



Kaipara te Oranganui · Two Oceans Two Harbours

Kaipara District Council

Waste Assessment

August 2023



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1 Introduction

Territorial authorities are legally required to conduct a Waste Assessment and consider it in the review and preparation of their Waste Management and Minimisation Plans (WMMP). The Waste Minimisation Act 2008 (WMA) (s44) also requires that a Waste Assessment be notified with the draft WMMP for public consultation. This process is required every six years. This Waste Assessment is prepared for Kaipara District Council (KDC).

The recently announced New Zealand Waste Strategy (NZWS) provides a clear national strategy and targets for territorial authorities to work towards. This Waste Assessment provides a planning foundation for the updated WMMP draft prior to public consultation. KDC previously published a WMMP in November 2017 that will be updated based on this Waste Assessment, incorporate the NZWS and provide a clear waste management and minimisation plan going forward. The finalised WMMP will inform the development of the next Long Term Plan (LTP). This Waste Assessment was prepared as prescribed in section 51 of the WMA and details:

- existing waste services and facilities provided in Kaipara District Council
- waste quantities, composition, and flows
- identified waste issues
- forecast future demand
- Councils' vision, goals, objectives and targets for waste management and minimisation
- an assessment of options to address the identified waste issues (a statement of proposals).

1.1 Document and accuracy

The tonnage information in this document was prepared using data gathered from Kaipara District Council records, the recent Solid Waste Analysis Protocol (SWAP) reports and Council's 2017-2022 WMMP.

The data presented in this document does not represent all the waste and diverted materials generated in the district. The amount of waste and diverted material can only be determined from the data managed by the Council and its contracted waste services providers. Only limited data was available from the private and commercial sector.

It is acknowledged a Waste Assessment is only a snapshot in time of the data collected for the purposes of future waste planning and preparation of the WMMP. Every effort has been made to provide a complete and accurate assessment. In some cases, data has been estimated or there are data gaps such as the volume and composition of privately collected rubbish. Details regarding any limiting factors in preparing the Waste Assessment that are deemed to have materially impacted on the completeness or accuracy of the data, forecasts, estimates or options assessment have been noted where appropriate.

The information contained in this Waste Assessment was considered appropriate when giving regard to:

- the significance of the information
- the costs of, and difficulty in, obtaining the information
- the extent of Councils resources
- the possibility Councils may be directed under the Health Act 1956 to provide the services referred to in that Act.



1.2 Acronyms

| Key Term/Acronym | Definition |
|------------------|--|
| AIP | Action and Investment Plan |
| CERF | Climate Emergency Response Fund |
| CRS | Container return scheme |
| ETS | Emissions Trading Scheme |
| КDС | Kaipara District Council |
| LGA | Local Government Act |
| LTP | Long Term Plan |
| MfE | The Ministry for the Environment |
| MRF | Material Recovery Facility |
| NES | National Environmental Standards |
| NRC | Northland Regional Council |
| NZWS | New Zealand Waste Strategy 2023 |
| РА | Per Annum |
| RMA | Resource Management Act 1991 |
| RRP | Resource Recovery Park |
| RTS | Refuse Transfer Station |
| SWAP | Solid Waste Analysis Protocol (SWAP). Ministry for the Environment-led baseline programme to provide solid waste composition information |
| ТА | Territorial Authority as defined in the Local Government Act 2002 as a city or district council |
| WA | Waste Assessment as defined by Section 51 of the Waste Minimisation Act 2008. |
| WMA | Waste Minimisation Act 2008 |
| WMF | Waste Minimisation Fund |
| WMMP | Waste Management and Minimisation Plan as defined in Section 43 of the Waste Minimisation Act 2008 |



2 Legislative and Strategic Context

This section contains a short summary of the legislative and strategic context within which KDC will develop their Waste Assessment and WMMP.

2.1 Key legislation

The legal framework for waste management and minimisation in New Zealand is found in the combination of several Acts of Parliament. These Acts provide the legislative imperative and tools to support progress toward the high-level direction outlined in the NZWS. Therefore, careful attention is given to these in developing the Waste Assessment. The Acts that drive waste management and minimisation planning are:

- Waste Minimisation Act 2008
- Climate Change Response Act 2002
- Climate Change Response (Emissions Trading Reform) Amendment Act 2020 that updates the NZ ETS
- The Climate Change Response (Zero Carbon) Amendment Act 2019
- Local Government Act 2002
- Resource Management Act 1991 (RMA, as well as District and Regional Plans and designations and consents)
- Hazardous Substances and New Organisms Act 1996
- Health Act 1956
- Litter Act 1979
- Health and Safety at Work Act 2015.

It is noted that the RMA, WMA, and Litter Act 1979 are currently being revised or replaced with new legislation. Appendix B provides links to the primary legislation for further information.

2.2 New Zealand Waste Strategy

Waste management and minimisation in New Zealand is underpinned by the Government's 2023 NZWS. The NZWS sets out the long-term policy priorities for waste management and minimisation and has a vision for 2050:

By 2050, New Zealand is a low-emissions, low-waste circular economy. We cherish our inseparable connection with the natural environment and look after the planet's finite resources with care and responsibility.

When developing updated targets and WMMPs, Councils must take into account the targets set in the NZWS. These targets encompass both kerbside waste, which focuses on standardized recycling, and the broader waste streams. Together, these NZWS targets play a vital role in guiding local councils waste management initiatives. They highlight the importance of waste reduction, recycling, and diversion across both kerbside waste and the broader waste streams. Achieving these targets will contribute to a more sustainable and environmentally conscious waste management system that benefits both present and future generations.



2.2.1 Linear and circular economies

Taking natural resources, making them into something, using and then disposing of it – is referred to as a 'linear economy'. In contrast, a 'circular economy' is a system where extracted materials are used and reused for as long as possible. For technical or synthetic materials, the ideal scenario is that they are reused forever. Biological (organic) materials will eventually be returned to the soil to enrich it (see Figure 1).





The Ellen MacArthur Foundation has led international thinking on the circular economy since it was created in 2010. This is the Foundation's description of the circular economy:

The circular economy is based on three principles, driven by design:

- Eliminate waste and pollution,
- Circulate produce and materials (at their highest value),
- Regenerate nature.

It is underpinned by a transition to renewable energy and materials. A circular economy decouples economic activity from the consumption of finite resources. It is a resilient system that is good for business, people and the environment (Ellen MacArthur Foundation, n.d.).

Committing Aotearoa New Zealand to a circular economy means we stay in step with many of our major trading partners. We have already committed to developing a full circular economy and bioeconomy strategy in the emissions reduction plan. This waste strategy is an essential first step. It builds on internationally recognised circular economy principles and adapts them for our context.

2.2.2 National targets

The NZWS sets three national targets to be achieved by 2030:

- Waste generation: reduce the amount of material entering the waste management system, by 10 per cent per person.
- Waste disposal: reduce the amount of material that needs final disposal, by 30 per cent per person.
- Waste emissions: reduce the biogenic methane emissions from waste, by at least 30 per cent.



- The NZWS aims for a 10% reduction in waste generation at the kerbside, while the 30% diversion target is set across all waste categories.
- The three goals above are shown in Figure 2 in relation to the waste hierarchy.

Figure 2 NZWS waste hierarchy with national targets



2.2.3 National goals

The NZWS has the following eight goals:

1. Systems:

The Strategic planning, regulatory, investment and engagement systems are in place and operating to drive and support change.

2. Infrastructure:

We have a comprehensive national network of facilities supporting the collection and circular management of products and materials.

3. Responsibility and accountability:

We all take responsibility for how we produce, manage and dispose of things, and are accountable for our actions and their consequences.

4. Using less:

We use fewer products and materials, and using them for longer, by making them more durable, and repairing, reusing, sharing and repurposing them.

5. Resource recovery systems:

Resource recovery systems are operating effectively for core materials and across all regions.

6. Recovering value:

We look for ways to recover any remaining value from residual waste, sustainably and without increasing emissions, before final disposal.

7. Emissions:

Emissions from waste are reducing in line with our domestic and international commitments.

8. Contaminated land:

Contaminated land is sustainably managed and remediated, to reduce waste and emissions and enhance the environment.



2.2.4 Local government actions

The NZWS includes the following actions for local government:

- Get involved in implementing the NZWS and the process to develop an action and investment plan (AIP). Use the NZWS as the starting point for their next WMMP.
- Look for opportunities to work with other councils on new, or expanded, facilities and services that will contribute to a national network for circular management of resources.
- Support local community groups and non-governmental organisations with their initiatives to reduce waste.
- Link with national behaviour change programmes to support and expand the reach of your local activity.
- Make sure that planning and consenting processes take account of the need for waste management infrastructure and services.
- Plan and resource the work needed to identify and manage vulnerable landfills and other contaminated sites.

Note that councils will need to align their next WMMPs with the NZWS. Once the AIP is developed, they will also need to align to it. As such, the AIP will inform later WMMP reviews e.g. 2029 for Kaipara District Council. In the meantime, the government's early investment signals through the Waste Minimisation Fund (WMF) take priority.

2.3 National initiatives

Many waste minimisation initiatives are more suitably implemented at a national level. Work here is needed with the national bodies, such as WasteMINZ and the Ministry for the Environment (MfE), to encourage ongoing support for and the implementation of national waste minimisation activities through a coordinated advocacy approach to government and industry. National initiatives include:

- Development of the government's first AIP 2024-2028.
- Government investment in diversion infrastructure via the Waste Minimisation Fund and Climate Emergency Response Fund (CERF). The current funding round focuses on organic waste diversion e.g. infrastructure for food waste collection for residents and businesses, processing facilities for food waste and other organics, and the sorting of construction and demolition (C&D) waste with a focus on timber.
- Standardisation of the kerbside collection system including:
 - Standardised list of materials collected.
 - Introduction of kerbside recycling collection in urban areas by 2027.
 - Introduction of kerbside organics collection by 2030.
 - Meeting minimum targets; including diversion of 50% of kerbside waste by 2030.
- Establishment of a Container Return Scheme (CRS) for beverage containers. This has been deferred but may be re-introduced following the 2023 national elections.
- Banning of specific grades of plastics for packaging and some single-use plastics.
- Introduction of priority product stewardship schemes e.g. tyres, agrichemicals, e-waste and plastic packaging.
- Ongoing implementation of increases to the Waste Disposal Levy and Emissions Trading Scheme



costs, as well as expansion of the Levy application to Class 2-5 Landfills (e.g. construction and demolition, managed or controlled fill and cleanfill disposal facilities).

 Introduction of the mandatory reporting (transfer stations, collections) using an agreed National Waste Data Framework.

2.4 Kaipara District Council Strategic Plans and Regulations

2.4.1 Strategic Context

The Kaipara District is one of the most northern territorial local authorities in New Zealand and is in the Northland Region. It shares borders with the Whangarei and Far North Districts and Auckland region. It has an estimated residential population of 27,200. The district has several holiday destinations which results in fluctuating population over holiday seasons, particularly on the East Coast at Mangawhai and Mangawhai Heads during the summer months.

In addition to national legislation, strategies, plans and initiatives, the region has local strategies, plans and regulations that also govern direction on waste management and minimisation. The previous WMMP was developed for the period 2017-2022. The district also has a Waste Minimisation Strategic Activity Management Plan (SAMP) for the period 2021-2031.

2.4.2 Long Term Plan

KDC's vision within its Long Term Plan Mahere Wā Roa 2021-2031 (LTP) is:

'Growing a better Kaipara: Nurturing our people and place by inspiring a vibrant, healthy and caring community'.

The plan includes the following community wellbeing outcomes:

- Climate Smart
- Healthy Environment
- Celebrating Diversity
- A Trusted Council
- Prosperous Economy
- Vibrant Communities

In relation to managing infrastructure, Part 4 of the LTP details various waste minimisation approaches in the Solid Waste Activity Management Plan (AMP). The AMP states that KDC will focus on:

- Customer-centric design, the circular economy and Te Aranga design principles.
- Identifies a key disadvantage to not addressing residual waste to landfill will result long-term financial impacts to the council, community and operators.
- Capital expenditure in waste minimisation of \$1.9m in 2021-2026 followed by an increase to \$3.2m in 2026-2031 to further enable the long-term shift to a low waste, circular economy.

Waste minimisation through improved recycling collections is listed as one of the key decisions in the 2021 LTP:

• LTP consultations show that the community supports the introduction of recycling crates to improve recycling and divert more waste away from landfills. A total of 77% of the responses support a rates



funded recycling collection service.

• Uncertainty around waste minimisation initiatives from central government was listed as a challenge in the LTP. This was prior to the 2023 NZWS being released. More certainty should be an outcome of this Waste Assessment and WMMP which will align with the NZWS.

The LTP 2021-2031 expects a substantial increase in council spending on waste services, this includes capital expenditure (on RTS facility upgrades and closed landfill management) and operating expenditure (on recycling collection services).

2.4.3 Section 17A review

A Section 17A service delivery review, as permitted by the LGA, was carried out by Council in October 2021. It covered the solid waste operation and maintenance services contracted out by Council. It did not recommend any change to these service delivery arrangements, with a continuation of out-sourced services recommended.

2.4.4 Solid Waste Bylaw

The WMA requires councils to review their waste bylaws at least every ten years. Waste-related bylaws must not be inconsistent with a council's WMMP, which is reviewed every six years. With a review of KDC's WMMP to be completed in 2023, Council will need to ensure that the existing waste bylaws remain fit for purpose. The Council's waste bylaws were last updated in 2020¹. An updated WMMP will require consultation and if substantial changes are planned, then a review of the bylaw will be required. Changes to the WMA may also require waste bylaws to be updated once the new legislation is passed, which MfE have indicated could be by 2025 (MfE, 2023).

2.4.5 Regulatory functions

In addition to managing waste facility assets and providing services, KDC also holds regulatory responsibilities and powers under the Waste Minimisation Act (WMA). As a regulatory body, councils play an important role in several areas, including:

- Management of litter and combating illegal dumping, governed by the Litter Act 1979.
- Enforcement of trade waste requirements.
- Implementation of nuisance-related bylaws.

While targeted education programs are generally more effective in influencing residents and businesses to adopt desired behaviours, it is recognised that enforcement actions serve as a necessary backup when other approaches have been exhausted.

To promote responsible behaviour among residents and businesses in Kaipara, it is essential to make it convenient for them to do the right thing. This can be achieved by providing purpose-built services and facilities at easily accessible locations. Clear messaging, signage, and directions play a vital role in altering behaviours and encouraging waste minimisation efforts by the community. KDC primarily carries out these regulatory functions using in-house staff, ensuring efficient and effective enforcement of waste management regulations.

https://www.kaipara.qovt.nz/uploads/bylaws/2021/Consolidated%20General%20Bylaw%2020%20December%202021.pdf

¹ KDC consolidated general bylaw 2020 requires solid waste. Available from:



2.4.6 Regional Collaboration

All Northland-based councils will likely face similar challenges with adapting to the NZWS. Solid waste management is an area that has been identified through Northland | Forward Together as having potential for regional improvement through increased regional cooperation and communication. This has resulted in the formation of the Northland Regional Solid Waste Working Group (Northland Regional Council, 2015). Meeting the future requirements for diversion of foods scraps is a good example where greater efficiency is likely to be achieved by the councils in the region working collaboratively to deliver service changes, including consideration of a regional processing facility.

Services currently provided by the two other Northland territorial authorities are:

- Far North District Council
 - No kerbside collection, private services only
 - Network of drop-off points including sixteen transfer stations and twelve community recycling centres
- Whangarei District Council
 - Rates-funded kerbside recycling service using crates
 - Pre-paid refuse bag collection service
 - No kerbside food collection service
 - Seven council-owned transfer stations across the district

A significant portion of refuse from the region goes to Puwera landfill, opened in 2010 and owned by a public-private partnership between Whangarei District Council and Northland Waste.

There is no Materials Recovery Facility (MRF) in the Northland region, with most material either sourceseparated or manually sorted at consolidation facilities. Some partially sorted material from Whangarei is taken to the Auckland Council MRF in Onehunga.

3 Existing Facilities and Services

This section includes a summary of information regarding waste management and minimisation services and facilities provided in the Kaipara District. This includes Council services as well as private and commercial services, where known and applicable. An illustration of waste material sources, collection routes and transfer between council facilities, end markets and residual disposal is provided in Figure 3.





Figure 3 Source and destination of waste and diverted materials in Kaipara District Council

3.1 Council provided facilities and services

Council provided facilities and services are summarised in Table 1. Kaipara Refuse Ltd have secured the council contract for weekly refuse and recycling bag collections across the district. Kaipara Refuse also operate the Dargaville RTS under contract. Northland Waste Ltd is contracted to operate the Hakaru RTS. Council collections are funded predominantly through user charges, with a small annual subsidy for recycling services funded via the waste levy.



Table 1 Council provided waste facilities and services

| Service Type | Kaipara District Council |
|--|---|
| Kerbside Collection | Weekly kerbside collections for refuse (blue bags). Weekly kerbside collections for recycling (yellow bags). Kerbside collections are provided in most townships and to rural properties on routes between townships. Other rural residents can drop bags off at designated collection points. |
| Transfer stations | Dargaville RRP is a council facility operated by Kaipara Refuse (Figure 4) that accepts a wide range of items such as general refuse, recycling, green waste, scrap metal, electronic waste (including batteries and whiteware). Hakaru RTS is a council facility operated by Northland Waste. Kerbside collections, drop-offs and private collections are consolidated at both RTS. Recyclables are accepted at both RTS facilities. Accepted recycling include household recyclables (glass, tin and aluminium cans, plastic bottles, paper and carboard), scrap metal, whiteware, timber, green waste and re-usable items. The contractors are responsible for haulage and disposal for landfilled waste, and transport of recyclables to end markets. The contractors set gate fees (following consultation with and approved by Council) and retain all revenue, both gate fees and sale of recyclables. Recently there has been an attempt to align fees between sites, however there are still some differences. Both contractors charge for acceptance of recyclables. KDC provides a small subsidy for the ongoing operation of the Dargaville site. |
| Litter bin services and Illegal dumping | Litterbins are provided by council. This includes emptying litter bins and managing illegal dumping and abandoned vehicles. Litter bin services are currently contracted to Kaipara Refuse. |
| Class 1 landfills | No operational class 1 landfills within the Kaipara District. Waste is predominantly transported to the Northland Regional Landfill (Puwera) near Whangarei and to Redvale Landfill (Dairy Flats). |
| Class 2-5 landfills | • There are no known class 2,3,4 or 5 landfills in the Kaipara District. |
| Closed landfill management (see Appendix E for a full list) | Twenty known closed landfills, fourteen were council or consented landfills, six are illegal tips or unconsented landfills. Council manages residual leachate at some of the closed landfills. Monitoring, consent reporting and future risk assessments provided by consultants together with Northland Regional Council. |
| Waste education and behaviour change | Council funds education programmes from its waste levy funds. Sustainable Kaipara had provided education on waste minimisation and composting across the region. |

KDC has three waste service providers, with their contract details provided in Table 2. The Kaipara Refuse and Northland Waste contracts expire in July 2026, with outcomes of the waste assessment and WMMP set to be delivered through renewed contracts. Education and awareness services contracted to Sustainable Kaipara previously is expired and under review.



Table 2 Kaipara District Council current waste services contracts

| Contract No. | Contractor | Waste Services | Expiry Date |
|----------------------|------------------------|---|---------------------------------|
| 484 | Northland Waste | Hakaru transfer station operation | 1 July 2026 |
| 706 | Kaipara Refuse | Eastern and Western refuse and recycling collection Dargaville transfer station operation Litter services | 1 July 2026 |
| Contract for Service | Sustainable Kaipara | Promotion of Waste Minimisation | Expired, currently under review |

Figure 4 Dargaville transfer station



3.2 Non-council facilities and services

Kaipara Refuse, Northland Waste and other private waste companies offer a variety of private collection services within the district. These services cater to both residential and commercial entities. Residential services typically include refuse wheelie bins, green waste wheelie bins, recycling crates, and general waste skips for waste disposal. Commercial services typically include large refuse wheelie bins, front load bins, skip bins, open hook bins, recycling-specific bins, and asbestos bags, tailored to the specific needs of businesses.

In order to promote waste minimization and composting practices, Sustainable Kaipara provides awareness programs, education initiatives, and organises events targeting local community groups, school and businesses. These initiatives are beyond the council-funded initiatives.



The Hakaru RTS facility is a council facility operated by Northland Waste. It accepts general refuse, recycling, green waste, scrap metal, vehicle and truck tires, electronic waste, whiteware, and gas bottles. Kaipara Refuse operates a recycling delivery depot located at 7-9 Porritt Street, Ruawai. Some alternative recycling options are also available, limited services offered by the Scouts, Greenways Trust and Dargaville Primary School are also listed on the Council website.

3.3 Product stewardship schemes

The government is focused on developing regulated schemes for six priority products: plastic packaging, tyres, e-waste including large batteries, agrichemicals and their containers, refrigerants and other synthetic greenhouse gases, and farm plastics. In addition, product stewardship schemes can register for accreditation with the government. A summary of the current product stewardship schemes that have either been accredited or regulated by the government under the WMA is outlined in Appendix D. Over time more product stewardship schemes are expected to be added to this list and some of the existing accredited schemes are moving towards becoming regulated schemes. Unregulated schemes are not included in this list.

4 Waste data

The collection and use of waste data is important for the Council to understand the quantity and composition of waste generated, collected and processed through its facilities and to ensure the services are being provided as intended. It also gives Council the ability to identify opportunities to reduce waste to landfill and measure progress against targeted improvements.

This section contains a summary of the available data for waste collected, recycled, recovered, and disposed of via the Council's collection services and facilities. Waste volumes and tonnages leaving the RTS facilities are aggregated for kerbside collections and drop-offs. Private collections are not included within the totals. This aggregated data presents a challenge when considering targets set specifically for kerbside collections by the NZWS.

The Council requires that an annual SWAP is performed on kerbside collections. The most recent assessment was completed in October 2021 with no assessment completed in 2022.

4.1 **Progress against the 2017-2022 WMMP targets**

KDC prepared a WMMP for the period 2017-2022. Progress against this WMMP objectives, goals and targets is listed in Table 3 below. The Action Plan in the previous WMMP listed fifteen actions across infrastructure, education and policy. A summary assessment against these action items is provided in Appendix C.



Table 3 KDC waste objectives, goals and performance measures from WMMP 2017-2022 assessed

| Objective | ObjectiveRelevant goal(s) 2017- 2022Target(s) 2017-2022 | | Assessment 2023 |
|--|--|--|---|
| 1. To reduce the quantity of recoverable material entering landfill. To maximise the diversion | To maximise the diversion of waste from landfill. | To decrease the annual quantity of waste disposed of to landfill from the Kaipara district to below 200kg per capita per year (equates to >30% diversion). | Achieved. Diversion 33% in 2021 |
| of waste from landfill. | | To increase the quantity of material recycled through Council-controlled services from 2014 figure of 530T. | Achieved. In 2022 2,574 tonnes received through council recycling initiatives |
| | | To increase participation in kerbside recycling to over 70% of serviced households by 2020. | Not achieved. Kerbside changes not introduced. |
| 2. To provide safe, environmentally | To provide for services to residents that represent great value. To provide | 2.1 Achieve resident satisfaction of >70% (refuse) and 55% (recycling). | 76% for refuse and 50% for recycling measured in 2022. |
| hygienic refuse collection and disposal. | for the safe and efficient disposal and collection of residual waste. | 2.2 To implement licensing in accordance with the current (2016) bylaw no later than March 2018. | Not achieved. Licensing system now superseded by national reporting requirements. |
| 3. To reduce illegal dumping and associated negative environmental impact. | To provide for services to residents that represent great value. | 3.1 To respond to illegal dumping incidents within 72 hours. | All requests acknowledged within 72hrs - usually cleaned up within this period or when the refuse truck is in the area next. |
| | | 3.2 To report on the quantity of illegally dumped material each year. | Reported on request. |
| 4. To improve available information | To provide for services to residents that represent | 4.1 To implement licensing including data provision required by 2018. | Not achieved. See 2.2. |
| on waste generation, diversion and disposal. | great value. To maximise local employment and business. | 4.2 To publish a summary of available data on waste generation and management with each annual report from 2017/2018. | Partially achieved. Data is monitored but not published. |
| 5. To avoid materials becoming waste. | To maximise the diversion of waste from landfill. | 5.1 To support the provision of waste education to the community including supporting regional and national waste reduction programmes. | Achieved. Sustainable Kaipara contract. |
| | | 5.2 To support contractors in providing economic and sustainable recycling opportunities. | Achieved. Collection contracts issued and maintained. |
| 6. To support combined local government and waste sector activities. | To ensure compliance and knowledge of current and relevant legislation. | 6.1 To actively participate in the Waste MINZ forums. | Achieved. Participation in WasteMINZ Forum and Northland Waste Officers Forum. |



4.2 Waste quantities and composition

4.2.1 Data accuracy and completeness

To track progress towards medium- and long-term goals and facilitate informed decision-making, it is important to have a comprehensive understanding of waste volumes and composition for the Kaipara District. This data plays an important role as a key enabling factor for future planning and actions. However, it is worth noting that the quality and standardisation of waste data reporting have been recognised as a national challenge by the Ministry for the Environment (MfE).

To ensure accurate and reliable information, it is essential to address the issue of data quality. This involves establishing standardised reporting practices that are consistent across different entities and waste management facilities. By implementing consistent reporting standards at a national level, we can enhance the reliability and comparability of waste data, making it more useful for monitoring progress and evaluating the effectiveness of waste management strategies.

Furthermore, it is important to ensure the completeness of the data streams. This means that all waste streams, including those from public and private collections, as well as public and private transfer stations and resource recovery facilities, should be accounted for. By including data from various sources, we can obtain a comprehensive picture of the waste landscape and make well-informed decisions based on the entire waste management system.

In summary, the availability of accurate and standardised waste data is crucial for monitoring progress, setting targets, and making informed decisions. Addressing the challenges of data quality and ensuring the inclusion of all waste streams will contribute to a more effective and comprehensive waste management approach.

Table 4 summarises the waste streams relevant to the Kaipara District and the availability of data to Council to enable waste management and minimisation planning. Aggregated data is available for Council-controlled refuse from the transfer stations, which combines blue bag Council volumes with RTS residual waste volumes. Likewise, recycling data for yellow bags and RTS drop-off is combined into one total.

| Waste Services and Facilities | Refuse | Recycling | Organics | Other |
|--|---|--|------------------------------|---|
| Council kerbside collections SWAP data on refuse | Blue bags | Yellow bags | No current service | N/A |
| Council RTS drop-offs (car and trailer loads) | Residual waste drop-off (hook bins) | Sorted recyclables drop-off area | Greenwaste drop- off area | Drop-off areas for E-waste, scrap metal, whiteware, hardfill, hazardous waste |
| Private residential collection services | Bags or bins | Bins or crates | Greenwaste bins | N/A |
| Private commercial collection services | Bags, bins or skips | Bins, crates or specialised bulk recycling (e.g. cardboard flat pack bins) | Landscaping services | Specialised company-specific services |

Table 4 Overview of waste stream data and stakeholders for reporting



Colour legend:

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Discrete data available to Council Aggregated data available to Council No current service or not applicable Private data not available to Council

4.2.2 Overall waste generation diversion and disposal

Figure 5 shows the total waste received (for both recovery and disposal) at KDC's two RTS. It includes Council's kerbside collected waste as well as waste dropped off at the two sites. Private collections and outof-district waste that is handled at Hakaru RTS is excluded from the total. The total waste received provides an indication of the total waste generated in Kaipara. Total waste generated has remained steady in recent years, fluctuating around 7,000 tonnes per annum with Covid lockdowns causing decreased holiday activities and subsequent waste generation.

Recyclables recovered have steadily increased over the past five years. Recycling diversion has increased steadily from 25% to 36% of the total waste generated. This notable increase can be attributed to several factors, including the successful performance of refuse and recycling contracts, and the influence of public awareness and education initiatives. These combined efforts have contributed to a significant improvement in recycling practices within the community.

Furthermore, the data also indicates a reduction in waste to landfill in the past two years. This is attributed to greater recycling recovery and the impact of Covid on visitor numbers, but also, since 2020/21 out-of-district waste that is handled as Hakaru RTS has been excluded from the data reported to KDC.



Figure 5 Waste volumes over the previous five years



4.2.3 KDC kerbside refuse and recycling

Kerbside refuse from collection services is subject to regular SWAP analyses, therefore the quantity and composition is known, and trends can be assessed with a high degree of certainty. The quantity of recycling from both RTS facilities is also a reliable source of information, however no data on contamination levels in Council collected recycling is available.

4.2.4 Transfer Stations

The district has data available for total divertible waste and total residual waste from the two RTS facilities. The data does not distinguish between council kerbside collections, private drop-off or private collections within the region. Figure 6 illustrates the total diverted material from both RTS facilities.



Figure 6 Total diverted waste

Figure 7 shows residual waste transferred to landfill from the Dargaville and Hakaru RTS's. Hakaru RTS opened in 2016 and initially had low diversion rates, as the facility continued operations improved diversion was achieved. Both RTS's in the region transport 500-600 tonnes of residual waste to landfill each quarter, 160-200 tonnes per month. The data in Hakaru waste was also associated with a change in reporting method (see Section 4.2.2).



Figure 7 Total residual waste to landfill



4.3 Composition of waste to landfill

The following analysis uses data obtained from the SWAP report for KDC. The methodology for the sort-andweigh audit of kerbside rubbish was based on Procedure One of the Ministry for the Environment's Solid Waste Analysis Protocol 2002.

Figure 8 below illustrates the kerbside composition of waste disposed in KDC's refuse bags destined for landfill. Figure 9 compares the 2021 composition at different locations across the district. The composition does not vary greatly across the district.



Figure 8 Composition of KDC residual waste over time 2017-2021







The latest SWAP results from 2021 are shown in Figure 10. These results show that organics were the largest component, comprising 41% of the total. Recyclable plastic was the second largest component of the waste stream, comprising 18%, followed by paper and cardboard, comprising 14% and nappies, comprising 7% which is the main waste type in the residual category.





4.3.1 Diversion potential

There are opportunities to increase diversion and resource recovery potential from an improvement in recycling compliance. Current diversion rates in Kaipara are already at future target levels, which will be detailed further on. However, further improvements to diversion are possible and will be required by 2030. The SWAP analyses of kerbside refuse show the following categories of residual waste that could be diverted:



- Paper
- Plastics 1 and 2
- Glass
- Putrescible
- Non-ferrous recyclable
- Ferrous recyclable
- Cardboard

Overall, 81% of the residual waste could be diverted to either recycling or compost, as shown graphically in Figure 11.





5 Future Growth and Demand for Waste Services

The future demand for waste services will be influenced by several key drivers including:

- demographic change
- change in economic activity
- impact of waste flows from other districts
- customer expectation, consumption patterns and product quality
- the occurrence of natural disaster events
- national policy and legislation change (refer to Section 2).



5.1 Demographic change

Kaipara District, with an estimated resident population of 27,200 as of 2022, has experienced notable population growth over the past decade. The recorded growth rate during this period stands at 3%. Looking forward, a range of growth models have been developed to project population trends in Kaipara from 2022 onwards. These models encompass low, medium, and high scenarios, with corresponding annual growth rates of 0.8%, 1.4%, and 2.0% respectively. Based on these growth models, the projected population range for Kaipara by 2032 is estimated from 29,437 to 33,029. These estimates reflect the potential population growth and emphasise the importance of strategic service planning to accommodate this expansion. To further illustrate, the medium growth model predicts that by 2052, the population of Kaipara will reach approximately 35,446. This projection indicates a significant increase of 30% over the next three decades.

It is worth noting that similar growth patterns are expected across the wider Northland region, with estimated growth rates ranging from 0.8% to 1.4%. These projections align broadly with the national growth rate of 0.8% observed across Aotearoa New Zealand as a whole (Infometrics, 2022).

The Kaipara Environment Scan (2023) presents a comprehensive evaluation of population dynamics throughout the district, highlighting specific growth hotspots such as Dargaville and the Mangawhai area, encompassing Mangawhai Heads, Mangawhai, and Mangawhai Rural. Conversely, the rural areas of Kaipara Coastal, Maungaru, Ruawai-Matakohe, Otamatea, and Maungaturoto are not anticipated to experience significant increases in population and may not surpass the threshold of a small urban area, defined as having more than 1,000 residents, in the foreseeable future.

However, it is important to note that Kaiwaka, another rural settlement, has previous population growth that has the potential to evolve into a small urban settlement over time. The district's waste strategy should allow provision for the changing status of towns according to the StatsNZ categories used in the NZWS.

The findings from the Environment Scan provide valuable insights for planning and resource allocation within Kaipara. By understanding the projected growth areas and potential changes in settlement patterns, local authorities can adapt their strategies and policies to accommodate the evolving needs of the community. Table 5 provides a summary of past, current and potential population numbers and growth rates for the Kaipara and surrounding districts (Infometrics, 2023). This also provides relative inputs into regional waste volumes and where KDC falls on population size within Northland and the national population.

Kaipara has a higher annual growth rate compared with the other territorial authorities within Northland and the national average (see Figure 12) growth rates from 2012-2022 are actuals, 2022-2032 are projections from Infometrics, 2023). This growth is from a lower total population than adjacent districts and the proximity of Mangawhai to Auckland is likely a key driver.

| | Growth models | Kaipara District | Far North District | Whangarei District | National |
|-------------------|---------------|------------------|-----------------------|-----------------------|-----------|
| Population | 2012 | 20,300 | 60,400 | 82,800 | 4,408,100 |
| estimates | 2022 | 27,200 | 73,800 | 100,500 | 5,124,100 |
| | 2032 | 31,281 | 79,594 | 110,807 | 5,549,105 |
| Population growth | 2012-2022 | 3.0% | 2.0% | 2.0% | 1.5% |
| (% per annum) | 2022-2032 | 1.4% | 0.8% | 1.0% | 0.8% |

| Table 5 | Population | growth | models for | Northland | Regions |
|---------|------------|--------|------------|-----------|---------|



Figure 12 Annual average percentage change in population



5.2 Economic activity

Kaipara has seen economic growth increase from \$950m pre-Covid pandemic to over \$1b, with consumer spending and employment numbers both on the rise. Unemployment is low and beneficiary numbers are decreasing from a spike following Covid-19. House sales numbers are at record low levels following inflation and interest rate increases, together with lower property prices (Kaipara District Council, 2023).

Economic activity is a determinative factor for changes in both waste volume and composition. Seasonal effects are expected, primarily due to holiday periods. Economic growth centred around the urban towns will increase the resources consumed in these towns, resulting in more waste generated. Kaipara's economic activity is based firmly in the primary sector, mainly in agriculture, forestry, and fishing. However, it is not the primary sector responsible for recent economic growth. These industries include construction, manufacturing, professional services, and retail-wholesale trades (Infometrics, 2023).

Non-economic factors such as Covid-19 and seasonal variations can have significant impacts on both waste generation and services.

5.3 Waste from other areas

Waste flows from other areas are not a significant factor for Kaipara. More likely, some waste generated in Kaipara will be received at out-of-district waste and resource recovery facilities, such as those in Auckland and Whangarei.

5.4 Community expectations and consumer behaviour

Kaipara District Council performed a community panel survey in 2020. The data gathered is summarised in Table 6 and Figure 13, with additional comments and graphs provided in Appendix F.



Table 6 Summary of the People Panel Survey from 2020

| Question | Summary of Responses |
|---|--|
| Gender, ethnicity, township, resident status, age | 523 responses received from the survey. Township responses linked to StatsNZ Statistical Area 2 categories. |
| Question 1: How do you currently interact with Council's waste and recycling (tick all that apply)? | 593 responses as multiple selections available: 34% use rubbish and recycling bags (kerbside): 199 selections 30% use the transfer stations: 177 selections 14% use rubbish and recycling bags (rural/drop off point): 82 selections 8% have a private collection: 49 selections 7% dispose of rubbish elsewhere: 44 selections 7% have other options: 42 selections |
| Question 2: Thinking about recycling of household waste, which of these statements best describes how important recycling is to you personally? | Rating: • 1: <1% • 2: 5% • 3: 9% • 4: 15% • 5: 71% |
| Question3: Council is going to undertake a review of the waste and recycling services that it provides across the district, currently we operate a user pays approach (you purchase bags, pay at the transfer station etc). Which of the below statements best reflects: | 36% would pay a specific rate for refuse and recycling bins instead of bags. 18% would like to keep the status quo, user pays service. 17% would like user pays refuse and rates funded recycling. 15% would like rate-funded options (e.g. stickers, wheelie bin, low RTS charges. 14% provided other options. 1% don't know. |
| Question 4: Please finish this statement "The one thing Council could do now to make waste and recycling better is": | 453 individual responses, not summarised. |
| Question 5: How much do you currently spend per week on recycling & refuse disposal (blue bags, yellow bags or trips to transfer station) | 6% spend less than \$3/week. 42% spend \$3-\$5/week. 34% spend \$5-\$10/week. 9% spend more than \$10/week. 8% spend \$0/week. 2% have other values. |
| Question 6: Is there anything else you would like to add? | 257 individual responses, not summarised. |





Figure 13 People Panel Survey 2020 results for services used and weekly household rubbish costs

In summary, the 2020 People Panel survey results show that:

- The 523 submissions received represent views from across the district, including small urban and rural settlements.
- The majority of people surveyed use Council provided services or facilities, 77% of responses use kerbside bag collections, rural drop-off points for collection or take waste directly to an RTS. Only 8% responded that they use private collections, or they dispose of their waste by other means (14%).
- There is significant importance for recycling across all areas.
- There is general support for rates funded kerbside collection services using bins instead of bags, particularly in the small urban areas, Dargaville and Mangawhai. The rural areas generally support the status quo user pays scenario.
- Most households (42%) usually spend, or feel they spend, \$3-\$5 per week on refuse and recycling through the blue and yellow bags, or drop-offs directly at the transfer stations. 34% of households spend \$5-\$10 per week, while 9% spend more than \$10 per week and fewer than 6% spend less than \$3 per week. 8% claim they spend no money on waste per week.
- There is a difference in responses from Dargaville where the majority claim to spend \$5-\$10 per week, compared to Mangawhai and Mangawhai Heads where the majority claim to spend \$3-\$5 per week.
- Most households claim to spend between \$3 and \$10 per week on rubbish services. A majority of households that use Council kerbside (85%) or rural drop off (88%) spend in this range. Around two thirds of households that use transfer station drop-off or privately provided services spend in this range.

5.5 Natural and man-made disasters

Natural and man-made disasters apply a different pressure upon waste services and other inter-related services by potentially creating a significant volume of waste, which may be contaminated, in a very short



timeframe. The earthquakes in Christchurch and Kaikoura, the Covid-19 pandemic, Cyclone Gabrielle, and the Auckland floods re-emphasise the need for planning. Lessons can be learnt from these events to assist in preparing for future natural disaster events in Kaipara such as the need to provide additional capacity at transfer stations and disposal facilities at short notice.

5.6 Future demand for waste facilities and services

Taking the waste demand drivers and changing community expectations described above into consideration, there will be both increased demand and public expectations from waste facilities and services in Kaipara. Projected future waste volumes are presented in Section 7.2.

Council should consider that the Hakaru RTS is a strategic asset situated in proximity to high growth areas (Mangawhai rural, Mangawahi Heads and Kaiwaka) and central transportation routes both into and through the district. To ensure future Council services can be provided, KDC plan to commence negotiations for the Hakaru land ownership and facilities during 2024-2025.

Dargaville RTS will continue to provide the services required by the community for the foreseeable future. However, future development is needed to maintain the current level of service as the population increases. KDC have plans underway for improvements to the Dargaville RRP including a new weighbridge.

Currently, the southern part of the district has no RTS or resource recovery facility. There is the opportunity in the future to provide a resource recovery facility in this growing part of the district.

6 Future Planning Framework

This section considers the Councils' direction with regards to vision, goals, objectives, and targets for achieving waste reduction and for meeting the forecast demand for services in Kaipara District Council. The vision and targets discussed in this Waste Assessment have been derived from performance against the 2017-2022 WMMP, and incorporating the NZWS vision, goals, objectives, and targets.

6.1 Vision

Council's vision for waste management and minimisation is aligned with the NZWS:

"By 2050, Kaipara District is a low-emissions, low-waste society built upon a circular economy".

6.2 Goals and objectives

KDC has adopted developed objectives that support the achievement of these NZWS goals. The NZWS states that "By 2030, our enabling systems are working well and behaviour is changing". The NZWS goals and KDC objectives are shown in Table 7.



Table 7 New Zealand Waste Strategy goals and KDC objectives

| # | NZWS Goals | KDC Obj | ective |
|---|---|--|---|
| 1 | Systems The strategic planning, regulatory, investment and engagement systems are in place and operating to drive and support change | A. LTP B. Foci 203 C. Reg | and WMMP provide a long-term guidance. us on services that enable staged goals for 0, 2040 and 2050. ional collaboration where fit-for-purpose. |
| 2 | Infrastructure We have a comprehensive national network of facilities supporting the collection and circular management of products and materials | D. Cou and mat E. Loca eco | ncil and private facilities support collection circular management of products and cerials. al planning provisions support the circular nomy. |
| 3 | Responsibility and accountability We all take responsibility for how we produce, manage and dispose of things, and are accountable for our actions and their consequences | F. Deli awa was | ver behaviour change programmes to increase ireness and accountability to better support te minimisation. |
| 4 | Using less We use fewer products and materials, and use them for longer, by making them more durable, and repairing, reusing, sharing and repurposing them | G. Sup repu H. Edu com | port local redesign, repair, reuse, sharing and urposing initiatives. cation programs to raise awareness in the munity. |
| 5 | Resource recovery systems Resource recovery systems are operating effectively for core materials and across all regions | I. Kerl recc con: proc | oside services are supported by resource overy for use in region (organics, C&D) or solidation (plastics) of out of region circular cessing. |
| 6 | Recovering value We look for ways to recover any remaining value from residual waste, sustainably and without increasing emissions, before final disposal | J. Loo was K. Furt to P | k to recover any remaining value from residual te prior to disposal to landfill. ther opportunities in the residual waste sent uwera Landfill and possibly Redvale Landfill. |
| 7 | Emissions Emissions from waste are reducing in line with our domestic and international commitments | L. Org by 2 M. Red fron | anics collections in Dargaville and Mangawhai 2030 will support emission reduction. uce organic waste production and disposal n both residents and businesses. |
| 8 | Contaminated land Contaminated land is sustainably managed and remediated, to reduce waste and emissions and enhance the environment | N. Ider lanc O. Enco lanc | ntify and sustainably manage contaminated I in KDC, including vulnerable landfills. ourage a reduction in soil disposal volumes to Ifill. |

6.3 Targets

Councils' waste minimisation targets are aligned to the targets set out in the NZWS and outlined in Table 8 below.



| NZWS target | Local annual target | Kaipara District Council | |
|--|--|-----------------------------------|----------------------|
| | | 2022 | 2030 Target |
| 10% reduction in waste generation per person by 2030 | 10% reduction in waste per capita received at Kaipara's two RTS | 261kg / person/ year ² | 235kg / person/ year |
| 30% reduction in waste disposal per person by 2030 | 30% reduction in waste received at Kaipara's two RTS | 166kg / person/ year | 116kg / person/ year |
| % diversion kerbside collection | Staged diversion in kerbside collections of 30% by 2026, 40% by 2028 and 50% by 2030 | 36% | >50% |
| 30% reduction in biogenic methane emissions by 2030 | Putrescible content in kerbside refuse measured in annual SWAP | >40% | <20% |

Table 8 Targets based on KDC objectives and alignment with NZWS

7 Options Assessment (Statement of Proposals)

This section identifies the waste minimisation issues and opportunities for Kaipara District. It then presents the guiding principles that will be applied when considering intervention options. Finally, it presents an options assessment that considers practicable options to address future demand for waste management and minimisation services and programmes to address the opportunities that have been identified.

7.1 Waste issues and opportunities

7.1.1 Waste issues

Waste issues for Kaipara District have been identified based on:

- The district's review of its waste strategy in early 2023
- Composition and quantities of waste in council collection services and at Council facilities
- Progress against the previous WMMP Action Plan.

Eight specific waste issues have been identified through this assessment (Table 9) that will need to be addressed in the Councils' next WMMP.

² Based on data available to Council at the time of reporting. Calculated on 7,091 tonnes refuse and recycling weighed at both RTS facilities during 2022, and a population of 27,200. Council understands that assessment of this national target will be developed by MfE using 2025/26 as the baseline year, and 2026/27 for the result.



Table 9 Summary of waste issues

| # | Issue | Description |
|---|--------------------------------|---|
| 1 | Refuse still contains high | Potential for greater recycling based on limited data availability. |
| | | bags. |
| 2 | High volumes of organic | Organic waste, which can be diverted, represented 40.2% in |
| | waste to landfill | rubbish bags. |
| 3 | Limited local circular | Limited reduce and reuse initiatives for circular management of |
| | initiatives and limited access | materials. Limited or no recycling or regional organics processing |
| | to recycling and value | facilities for value recovery. |
| | recovery facilities | |
| 4 | Collection of data | Reliable data assists in setting realistic strategic objectives and |
| | | policies. It is also required for reporting and tracking progress |
| | | against targets. Currently Council contract data is available, but |
| | | limited or no waste data is available from private operators for |
| | | Council to plan services. |
| 5 | Community engagement | Community is not as engaged in waste diversion as may be |
| | | possible. |
| 6 | Urban-rural spread and | Geographically spread region including rural communities, isolated |
| | seasonal variation | marae and coastal holiday homes. |
| 7 | Cost of service concerns | Significant national change impacting council budgets. |
| 8 | Closed landfill management | Limited knowledge of historical landfills, with financial and |
| | | environmental risk associated with closed landfills. |

7.1.2 Waste opportunities

Opportunities are discussed based on the issues identified through this Waste Assessment. Suggested solutions and actions to these opportunities are developed in Section 7.4.

1. Promote local circular economy initiatives

Currently, there are limited local circular initiatives promoted by businesses or Northland Councils. There is an opportunity to provide support to local and national initiatives to enable local circular developments, such as a local composting facility or supporting a regional organics facility. Funding for these initiatives could be supported by government grants.

2. Promote better waste minimisation and recycling behaviour

There is an opportunity to promote waste minimisation and improve the recycling behaviour of residents, visitors and businesses across the district.

By including the community voice in what services are offered, and how those services are implemented in our region, is important for effective use of grants, funds and/or rates. There is an opportunity to take the community's voice into consideration from the 2020 People Panel's survey and future consultations on the WMMP. The waste sector expects significant change in the coming decade, and with that there is an opportunity for improved customer satisfaction. There are change management opportunities through clear communication of the process and reasons for the change. Community involvement and collaboration with neighbouring councils present opportunities to enable circular economic activity.



3. Improve services for rural communities and holiday makers

The urban-rural spread across the District presents an issue with household access to services. There is an opportunity to explore alternative Council services to meet community expectations and national targets. The geographic spread of the region including rural communities, isolated marae and coastal holiday homes. Council can explore opportunities to better service rural and business customers.

Urban residents have the opportunity to access three or four-stream collections services in the coming WMMP cycle. Rural residents and businesses do not have the same access to the same services, therefore there is an opportunity to divert more by looking at alternative collection systems that meet their needs.

There is an opportunity to design services to cope with seasonal change in waste volumes and type. Seasonal peaks of materials received at kerbside and facilities requires systems and infrastructure capability and resilience. Urban development is expected to be focused around the Mangawhai and Kaiwaka areas, with uncertainty around the Hakaru RTS land ownership, there may be an opportunity for a southern region RRP.

4. Modernise waste services

There is an opportunity to improve diversion by aligning the Council's services with the NZWS to recover more recycling and organics from kerbside collections. This addresses the first two issues described above. These materials have more value outside of their current waste streams. The volume of recycling measured in kerbside refuse presents an opportunity to recover more value from waste at the kerbside. Secondly, the high volume of organic waste going to landfill presents opportunity to recover energy or chemical value from this material. Currently the Council does not offer a service for household diversion of organics. The organics in kerbside refuse from Council collections is between 28% and 43% across the district.

5. Manage environmental risks associated with closed landfills

The issue facing Council with closed or illegal landfills is the limited knowledge of these sites. Some of these closed landfills are located in coastal areas, at risk of contaminating the environment as a result of changes to climate conditions. The on-going management of these risks and remediation efforts remain a priority for Council.

7.2 Projected waste volumes

Waste volumes are projected to increase as population and economic activity increases within the district. Without intervention, population and economic growth are predicted to increase waste generation by 3.9% per annum (1.4% population growth plus 2.5% GDP growth). By 2033, waste generation is expected to increase by 52% to 10,800 tpa.

7.3 Guiding principles

In developing options, KDC will be guided by the principles in Table 10. These guiding principles align with the three NZWS targets.



Table 10 Mapping KDC guiding principles to NZWS objectives

| KCD Guiding Principles | New Zealand Waste Strategy 2023 |
|--|--|
| Implementing a circular economy (by reducing waste). | (1) Waste Generation |
| Managing impacts and adapting to climate change (by reducing greenhouse gas emissions and protecting infrastructure from the effects of climate change). | (3) Waste Emissions |
| Encouraging the community to take responsibility for minimising their own waste. | (1) Waste Generation (2) Waste Disposal |
| Providing services that are safe (for collectors and public) (and protect the environment from harm). | |

7.4 **Options Assessment**

Options assessment for kerbside collection services is detailed in Section 7.4.1 which includes options for rural households and holiday homes. Options for transfer stations follows in Section 7.4.2.

7.4.1 Kerbside collection options

The outcome from the options assessment was that the following services scored highest for the refuse, recycling and organics collection service. Table 11 compares kerbside collection options assessed.

Refuse

Refuse collection options include maintaining the status quo with pre-paid refuse bags collected weekly, or alternative options which include replacing refuse bags with rubbish bins and rates-funding collections in urban areas. Experience from other councils in New Zealand is that offering only 140L bins suits most residents. Offering a choice of bin sizes meets the needs of more residents, but customer choice adds complexity to service delivery.

Compared with pre-paid bags, bins with pre-paid tags or private only services, the universal service is more cost-effective for residents and the volume restriction encourages them to use the diversion services available (kerbside recycling and organics). Refuse bag collection services continue for rural areas.

Recycling

Options assessed for recycling include the status quo pre-paid yellow bags. Alternative options assessed include a comingled recycling bin in urban areas, or a comprehensive recycling collection with glass separated from other recycling using a crate.

The most common service in New Zealand is the 240L mixed recycling bin plus 45L glass crate. Residents prefer the convenience of bins, but commingling all recyclables reduces the quality of material collected. A separate glass crate improves the quality of glass recycling, whilst also reducing contamination of mixed recyclables with glass shards, in turn improving the quality of other recyclables collected. There is improved health and safety for recyclables processing operators with no glass on processing lines.

Using 3x45L crates sorted at source maximises the value of the material collected, however there are higher health and safety risks than a service that replaces some crates with bins.



Compared with pre-paid bags or no collection service, there is greater use of recycling services with a universal Council service.

Organics

Options assess for organic collections in urban areas include a 23L food scraps bin either as an opt-in private service, or a rates funded service.

The NZWS requires KDC to implement organics collections in urban areas by 2030. Collecting food waste serves two primary purposes, increased diversion and reduced greenhouse gas emissions. Food scrap diversion provides opportunities for a wider range of processing options (e.g. digestors) to be considered. However, it is expensive to provide a collection service for this low volume of waste. Collecting food and green waste together is more cost-effective and ensures a service is available for diverting green waste as well. Combined food and greed waste requires a composting facility for processing, however these are the most common processing option. Combining food and green waste can result in less food waste collection with residents primarily using the bins for green waste diversion as opposed to food waste.

Selecting a preferred option

It is recommended that these options are presented to the community to obtain their feedback on them and help inform which is the preferred option. The status quo would also be presented, however noting that Council is not recommending the status quo continue.

Table 11 Kerbside options to address future opportunities

| Option | 1. Status quo | 2.1. Introduce recycling bin | 2.2. Introduce recycling and rubbish bins | 3. Opt-in organics collection |
|---------------|--|--|---|---|
| | Pre-paid Pre-paid rubbish bags recycling bags | Pre-paid Recycling bin, rubbish bags 240L (incl. glass) | Rubbish bin, 140L Recycling bin, (rates-funded) 240L (incl. glass) | Rubbish bin,Recycling bin,Food scraps bin,140L (rates- funded)240L (incl. glass)23L (opt-in to private service) |
| Services | | | | |
| | Does not align. Does not meet mandatory service requirements for recycling or organics. Unable to meet 50% diversion target for kerbside services. | Does not align. Does not meet mandatory service requirement for organics. Unable to meet 50% diversion target for kerbside services. | Does not align. Does not meet mandatory service requirement for organics. Unable to meet 50% diversion target for kerbside services. | Does not align. Unable to meet 50% diversion target for kerbside services. |
| Advantages | No change for community. Private collectors not impacted. | Limited change for community. High recycling volumes. Meets 2021 LTP commitment to community to introduce recycling. Equitable access to recycling collection service. Private collectors not impacted. Access government grants for recycling service. | High recycling volumes. Meets 2021 LTP commitment to community to introduce recycling. Equitable access to collection services. Access government grants for recycling service. | High recycling volumes. Meets 2021 LTP commitment to community to introduce recycling. Equitable access to rubbish and recycling collection services. Access government grants for recycling service (and potentially food too). |
| Disadvantages | Low recycling volumes. No food waste diversion. Unable to meet diversion targets. Unable to collect all mandatory recycling materials. Lose opportunity for government funding grant for organics and recycling. Not compliant government requirements, enforcement action e.g. loss of levy funds or return of grants are lost opportunity costs. No volume restrictions on rubbish to encourage diversion. Inconsistent collection service access. H&S issues collecting bags. | No food waste diversion. Unable to meet diversion targets. Lose opportunity for government funding grant for organics. Not compliant government requirements, enforcement action e.g. loss of levy funds or return of grants are lost opportunity costs. No volume restrictions on rubbish to encourage diversion. Inconsistent rubbish collection service access. Lower quality recyclables, less markets (may have to sort out of district). H&S issues collecting bags. Bin to store at home plus bags. | No food waste diversion. Unable to meet diversion targets. Lose opportunity for government funding grant for organics. Not compliant government requirements, enforcement action e.g. loss of levy funds or return of grants. Large change for the community. Private collectors lose residential customers. Volume restrictions on rubbish not sufficient to encourage diversion. Contamination hidden in recycling bins. Lower quality recyclables, less markets (may have to sort out of district) Two bins on kerb in recycling weeks. Two bins to storage at home. | Cost of opt-in service for food scraps limits uptake. Unable to meet diversion targets. Not compliant government requirements, enforcement action e.g. loss of levy funds or return of grants are lost opportunity costs. Large change for the community. Private collectors lose residential customers. Volume restrictions on rubbish not sufficient to encourage diversion. Contamination hidden in recycling bins. Lower quality recyclables, less markets (may have to sort out of district). Two bins on kerb every week if opt-in to food scraps. Two or three bins to store at home. |
| \$ | \$260-\$580/hh/yr (incl. GST) \$5-\$11.15/hh/wk (incl. GST) | \$300-\$540/hh/yr (incl. GST) \$5.77-\$10.38/hh/wk (incl. GST) | \$340/hh/yr (incl. GST) \$6.54/hh/wk (incl. GST) | \$340 or \$590/hh/yr (incl. GST) \$6.54 or \$11.35/hh/wk (incl. GST) |
| Costs | Rubbish bag of private bin, \$180-\$420. Recycling bag \$80-\$160. | Rubbish bag of private bin, \$180- \$420. Recycling bin \$120. | Recycling bin \$120. | Recycling bin \$220. Recycling bin \$120. Food bin, extra \$250 if opt-in. |





- Recycling bin + crate \$120.
- Food bin \$70.

| Notes: | Future vision: |
|---|---|
| Private sector bins also available for rubbish and green waste, or if extra capacity needed. Council bins for food, recycling or rubbish are rates funded. Recycling bin (or bin plus crate) collected fortnightly. Food bin collected weekly. Rubbish bin collected fortnightly following introduction of food waste collection. Option to replace food bin with combined food and garden organics bin (80L). Costs: Blue rubbish bags: \$3.60 for 60L, pricing for 1-2 bags per week, \$180-\$360/hh/yr (incl. GST). Households can also use private rubbish bins, \$260-\$420/yr. Rubbish bin \$220/yr for weekly collection, \$150/yr for fortnightly collection. Yellow recycling bags: \$1.50 for 30L, pricing for 1-2 bags per week, \$80-\$160/hh/yr (incl. GST). Recycling bin, or bin+crate, \$120/yr. Food bin \$70/yr. Private opt-in service for food waste estimated at \$250/yr (based on pricing provided to Council). | Improved collections, increased diversion (by 2030) |







7.4.1.1 Rural households

The standard kerbside collection service described above does not suit the needs of rural households in the district. Proving a kerbside service to every property would be difficult and costly due to the remoteness of some areas, the low housing density and the narrow, unsealed roads making it difficult for collection vehicles to access. Rural properties typically have on-site solutions for food scraps and green waste and therefore do not need organics collection services. Rural properties also no not have the same level of service expectation that urban households do.

For rural households the following services are proposed, that complement the urban services:

- Continue refuse and recycling user pays bags
- Continuing to service rural households on select routes, that are between urban collection areas
- Explore the effectiveness of rural drop-off points for rural collections
- Exclude organic collection from rural collection services.

7.4.1.2 Holiday homes

In holiday areas, households generally prefer to have a similar level of waste service to that which they have in their normal residence (unless they are in a remote rural part of the district). However, often these homes are empty and require collection following long weekends. Wheelie bins that have to be returned to a property can prove problematic.

For holiday areas, the following enhancements to the urban services are proposed:

- Collection days at the start of a week
- Continue to offer bags as options in both urban and rural collections
- Provision of additional collections during peak holiday season
- Advertising the availability of drop-off facilities on non-collection days
- A put-back service for additional fee.

7.4.2 Transfer stations

KDC's preference is for the operation of the transfer station sites to be outsourced to private contractors. However, the decision for Kaipara's involvement in transfer station sites ranges from being 'All In' where Council would set the fees for the sites, retain all revenues and fund required upgrades, or conversely an 'All Out' approach where the transfer station sites are to be provided by private waste contractors who can set gate fees and retain all revenue. Council has waste minimisation goals to achieve, illegal dumping to strongly avoid and public behavioural change to manage for maximisation of waste diversion into recycling. Therefore, there are benefits for Council to retain some degree of control of the transfer stations.

The decision over the long-term ownership of the Hakaru transfer station property is still to be made. An alternative site will be needed to replace Hakaru if it is not purchased by Council and instead is returned to the landowner when the lease expires in 2027. This decision may divert the consideration of an option for Council to maintain control of the western Dargaville facility only, and fully out-source the eastern facility.



The options assessed for the transfer stations are listed in Table 12. The status quo is the least cost option for Council, but upgrades are required to increase diversion supported by differential fees for diversion services. The uncertainty regarding future ownership of the Hakaru site, make ongoing use more challenging. For this reason, the option that involves focusing on Dargaville is preferred over other options.



| Option | Description |
|---|---|
| Status Quo | Out-sourced contracts for both RTS Contractor sets gate fees and retains revenue |
| Enhanced status quo, upgrade RTS | Out-sourced contracts for both RTS Contractor sets gate fees and retains revenue Council funds RTS upgrades for more diversion Negotiation with Hakaru site owner for purchase or lease |
| Council takes more site control, sets RTS fees | Out-sourced contracts for both RTS Council sets gate fees and retains revenue Council funds RTS upgrades for more diversion Negotiation with Hakaru site owner for purchase or lease |
| Council retains Dargaville, but opts out of Hakaru | Out-sourced contract for Dargaville Eastern RTS provided by private waste company Council sets Dargaville gate fees and retains revenue Council funds Dargaville upgrades for more diversion |
| Council opts out of both Dargaville and Hakaru | RTS provided by private waste companies Dargaville site leased to operator Ownership Hakaru site returns to owner |
| Council develops a new Southern RTS/RRP | Fund the development of a third RTS facility to service the southern region May only be required if the Hakaru RTS can remain operational pending land ownership outcomes. |

Notes:

(1) Out-sourced contract includes specification of: O&M requirements, availability of diversion services

(2) Out-sourcing enables Council to define type of contractor operating site e.g. involvement community groups

(3) Setting fees includes a decision on whether to charge for diversion or hazardous waste services

7.4.3 Refuse disposal, and recyclables and organics processing

Material collected through kerbside services will need to be consolidated and transported to waste handling and disposal facilities. Residual waste is transferred to landfill for disposal, Material Recovery Facilities (MRF) are usually where recyclables are transferred, and composting or other organics processing facilities is where organic and greenwaste is transferred for further processing.

Arrangements for access to consolidation, disposal and processing facilities needs to be coordinated with the procurement of new collection services. Through the procurement process, and the development of a procurement strategy, consideration would be given to negotiating direct supply agreements (e.g. recyclables processing), competitive tender (e.g. landfill disposal), or regional development (e.g. composting).



Waste-to-Energy

As an alternative to landfill disposal, a Waste-to-Energy facility could be developed in the Kaipara for indistrict waste or in a neighbouring district as a regional facility. The development of a Waste-to-Energy facility is not recommended at this stage for the following reasons:

- Not promoted by central government as the value of the resource is lost through the combustion
 process and therefore, does not align with a circular economy approach that keeps resources in use
 as long as possible. Note, central government accept that for a small number of specific waste
 streams, for which there are no other recovery options available, Waste-to-Energy is preferred over
 landfill disposal.
- Waste-to-Energy facilities are complex and expensive to operate, requiring high-tech operational management, when compared with existing waste processing options.
- Waste-to-Energy facilities are not flexible waste processing option as they require a sustained, steady volume of suitable waste (high calorific value) over their operating life (20-years plus).
- Waste-to-Energy facilities are difficult to consent, with public opposition generally high.

7.4.4 Other services

7.4.4.1 Litter services

KDC understands that litter bins should be phased out across the district to avoid the incidence of illegal dumping and the costs associated with increased maintenance and service. The following direction is to be taken by KDC on litter services:

- The complete removal of litter bins is to be considered across the entire Kaipara district including playgrounds, campgrounds, sports facilities, reserves, parks.
- If litter bins are retained, then option to explore the application of technology for litter bins to provide information on when servicing is required.

7.4.4.2 Waste education and behaviour change programmes

Council will enhance and expand its existing waste education and behaviour change programmes to support and enable the community to take responsibility for diverting more of their own waste and ensure they are aware of and can use the services provided by Council. Additional budget will be allocated to enable this enhanced programme.

7.4.4.3 Management of closed landfills

There are no changes proposed to the Council's current approach to managing its closed landfills. Council will continue to assess the risk these legacy sites present to the environment, including the potential impacts of more severe climatic events, and undertaking appropriate remedial works.

7.4.4.4 In-house resources

Additional resources are proposed to support the delivery of wider kerbside collection services and coordinate the enhanced behaviour change programmes, however this does not include resource requirements for continued delivery of the other waste service requirements such as contractor and contract management, monitoring and consent requirements for the closed landfills and other related activities.



8 References

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Appendix A Letter from Medical Officer of Health

To be inserted once available.



Appendix B Legislation

Waste Minimisation Act (WMA) 2008

https://www.legislation.govt.nz/act/public/2008/0089/latest/DLM999802.html

Climate Change Response Act 2002 and amendments

https://www.legislation.govt.nz/act/public/2002/0040/latest/versions.aspx

Local Government Act 2002 (LGA 2002)

https://www.legislation.govt.nz/act/public/2002/0084/latest/DLM170873.html

Resource Management Act 1991 (RMA)

https://www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html

Other legislation

The following is a summary of other legislation that is to be considered with respect to waste management and minimisation planning.

Hazardous Substances and New Organisms Act 1996 (HSNO Act)

https://www.legislation.govt.nz/act/public/1996/0030/latest/DLM381222.html

Health Act 1956

https://www.legislation.govt.nz/act/public/1956/0065/latest/whole.html

Litter Act 1979

https://www.legislation.govt.nz/act/public/1979/0041/latest/DLM33082.html

Health and Safety at Work Act 2015 (HSWA)

https://www.legislation.govt.nz/act/public/1979/0041/latest/DLM33082.html

Urban Development and Building

Various pieces of policy and legislation in the development and construction sector will have an indirect impact on the management and impact of construction and demolition waste. The National Policy Statement on Urban Development 2020 has objectives and policy statements on sustainability, including reduction in greenhouse gases. Amendments to the Building Act (2019) and (2021) are designed to drive product stewardship, the recording of product information and support the use of new, innovative, and efficient building methods.

Other legislation

Other legislation that relates to waste management and/or reduction of harm, or improved resource



efficiency from waste products includes:

- Biosecurity Act 1993
- Radiation Protection Act 1965
- Ozone Layer Protection Act 1996
- Agricultural Chemicals and Veterinary Medicines Act 1997



Appendix C Progress towards 2017-2022 WMMP action plan

| Category | | Action | Assessment |
|---|----|--|---|
| Infrastructure actions | А. | Determine community interest in additional/new rural drop-off locations. | PARTIALLY COMPLETED (general interest expressed, but specific locations TBC) |
| | В. | Determine community interest in new holiday home drop-off locations. | PARTIALLY COMPLETED (general interest expressed, but specific locations TBC) |
| (| | Investigate provision of a universal recycling collection. | PARTIALLY COMPLETED (investigations complete, but service not yet implemented) |
| | D. | Develop a proposal to promote composting. | COMPLETED (Sustainable Kaipara composting workshops) |
| | E. | Investigate the 'dry' waste sorting at Hakaru and Dargaville Transfer Stations. | ONGOING (both RTS operators continue to look for opportunities for additional recycling) |
| Concept developed with contractors including pilot trial. | F. | Consult with the community on the best solution for litterbins. | NOT COMPLETED (proposed actions to be included in 2023 WMMP) |
| or or or | G. | Assist the Refuse contractor in researching and establishing alternative economic recycling markets. | ONGOING (contractor continually researches alternative markets for recyclables). |
| Education actions | н. | Update and maintain information on KDC website. | ONGOING |
| | ١. | Disseminate information on waste services to all residents. | ONGOING |
| | J. | Support NRC environmental education activities. | ONGOING |
| | к. | Participate in national education/advocacy activities. | ONGOING |
| Policy Actions | L. | Investigate options and alternatives for funding of recycling collection (linked to Action "C."). | PARTIALLY COMPLETED (investigations complete, funding allowed for in 2021 LTP but service not yet implemented) |
| | M. | Develop criteria for making grants available from Waste Levy funds. | COMPLETED (further grants on-hold while effectiveness of grant programme reviewed) |
| | N. | Develop an implementation plan for the existing Solid Waste Bylaw. | NOT COMPLETED (licensing superseded by national reporting requirements. New bylaw to be considered following completion of 2023 WMMP) |
| | 0. | Reporting on progress against the targets in the WMMP in Annual Reports. | ONGOING |

Table 13 Assessment of Kaipara District Council's Action Plan in the previous WMMP 2017-2022



Appendix D Current Product Stewardship Schemes in New Zealand

| Scheme or Programme | Regulated / accredited | Details |
|---|--|--|
| Agrecovery Foundation | Accredited scheme, working towards regulated status | Provides NZ farmers and growers with programmes for container recycling, drum recovery and collection of unwanted and/or expired chemicals. Also provides systems for return of shrink wrap and other farm plastics. |
| Envirocon | Accredited scheme, non-regulated | Waste concrete (including potentially harmful liquids) is diverted from landfill and upcycled into value-added precast concrete products for the Interbloc Modular Wall System. |
| Filter disposal services | Accredited scheme, non-regulated | Take back scheme for used oil filters from vehicles. |
| Glass Packaging Forum | Accredited scheme, non-regulated | The forum connects businesses that sell glass-packaged consumer goods with those that collect and recycle glass. This helps to improve the quality and quantity of glass recycled. The aim is zero container glass to landfill. |
| Interface ReEntry Programme | Accredited scheme, non-regulated | The scheme recycles used Interface carpet tiles into new carpet tiles and other products. PVC backed carpet tiles beyond their usable life are sent back to the original manufacturer in the US where they are stripped and remanufactured. |
| Large batteries | Currently in design phase for regulated scheme | Managed by the Battery Industry Group, covering batteries greater than 5kg, excluding lead-acid batteries. |
| Plastic packaging | Currently in design phase for regulated scheme | The Packaging Forum and New Zealand Food and Grocery Council are leading the two-year co-design process on plastic packaging. |
| Refrigerant recovery scheme | Accredited scheme, currently in design phase for regulated scheme | The Trust for the Destruction of Synthetic Refrigerants, also known as RECOVERY collects and responsibly disposes of refrigerants used in the refrigeration and air conditioning industries. |
| Resene Paintwise | Accredited scheme, non-regulated | Take-back of paint and paint receptacles. User pays for non-Resene branded paint and paint receptacles. |
| Recovery Oil Saves the Environment (ROSE) | Accredited scheme, non-regulated | The used-oil recovery programme enables users, oil producers and regulators to responsibly collect, transport, use and dispose of used oil. |
| Soft Plastic Recycling Scheme | Accredited scheme, non-regulated | Soft plastic packaging is collected from participating stores and delivered to two NZ processors – Future Post in Waiuku and Second Life Plastics in Levin. The soft plastics are made into new products such as plastic fence posts, cable covers & garden edging. |
| Sharp Comprehensive Recycling and Waste Reduction Scheme | Accredited scheme, non-regulated | Sharp New Zealand aims to reuse and recycle 100% of its packaging materials, electronic products, equipment and obsolete and used parts. |
| Synthetic refrigerant scheme | Design phase for regulated scheme | End of life refrigerant management scheme. |
| TechCollect | Design phase for regulated scheme | End of life e-waste scheme. |
| Tyrewise | Regulated scheme | New Zealand's first regulated product stewardship scheme covering the management of tyres. |

Table 14 Existing product stewardship schemes in New Zealand – regulated and accredited



Appendix E Closed Landfill Site List

Kaipara District Council's Waste Minimisation Strategic Activity Management Plan 2021-2031 lists known closed and illegal landfills.

Closed landfills previously consented -

- 1. Dargaville Closed Landfill
- 2. Hakaru Closed Landfill
- 3. Pahi Road Closed Landfill
- 4. Kaiwaka Closed Landfill
- 5. Mangawhai Closed Landfill
- 6. Tinopai Closed Landfill
- 7. Ruawai Closed Landfill
- 8. Omamari Closed Landfill
- 9. Glinks Gully Closed Landfill
- 10. Parawanui Closed Landfill
- 11. Cole Road (Te Maire) Closed Landfill
- 12. Mosquito Gully Closed Landfill
- 13. Kellys Bay Closed Landfill
- 14. Bickerstaffe Road Closed Landfill

Figure 14 Locations of closed landfills across Kaipara District Council (KDC, 2021).

USUND Transfer Station USUND Transfer Station Transfer Stat

Closed landfills previously unconsented -

- 1. Pouto Point.
- 2. Tangiteroria.
- 3. Kaihu.
- 4. Te Kowhai Road.
- 5. Te Kopuru, Clean Street.
- 6. Franklin Road, this site has previously had some consented activity.



Appendix F People Panel Waste Survey Results 2020

Kaipara District Council conducted a people panel survey on waste services in 2020. There were 523 responses from across the region. Figure 15 shows the responses by area using the Statistical Area 2 categories by StatsNZ.

Question 1 asked residents which refuse and recycling services they currently use, multiple options could be selected. Figure 16 shows a summary of responses by area.

Question 2 asked residents to rank the relative importance of recycling to them personally out of 5, with 5 being highly important. Figure 17 shows a summary of responses by area.

Question 3 asked residents their preference for potential future waste services. The current user pays model was one options, with options for a rates funded refuse and recycling services, a rates funded recycling service only, or other rates-funded options. Figure 18 shows a summary of responses by area.

Question 4 asked residents to complete the sentence "The one thing Council could do now to make waste and recycling better is ..." for which 453 individual answers were received. A summary of these is not illustrated.

Question 5 asked residents how much their household spends on refuse and recycling service per week. Figure 19 shows a summary of responses by area.



Figure 15 Responses by Statistical Area 2





Figure 16 Current type of refuse and recycling services used







Figure 18 Preference for future waste services



Figure 19 Household weekly spend on refuse and recycling

