type : News Item • Classification : Community  
Audience : 15,388 • Page: 6 • Printed Size: 111.00cm<sup>2</sup> • Market: NZ  
Country: New Zealand • ASR: NZD 163 • Words: 284 • Item ID: 942140935

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# Farm recycling event in Geraldine

Farmers in Geraldine can participate in a one-stop-shop recycling event on May 31.

The event is part of a project to trial new ways of helping farmers recycle farm waste and avoid harmful disposal practices such as burning, burial and bulk storage.

A number of trial events are part of the New Zealand Rural Waste Minimisation Project led by Environment Canterbury with support from the Ministry for the Environment.

“Dealing with inorganic waste can be a challenge for farmers and growers. This project focuses on identifying alternatives to burning, burying and bulk storage on farms, says Isla Hepburn, Environment Canterbury’s senior scientist, environmental quality and hazards.

“By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling,” she adds.

Rural recycling programme Agrecovery has been

chosen to implement the Geraldine event and others.

Farmers can dispose of agrichemical and motor oil containers, unwanted agrichemicals, used motor oil and fertiliser bags on the day. Farmers can also dispose of silage and bale wrap which will be collected on-farm within a week either side of the event date.

Agrecovery General Manager Simon Andrew said events provided an opportunity to trial a collection system for rural waste, so it can be tailored for future nationwide events in the most efficient and reliable way”, adding that “we have high ambitions to clear more rural waste by partnering with industry groups, product stewardship schemes and councils”.

There are 100 spots available at each event for farmers to dispose of items, so they are encouraged to register quickly to avoid missing out.

Waste must be booked through the Agrecovery website or by calling 0800 247 326.





10 May 2018

The Ashburton Courier, Canterbury

Section: General News • Article type : News Item • Classification : Community

Audience : 15,388 • Page: 14 • Printed Size: 143.00cm<sup>2</sup> • Market: NZ

Country: New Zealand • ASR: NZD 210 • Words: 264 • Item ID: 951781951

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# One-stop recycling event to help clear farm waste

Farmers can clear farm waste at a one-stop recycling event in Geraldine on May 31.

This trial event is one of two around the country - offering alternatives to burning, burying or storing rural waste.

Farmers can safely dispose of agrichemical and motor oil containers, unwanted agrichemicals, used motor oil and fertiliser bags on the day. Silage and bale wrap can also be collected on-farm within a week either side of the event date.

The events are an outcome of the New Zealand Rural Waste Minimisation Project led by Environment Canterbury with

support from the Ministry for the Environment.

“Dealing with inorganic waste can be a challenge for farmers and growers. This project focuses on identifying alternatives to burning, burying and bulk storage on farms, says Isla Hepburn, Environment Canterbury’s senior scientist, environmental quality and hazards.

“By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling,” she said.

Rural recycling programme Agrecovery is partnering with

Plasback to deliver these events. Agrecovery general manager Simon Andrew says the events are designed to “trial a collection system for rural waste, so it can be tailored for future nationwide events in the most efficient and reliable way”, adding that “we have high ambitions to clear more rural waste by partnering with industry groups, product stewardship schemes and councils”.

There are 100 spots available for farmers to dispose of waste, so are encouraged to register quickly to avoid missing out.

Waste must be booked through the Agrecovery website or by calling 0800 247 326.



26 Apr 2018  
Timaru Herald, Timaru Canterbury

Author: Al Williams • Section: General News • Article type : News Item  
Classification : Provincial • Audience : 8,367 • Page: 3 • Printed Size: 261.00cm<sup>2</sup>  
Market: NZ • Country: New Zealand • ASR: NZD 628 • Words: 265 • Item ID: 944901570  
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# 'One-stop-shop' approach touted to farm waste

**AL WILLIAMS**

South Canterbury farmers are getting versed in reducing agricultural waste.

Timaru District Council waste minimisation manager Ruth Clarke said, in a press release, that Timaru was one of two districts in New Zealand that would take part in the programme, "to provide alternatives for agricultural waste and help shape future options".

"A key part of this project is not only outlining the highlighting the recycling options that farmers already have, but also to gauge the response to councils making these services more readily available."

Trial events were being held as part of the NZ Rural Waste Minimisation Project.

A recent field day, held at the Orari Estate, featured speakers from Environment Canterbury, AgRecovery, Plasback and the TDC.

Around 40 farmers went along to get an overview of the regulatory environment around waste management, how to participate in current rural recycling schemes and to hear more about future options, Clarke said.

"Many farmers are keen to improve environmental outcomes on their farms by adopting rural recycling practices. Dealing with inorganic waste can be a challenge for farmers and growers."



TDC waste minimisation manager Ruth Clarke, from left, ECan land management adviser Helen Risk and Woodbury farmer Ange Blair at the field day. SUPPLIED

ECan environmental quality and hazards senior scientist Isla Hepburn said the project would focus on "identifying alternatives to burning, burying and bulk storage on farms". "By providing a reliable and cost-effective one-stop-shop approach to rural waste, we will be helping farmers and growers to participate in rural recycling."

***"Dealing with inorganic waste can be a challenge for farmers and growers."***

**Ruth Clarke**





12 Apr 2018

Timaru's The Courier, Timaru

Section: General News • Article type : News Item • Classification : Community  
Audience : 15,530 • Page: 9 • Printed Size: 977.00cm<sup>2</sup> • Market: NZ  
Country: New Zealand • ASR: NZD 1,624 • Words: 1337 • Item ID: 939325331

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## OPEN DAY TO HELP FARMERS RECYCLE

A field day is being held in Geraldine next week to inform farmers on options to deal with farm waste.

The field day is taking place on the Orari Estate on Wednesday 18 April at 2pm, and will help farmers find out how to participate in current rural recycling schemes.

This will be focused on some products that require specific handling including plastic agri-chemical containers, chemicals, silage and balage wrap as well as waste oil & its containers.

It is a great primer for farmers ahead of a rural recycling day taking place on 31 May in the Timaru District.

Timaru District is one of two districts in the country that are taking place in a pilot programme to provide alternatives for agricultural waste and help shape future options

At the Field day, a speaker from Environment Canterbury will give an overview on the regulatory environment that farmers now work in. Rural recycling specialist Agrecovery will give a demonstration of how to handle chemicals and chemical containers.

Plasback will give a demo of their system for dealing with balage and silage wrap and a speaker from TDC will speak about compost supply, kerbside collection systems, business assistance for zero waste and options for treated timber.

TDC Waste Minimisation Manager, Ruth Clarke, said that the field day is a great opportunity for farmers to learn about available programmes for dealing with waste on their farms.

"As a rural district that prides itself on being ahead of the curve when it comes to recycling and waste minimisation, it's great that we can take part in this pilot project to help farmers recycle some difficult farm waste types.

"The pilot will assess the response to offering a drop-off service, so it's important that people take this opportunity to participate.

"The rural recycling day being held in May will be a one-off at this stage, coming along to the field day will enable farmers to make the most of the day."

**Online Articles**

<http://www.radionz.co.nz/news/country/354806/new-initiative-tackles-recycling-on-farms>

[https://www.nzherald.co.nz/te-awamutu-courier/news/article.cfm?c\\_id=1504325&objectid=12069181](https://www.nzherald.co.nz/te-awamutu-courier/news/article.cfm?c_id=1504325&objectid=12069181)