

# MALAHAT NATION



## SOLID WASTE MANAGEMENT PLAN



COMPLETED JULY 2024

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JULY 2024

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# TABLE OF CONTENTS

<b>ACKNOWLEDGEMENT .....</b>	<b>4</b>
<b>DEFINITIONS AND ACRONYMS.....</b>	<b>5</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>6</b>
<b>1. INTRODUCTION .....</b>	<b>9</b>
<b>2. COMMUNITY CONTEXT .....</b>	<b>17</b>
2.1 Geography and Demographics .....	17
2.2 Community Strategies, Goals and Plans Related to Waste Management.....	19
2.3 Cowichan Valley Regional Strategies .....	25
<b>3. CURRENT WASTE MANAGEMENT PRACTICES AND SERVICES.....</b>	<b>27</b>
3.1 Recycling Curbside Collection .....	27
3.2 Garbage Collection .....	28
3.3 Other Recycling Taking Place in the Community .....	29
3.4 Other Waste Material Management .....	30
3.5 Community Events Targeting Waste Reduction, Diversion and Responsible Disposal.....	31
3.6 Malahat Staff Managing Recycling and Waste .....	32
3.7 Partnerships .....	32
<b>4. FOCUS AREAS .....</b>	<b>35</b>
4.1 WASTE PREVENTION .....	36
4.2 WASTE DIVERSION.....	36
4.3 RESIDUAL WASTE MANAGEMENT .....	38
4.4 OTHER WASTE MATERIAL MANAGEMENT .....	40
4.5 ADMINISTRATION .....	41
<b>5. RECOMMENDED ACTION PLAN.....</b>	<b>43</b>

# TABLE OF CONTENTS

5.1 Short Term Actions 1 - 3 years (before 2027).....	44
5.2 Medium Term Actions 4 - 5 years (2027 - 2028) .....	47
5.3 Long Term Actions 6 - 10 years (2029 - 2034).....	49
5.4 Measuring Success .....	50
<b>APPENDIX A: ACTION IMPLEMENTATION PLAN .....</b>	<b>53</b>

# ACKNOWLEDGEMENT

The Malahat SWMP was developed through broad participation and thoughtful input from community members and the Council. Your strong interest in responsible management of recycling enabled us to develop a community-driven solid waste management plan.

Huy tseep q'u



## DEFINITIONS AND ACRONYMS

Terminology/Acronym	Definition
C&D	Construction and demolition waste
CCP	Comprehensive Community Plan
CVRD	Cowichan Valley Regional District
EPR	Extended Producer Responsibility is an approach to recycling that requires producers (e.g., manufacturers, distributors, and retailers) to take responsibility for the life cycle of the products they sell, including collection and recycling.
HHW	Household Hazardous Waste
SWMP	Solid Waste Management Plan
MH	Morrison Hershfield (Stantec)
CIRCULAR ECONOMY	The circular economy is a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting. <sup>1</sup>
ZERO WASTE	The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health. <sup>2</sup>

<sup>1</sup> Circular Economy Definition, Ellen McArthur Foundation <https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

<sup>2</sup> Zero Waste International Alliance <https://zwia.org/zero-waste-definition/>

# EXECUTIVE SUMMARY

Malahat Nation is a Coast Salish community, located on the southern end of Vancouver Island, approximately 40 kilometres north of Victoria and approximately 25 kilometres south of Duncan. The community is surrounded by the Cowichan Valley and bounded by two main transportation thoroughfares: the Trans-Canada Highway to the west and the Saanich Inlet to the east.

Malahat Nation has a fast-growing population with limited waste diversion taking place and frequent illegal dumping and littering on reserve. In addition to these issues, Malahat Nation and its community members have expressed (through engagement and strategic planning initiatives) other key waste management issues including a lack of waste reduction education and opportunities, impacts of wildlife management and invasive species, challenges with managing construction and demolition, and the importance of promoting circular economy principles. To address these issues, the community has identified the need to develop a road map, a Solid Waste Management Plan (SWMP) that builds on the visions and values outlined by the community through strategic planning, such as the 2021 Comprehensive Community Plan (CCP)'s strategic directions.

## SOLID WASTE MANAGEMENT PLAN DEVELOPMENT TIMELINE



Community members had opportunity to provide input to guide this planning process, and the plan maps out the short and long-term path for waste management for Malahat Nation.

The survey conducted in 2023 identified key priorities that were sorted into five focus areas. All actions were placed within these focus areas including waste prevention, waste diversion (recycling/composting), residual waste (garbage) management, other waste material management and administration.

### 5 FOCUS AREAS



**WASTE PREVENTION**  
(REDUCE, REUSE, REPAIR)



**WASTE DIVERSION**  
(RECYCLING/COMPOSTING)



**RESIDUAL WASTE MANAGEMENT** (GARBAGE)



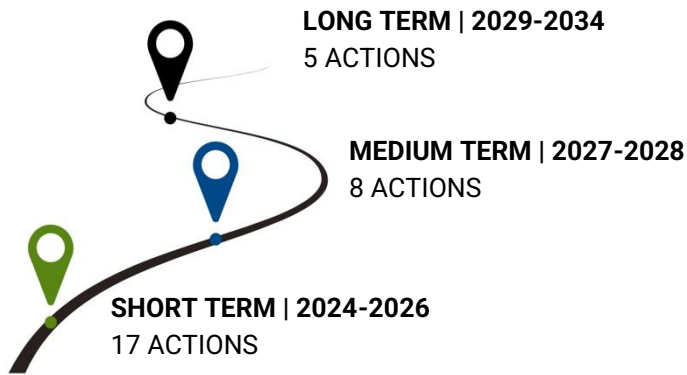
**OTHER WASTE MATERIAL MANAGEMENT**



**ADMINISTRATION**

## A ROAD MAP FOR THE FUTURE

This plan sets out an ambitious, but realistic, road map (action plan) for the community to guide future management of solid waste (garbage, recyclables and organic material) over the next decade (2024 – 2034).



Based on the focus areas identified during the planning process, the plan recommends thirty distinct actions that Malahat Nation can take in the **short-term** (high priority areas that require attention in the next 1 - 3 years), **medium-term** (4 - 5 years) and **long-term** (6 - 10 years).

The successful implementation of this plan will be important for Malahat Nation as the community works toward transitioning from linear “wasteful” systems to more circular sustainable systems that more closely mimic natural ecosystems and Indigenous stewardship principles. Implementation of the plan requires partnership with many external parties to optimize resource conservation and minimize waste generation. This plan provides an opportunity to confirm Malahat’s commitment to educating and engaging with community members to help improve community attitudes towards responsible management of waste and recycling with the objective to:

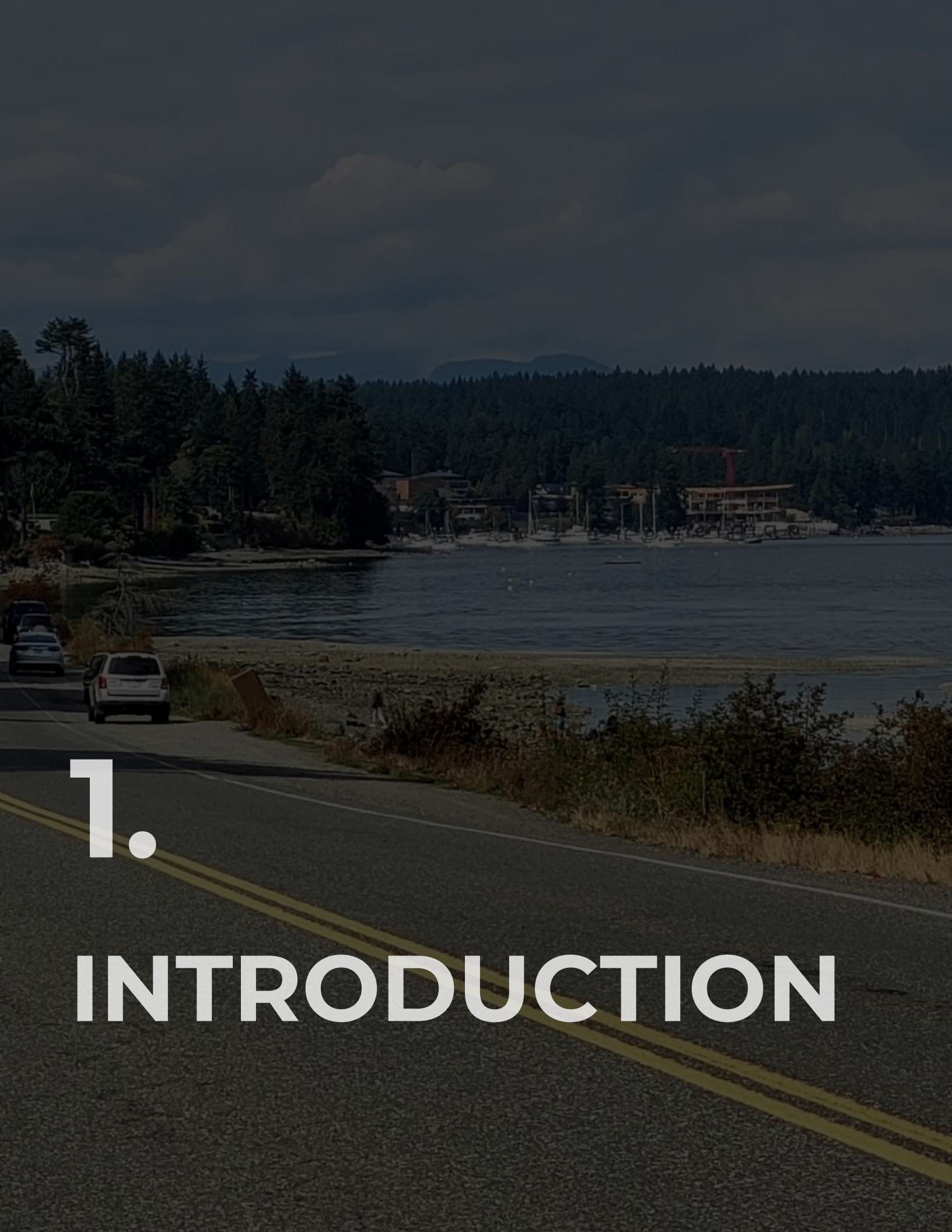
- Divert more waste from landfill through composting and better recycling
- Find circular economy opportunities that benefit the community
- Prevent illegal dumping and littering on and near the reserve
- Help community members feel proud about protecting our environment and reviving the sacred relationship with our local land and its resources

## ENSURING SUCCESSFUL IMPLEMENTATION OF THE PLAN

The following priority actions are recommended to complete immediately, to set the course for the successful implementation of this plan:

1. Appointing a Waste Management Champion to lead the plan implementation
2. Keep waste containers and facilities clean to avoid attracting wildlife
3. Implement the waste transfer station (currently being planned) to provide better access to drop-off recyclable materials that cannot be collected curbside
4. Starting a food waste collection program





1.

# INTRODUCTION

# 1. INTRODUCTION

Malahat Nation has identified the need to develop a Solid Waste Management Plan (SWMP) to act as the “road map” for how the community will address on-going waste management issues, build capacity and educational awareness of recycling and waste diversion. The plan will also meet priorities identified in community strategic plans, such as the 2021 Comprehensive Community Plan (CCP), the 2018 Land Use Plan (LUP), and the 2021 Environmental Management Plan (EMP).

## 1.1 What is a Solid Waste Management Plan?

In British Columbia, over 2.5 million tonnes are landfilled annually and 7.5% of British Columbia’s total greenhouse gas emissions come from the waste sector<sup>3</sup>. There is a strong need to reduce waste through diversion programs as well as reducing, repurposing, repairing and composting waste materials to reduce environmental impact. In BC, waste is increasingly being considered as a resource, where items that were previously landfilled are now being collected through Extended Producer Responsibility (EPR) programs and properly managed and recycled. EPR programs require producers of the material to be responsible for collecting the recyclable material and ensuring it is turned into new products<sup>4</sup>.

In 2016, the Government of Canada launched the First Nation Solid Waste Management Initiative, which assists First Nation communities across the country in designing a plan for managing solid waste on reserve to reduce the environmental, health, and safety risks associated with inadequate solid waste management practices<sup>5</sup>.

This plan sets out an ambitious, but realistic, road map for the community to guide future management of solid waste (garbage, recyclables and organics) in the community. The plan provides actions and tools to ensure Malahat Nation’s responsible management of waste, protecting the environment and the community. As part of the plan development, Malahat Nation, with support from the consultants, Morrison Hershfield (now Stantec), has assessed current practices and involved the community in dialogue on possible solutions for addressing the ways to divert more waste from landfilling and prevent dumping and litter in the community.

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<sup>3</sup> <https://www2.gov.bc.ca/assets/gov/environment/waste-management/garbage/swmp.pdf>

<sup>4</sup> <https://rcbc.ca/epr-programs-in-bc/>

<sup>5</sup> <https://sac-isc.gc.ca/eng/1640350964188/1640351002909#chp1>

**This SWMP provides a guide for Malahat Nation to better manage and divert waste from the landfill over the next 10-years.**

The objectives for the plan were focused on developing solutions and strategies for improving how waste is managed, diverting more materials from the landfill, finding circular economy opportunities for materials that benefit the community, preventing illegal dumping and littering, and making community members feel proud about protecting the environment and revitalize the sacred relationship with the local land and its resources.

## OBJECTIVES OF THE SOLID WASTE MANAGEMENT PLAN:

- ✓ Increase waste diversion from the landfill.
- ✓ Improve waste management.
- ✓ Help community members feel proud about protecting the environment.
- ✓ Prevent illegal dumping and littering.
- ✓ Revitalize the sacred relationship with the local land and its resources.
- ✓ Find circular opportunities that benefit the community.

## 1.2 Plan development and community engagement

The solid waste management planning process began with community engagement in the fall of 2023, in which all feedback and input was compiled and actions and strategies were presented in the spring of 2024 for additional feedback. The final report was created during the summer of 2024 and will be available on Malahat Nation's website.

### SOLID WASTE MANAGEMENT PLAN DEVELOPMENT TIMELINE





Community member input was a priority for guiding the development of the SWMP. During plan development, the community became better educated on management of waste and recycling so that they could provide insight into perceived barriers that need to be considered in the future. Community members had the opportunity to provide ideas to guide this planning process, and this plan maps out the short and long-term path for waste management for Malahat Nation.



The plan was also guided by the four pillar principles for waste minimization - reduce, reuse, recycling and respect<sup>6</sup>, which aligns with the community values outlined in the CCP, LUP and EMP and brings an Indigenous lens to the management of waste.

*Figure 1. Four Pillars for Waste Minimization*



## COMMUNITY ENGAGEMENT

Fall 2023

The first community engagement opportunity centered around creating an exciting event focused on waste reduction and completing a survey. Because a community clean up event was being planned for the week of November 6-10, 2023, a free clothing swap event was hosted on November 8 between 2-6 pm with bannock and coffee to bring members together for SWMP engagement.

Engagement opportunities on general recycling from the Cowichan Valley Regional District and the recently completed Transportation Plan were also added.

The Community clothing swap event provided an opportunity for community members to learn about the SWMP, the planning process and overarching objectives while experiencing a fun, zero-waste initiative during clean-up week.



*Image 1. SWMP engagement material the clothing swap November 2023*



*Image 2. SWMP engagement during the clothing swap November 2023*

<sup>6</sup> First Nation Waste Minimization Program <https://greenactioncentre.ca/first-nations-waste-minimization/>

As part of this event, a survey was made available to residents to provide feedback on what was important to them. The survey helped to set the direction of this plan with short-and long-term actions identified by community members.

The survey was conducted in person at the event with the help of the Land Guardians. All attendees were provided with a handout about the SWMP and included a link to the online survey.



Image 3. Community members talking through the survey

**WE WANT TO HEAR FROM YOU!**

**AND YOU COULD WIN A GIFT CARD**

Please provide input into the creation of Malahat Nation's solid waste management plan. This plan will guide how we manage and reduce waste over the next 10 years.

- 1

 What's working in terms of how we manage recycling and garbage in our community?
- 2

 What is not working? What issues have you noticed?
- 3

 What improvements would you like to see over the next 10 years that could result in less waste sent to the dump?

Thank you! To be entered into the prize draw, please include your name: \_\_\_\_\_

Figure 2. Survey administered in November 2023

The survey was available online for 4 weeks following the community engagement event, and weekly grocery gift cards were given out as an incentive to participate. The survey was promoted weekly through the community Facebook page and Malahat staff ensured all members had a chance to participate.



Figure 3. Social media post to complete online survey for a chance to win a \$25 grocery store gift card





## ACTION AND STRATEGY ENGAGEMENT

During the 2024 spring cleanup week, members were given a 2-page summary report on the SWMP findings and asked to provide feedback directly to the Lands Department by a specific date.

Lands staff distributed the handouts and upon talking to members, received positive feedback about the process as well as the short-term actions.

**MALAHAT NATION**

**SOLID WASTE MANAGEMENT PLAN SUMMARY**

**What is a Solid Waste Management Plan?**  
A Plan that will guide Malahat Nation to manage waste and recycling in a responsible way over the next 10 years. The Plan will foster stewardship of the environment while supporting the growth of our fast-growing community.

**Where are we at in the process?**  
Malahat Nation is on track to complete the final solid waste management plan this summer. Community members are encouraged to provide feedback on the actions and strategies presented in this document.

**What feedback did we get from members?**  
During the November 8, 2023 clothing swap event during clean up week, we heard through our survey that members support waste reduction and diversion efforts. We heard that education and communication about waste management is very important. We also heard that members would like more opportunities for composting and/or a food waste pickup and have enough garbage pick-ups and cleaner bins to reduce wildlife interactions.

**CALL TO ACTION**  
Page 2 shows short-term actions that address key issues raised by our community members.

- 1 PLEASE READ THE ACTIONS**
- 2 DECIDE IF THEY ADDRESS CURRENT PRIORITIES FOR WASTE MANAGEMENT**
- 3 GIVE YOUR SUGGESTIONS TO THE LANDS DEPARTMENT BY JUNE 12, 2024**

**Timeline:**  
 COMMUNITY ENGAGEMENT (Fall 2023) → PLAN DEVELOPMENT (Winter 2024) → ACTION & STRATEGY ENGAGEMENT (Spring 2024) → FINAL SOLID WASTE MANAGEMENT PLAN (Summer 2024)

Figure 4. Call to Action 2-pager summary of the input to date with priorities indicated on the back page

### 1.2.2 Survey Feedback

27 community members completed the survey. The results were classified into the following six categories:

- curbside collection
- general operations
- education and communication
- recycling
- composting/organics
- clean up events

A summary of the survey feedback can be found below.

## SURVEY FEEDBACK

From the 27 members who completed the survey, we learned:



**Members support waste reduction, reuse and waste diversion efforts.**



**Increasing recycling, education and communication is important to members.**



**Members would like the opportunity for on-site composting and/or food waste pickup.**



**Most members like curbside recycling and garbage collection.**

Improvement ideas include getting larger, wildlife proof bins, regular cleaning of bins and helping members bring bins to the end of the driveway.

## QUESTION 1: WHAT IS CURRENTLY WORKING WITH HOW WE MANAGE WASTE AND RECYCLING?

**50%** Are happy with curbside services

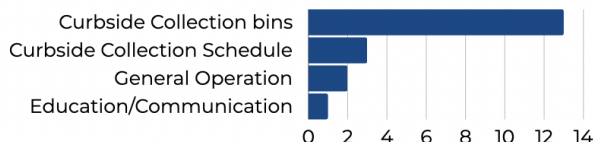
**11%** Are happy with the pick up schedule



**Like having recycling bins at work**



**Getting stickers for good recycling**



Overall, half of the respondents like having curbside recycling and garbage collection. However, there is a dissatisfaction with the collection schedule.

Having recycling options in the office and community buildings are great and can be expanded upon. Using a sticker reward system was noted as a positive way to let members know they are doing a great job with recycling.

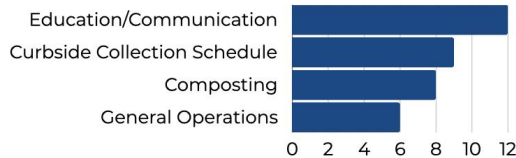
## QUESTION 2: WHAT IS NOT WORKING? WHAT ISSUES HAVE YOU NOTICED?

**44%** Unsure what to recycle and how to compost

**33%** Current curbside schedule not working

 Food waste in garbage attracts wildlife

 Some need help getting bins out and lifting items



There is still confusion among many members (44% of respondents) about what goes where for recycling, as well as what to do with their food waste.

1/3 of respondents noted that the current curbside schedule for recycling and garbage is not working, either their containers are being missed, or the garbage bin is too full and needs to be picked up more often. Garbage is a big attractant for wildlife.

Another issue is that the carts are challenging for some members to pull back and forth from the house to the curb.

## QUESTION 3: WHAT IMPROVEMENTS WOULD YOU LIKE TO SEE OVER THE NEXT 10 YEARS THAT COULD RESULT IN LESS WASTE TO THE DUMP?

**50%** Want food/yard waste collection & information on how to compost

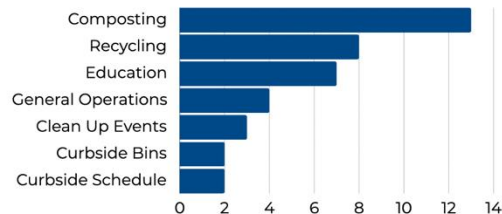
**30%** Want textile collection, smoother recycling program & glass recycling

 More communication on 'what goes where' and general recycling rules

 More help getting member's bins to the curb & keeping the bins clean

 Consistent curbside collection and more frequent pick ups

 More swap & clean-up events



Members want more consistent and frequent curbside collection services for recycling, garbage and organics, along with more clothing swap and clean-up events. Members expressed excellent ideas related to education, bin cleanliness and adding services to increase waste diversion, which have informed the actions presented in section 5.



An aerial photograph of a suburban neighborhood. The image shows a grid of streets with several houses, some with large lawns and trees. There are parking lots with cars and some commercial-looking buildings. The overall scene is a typical residential area.

2.

# COMMUNITY CONTEXT

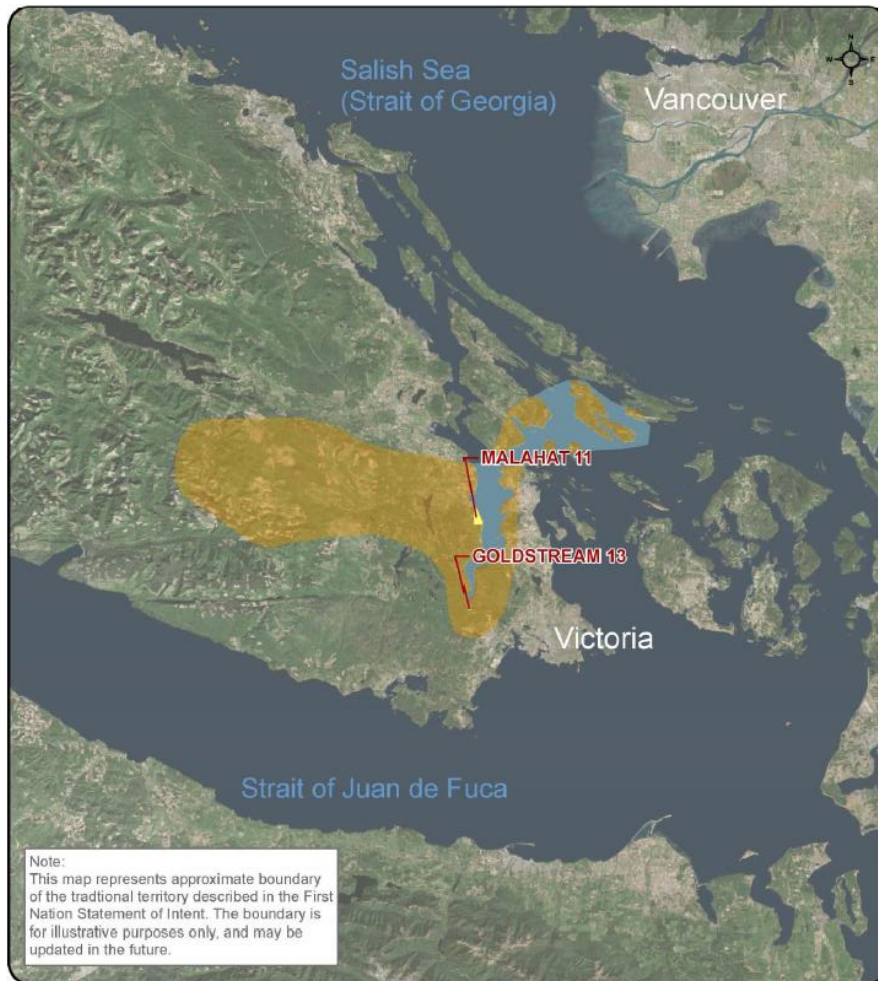


## 2. COMMUNITY CONTEXT

### 2.1 Geography and Demographics

Malahat Nation is a Coast Salish community, located on the southern end of Vancouver Island, approximately 40 kilometres north of Victoria and approximately 25 kilometres south of Duncan. The community is surrounded by the Cowichan Valley and bounded by two main transportation thoroughfares: the Trans-Canada Highway to the west and the Saanich Inlet to the east.

Figure 5. A map of Malahat Nation traditional territories from the Land Use Plan<sup>7</sup>



#### Malahat Nation stewards two reserve lands.

Malahat #11 and Goldstream #13, encompassing approximately 247 hectares (610 acres).

Goldstream #13 is jointly held by all W̱SÁNEĆ Nation communities, including MÁLEXEŁ (Malahat), BÓKEĆEN (Pauquachin), W̱JOŁEŁP (Tsartlip), SṮÁUTW\_ (Tsawout) and W̱SÍKEM (Tseycum)

**FIGURE 1**  
Malahat Land Use Plan  
Statement of Intent  
Traditional Territories Map  
Scale = 1:700,000  
0 2.5 5 10 15 Kilometers  
Projection = NAD 83, UTM Zone 10N

**Legend**  
Traditional Territory Statement of Intent (Land)  
Traditional Territory Statement of Intent (Water)  
Reserve Boundary

**Malahat**  
Author: MB/TH  
Checked by: DH  
Status: FINAL  
Revision: B  
Date: 27.08.2018

<sup>7</sup> Map from Malahat Nation Land Use Plan, 2018 <https://cdn.malahat.cloud/website/planning/land-use-plan.pdf>



The Malahat Nation Indian Reserve #11 (Figure 6), spanning approximately 239 hectares (590 acres), is the primary residential and community support hub for the Nation. There is a residential subdivision in the southeast corner of the reserve, in close proximity to community facilities. Malahat has 50 houses on-reserve, as of May 2021. Ten of the existing homes are new, constructed from 2018 onwards. Malahat Nation has a population of 357 registered persons, as of September 2020, and approximately 55% of those registered persons live on Malahat lands. In 2018 there were 159 persons on Malahat lands. In addition to having the allotted reserve lands as a signatory of the Douglas Treaties, signed between 1850 and 1854, Malahat Nation is participating in the modern treaty process, through which it has gained fee simple ownership of additional lands.



Figure 6. Map showing Malahat Nation Reserve Territory

These interim treaty lands include 450 acres in Shawnigan and, with provincial government assistance, purchase of the 1,300-acre Bamberton industrial site. Once the modern treaty process is complete, Malahat lands will exceed 3,000 acres.

Malahat Creek flows west to east into the Saanich Inlet along the southern portion of the Malahat Nation Land and is recognized as an environmental asset. Mill Bay Road divides the Land along the eastern edge, separating the majority of the land from the waterfront. Mill Bay Road is the only access route to the Mill Bay Ferry, which provides transportation for vehicles to and from Brentwood Bay and the Saanich Peninsula.

Portions of the reserve have been utilized for resource development in the past including relatively recent logging activity and two sites used as soil deposit locations leaving behind a series of access roads and skidder trails. The forested lands have traditionally been used for hunting and gathering activities, and access to the ocean has provided a base for marine harvesting.

The community has a growing population with limited waste diversion taking place and frequent illegal dumping and littering on reserve. As this is a growing community, population projections are important for future planning. Malahat is located in electoral area A of the Cowichan Valley Regional District (CVRD). Population and dwelling projections for 2050 were developed for the CVRD in 2019 by Licker Geospatial, and updates were made in 2021. Overall population growth in all CVRD's electoral areas is expected to increase to 1.16% annually between 2021 and 2027. Between 2027 and 2032 the regional population growth in the electoral areas should slow to approximately 1.04% per year. Malahat wants to ensure this plan addresses current issues and prepares for the infrastructure and administrative supports needed to meet the growth needs of the community.

## 2.2 Community Strategies, Goals and Plans Related to Waste Management

Malahat Nation is committed to long-term sustainability and respectful stewardship of the land through community planning, education and engagement. There are several strategic documents (Figure 7) that have provided the guiding principles and informed the development of the goals for this Plan. Malahat Nation has developed several interrelated plans that reflect the community's vision and priorities for the stewardship of lands. In addition, regional strategic plans, such as the 2018 CVRD Solid Waste Management Plan (CVRD SWMP) and the CVRD Airshed Protection Strategy were considered in this Plan's development.



*Figure 7. Strategic documents and interrelated plans informed and guided the development of this solid waste management plan*

All Malahat's planning documents can be found on their website at <https://malahatnation.com/planning>.

### 2.2.1 2023-2028 Malahat Nation Strategic Plan

The **Malahat Nation Strategic Plan** for 2023-2028 outlines short and medium-term goals for areas including solid waste, water and wastewater systems and land stewardship.<sup>8</sup>

The Strategic Plan focuses on land stewardship which includes solid waste management. Under the 2-5 year goals, Malahat Nation has identified the need to develop a solid waste management plan to help set out a road map for the short and long-term path for waste management in its communities.

The Strategic Plan identifies that Malahat Nation wishes to assess current practices, support the community in education and outreach about management of waste and recycling, and engage the community to explore ways to divert more waste from landfilling and prevent illegal dumping and litter.

#### **The Malahat Nation Strategic Plan (2023-2028) includes the following strategic goals that apply to this SWMP:**

- Members have access to necessary facilities and infrastructure.
- Malahat lands are managed with the future in mind.
- Malahat Nation is a leader in economic development at the head of industry.

### 2.2.2 Land Use Plan

The Malahat Nation developed a **Land Use Plan (LUP)**<sup>9</sup> in 2018, which is a guiding framework for land use decisions for planning, protection, and development.

The plan outlines development guidelines, as well as the community land use vision, values and guiding principles. Although the LUP does not include objectives or goals for solid waste management, it does intend to support the sustainable development of the community, including residential housing and member services, which would influence the solid waste infrastructure needs in community.

The LUP also identifies plans to develop a mixed-use neighbourhood of approximately 30 hectares (75 acres) which would be designated for hotels, marina, retail, and small-scale commercial business use. This area is intended to be the new town centre and will connect Malahat with the surrounding community. This is an important consideration when discussing solid waste management, as Malahat Nation will have to outline requirements for the businesses to properly manage and dispose of their solid wastes.

<sup>8</sup> Malahat Nation Strategic Plan <https://malahatnation.com/planning/strategic-plan/1>

<sup>9</sup> Malahat Nation Land Use Plan 2018 <https://cdn.malahat.cloud/website/planning/land-use-plan.pdf>

### 2.2.3 Comprehensive Community Plan

Malahat Nation and community members have articulated seven key values for the community as part of the 2021 **Comprehensive Community Plan (CCP)**.<sup>10</sup>

The CCP is a plan to guide Malahat Nation to self-governance, looking at all aspects of Malahat's future from a holistic perspective. Community Services is one of the seven key values, and waste management falls under this initiative. Specifically, the CCP includes introducing more recycling and compost programs, along with education as an implementation idea for developing community amenities and infrastructure. Another key value that relates to solid waste management includes Cultural Respect. Specifically, this value includes environmental stewardship and implementation ideas such as environmental protection from public littering, community clean-up, and general environmental protection.

### 2.2.4 Environmental Management Plan

The Environmental Management Plan (EMP) developed in September 2021, outlines environmental issues and management goals for Malahat Nation. The EMP supports the LUP and its guiding principles by assisting Malahat in governance and decision making, to ensure that all policies going forward align with the priorities of the community. As part of the EMP, the community has identified ten environmental issues, priority objectives for each, and management regime and responses, of which waste management is one<sup>11</sup>.

As part of waste management, the EMP lists priority management objectives, such as educating the public on waste management, including public dumping, littering, waste burning, waste diversion, and recycling; organizing spring and fall clean-up events; and preventing public littering and dumping (see below for all waste related objectives).

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<sup>10</sup> 2021 Comprehensive Community Plan  
[https://malahatnation.com/pdf/planning/Malahat%20CCP%202021%20Update\\_final\\_v1.1\\_compressed.pdf](https://malahatnation.com/pdf/planning/Malahat%20CCP%202021%20Update_final_v1.1_compressed.pdf)

<sup>11</sup> Environmental Management Plan <https://malahatnation.com/pdf/planning/EMP-Final-v04.pdf>

Figure 8. Solid waste management objectives noted in the Environmental Management Plan

## **SOLID WASTE MANAGEMENT OBJECTIVES**

Identified in the Environmental Management Plan

- Educate the public on waste management, including public dumping, littering, waste burning, waste diversion, and recycling
- Organize spring and fall clean-up events
- Develop a waste management plan and create an implementation program
- Prevent public littering and dumping
- Prevent waste burning
- Reduce the potential for exposure to hazardous materials through product handling and spills
- Reduce the potential for contamination of water and soil



Out of these community priorities, Malahat Nation identified objectives to address each area of priority which is shown below in Figure 9.

*Figure 9. Solid waste management priorities noted in the Environmental Management Plan*



The response and proposed management objectives include outlining current regulations and guidelines at the Federal, Provincial, and local levels, as well as proposed responses for Malahat Nation moving forward. The development of a Solid Waste Management Plan is identified in the EMP as one of the key objectives.

### 2.2.5 Malahat Eco-Industrial Framework

Malahat Nation has developed the Malahat Eco-Industrial Framework, which provides educational guidance, and business case information and recommendations to enable Malahat Nation to become a leader in sustainable development and circular economy.

The Framework progresses Malahat's vision for a solutions-oriented future by focusing on how Malahat and its partners can implement an industrial symbiosis initiative as a practical business model to support sustainable development on Malahat lands and beyond.

This Framework includes many recommendations that Malahat and its partners can implement to progress sustainable development. Key recommendations are noted below in Figure 10.

*Figure 10. Two key recommendations from the Malahat Eco-Industrial Framework*

**Two research-informed recommendations have been identified as the most critical for the successful implementation of an industrial symbiosis initiative:**

- 1. Formally launch the Malahat symbiosis initiative with letters of support from partners:** Launch of the initiative with partner support will establish a sustainable development expectation among all stakeholders.
- 2. Dedicate staff resources for sustainable development facilitation:** Committing staff resources to sustainable development will provide the industrial symbiosis initiative with the facilitation capacity it needs to be successful.

## 2.3 Cowichan Valley Regional Strategies

### 2.3.1 Cowichan Valley Regional District's Airshed Protection

The Cowichan Regional Airshed Protection Strategy has focused on prohibition of backyard burning by introducing open burning bylaws in the Municipality of North Cowichan, City of Duncan, Town of Ladysmith, Town of Lake Cowichan and some electoral areas of the CVRD.

Considering that open burning (e.g., backyard burning) is the largest source fine particles, or particulate matter 2.5 (PM2.5), the implementation of three-stream curbside collection would support the Regional Airshed Protection Strategy by collecting organic waste, including yard waste, to avoid backyard burning.

A universal three-stream curbside collection program helps to prevent back yard burning. Strategy 9 C of the CVRD solid waste management plan update provides alternatives to backyard burning of yard waste. By including yard waste into the curbside collection, the improved curbside service would support this strategy.

### 2.3.2 Cowichan Valley Regional District's Solid Waste Management Plan Update

The CVRD updated its Solid Waste Management Plan in 2018. The regional plan identified key regional issues related to waste management. The issues were identified based on input from the public and stakeholder groups and resulted in formulating areas of improvement. Thirteen strategies were described to address the issues.

Strategy 3 of the CVRD's regional plan identified the need to provide all residents with equal access to three-stream curbside collection (organics, recycling, and garbage) as an important strategy to reduce the volume of landfilled material. Improving curbside collection services for residents will help the CVRD progress towards its aggressive disposal target of 150 kg/person/year by 2040.


#### **Strategy 3: Reduce Disposal from Residential Sector**

**Strategy 3 B:** Adopt universal (three-stream) curbside collection services across the region. Provide coverage to residents that do not yet have mandatory curbside organics and garbage collection. Conduct a collection review to determine the most efficient and cost-effective collection methods.

The member municipalities of Lake Cowichan, North Cowichan, the Town of Ladysmith, and the City of Duncan provide curbside collection of recycling, garbage, and organics. One of the larger First Nation communities (Cowichan Tribes) also provides three-stream curbside collection to its members.

As the CVRD is implementing an automated three-stream curbside collection program in early 2025, there is an opportunity for Malahat Nation to participate in this program.

*Figure 11. Strategy 3 from CVRD's Solid Waste Management Plan*

A photograph of a residential street with houses, trees, and blue recycling bins. The image is darkened to serve as a background for the text.

**3.**

**CURRENT WASTE  
MANAGEMENT  
PRACTICES AND  
SERVICES**



### 3. CURRENT WASTE MANAGEMENT PRACTICES AND SERVICES

This section provides an overview of how waste and recyclables are currently managed in Malahat Nation.

#### 3.1 Recycling Curbside Collection

The CVRD is located within the lands of the Malahat Nation, and Malahat Nation relies on the regional district's solid waste services and infrastructure, such as transfer stations and recycling centers.

In 2023, Malahat Nation entered into a Municipal Type Service Agreements (MTSAs) with the CVRD, which enables Malahat community members to be serviced by the CVRD's curbside recycling collection. Malahat Nation pays a per-household fee to be serviced.

The CVRD has an agreement with Recycle BC, a not-for-profit organization responsible for residential packaging and paper product recycling in B.C.

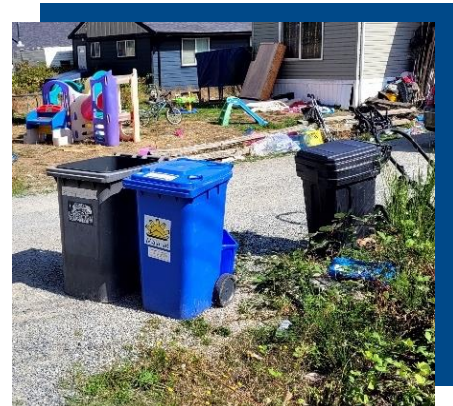


*Image 4. Curbside collection along Jesken road*

Malahat Nation joined the Recycle BC program through a service area extension agreement with the CVRD and a transition plan was developed to ensure a smooth service introduction.

Since early July 2023, the CVRD's automated curbside collection program services Malahat Nation households on a bi-weekly basis. Malahat purchased its own blue carts using the CVRD's cart-supplier (Rollins).

The CVRD performed visual waste composition audits of Malahat Nation's recycling when the collection service was launched. Initial feedback showed that the quality of Malahat's recyclables was relatively good. Four out of 21 recycling carts had too much contamination (over 10% by weight). Common contaminants included flexible plastics, foam packaging and hard plastics, which should be taken to a recycling depot.



*Image 5. Curbside carts for recycling and garbage*



### 3.2 Garbage Collection

Garbage destined for landfilling is currently managed by three contractors:

- PAN Disposal is the contractor providing residential garbage collection from each household on a weekly basis. This contract started in early 2023. Malahat Nation purchased and owns the garbage carts. Garbage is still manually loaded onto PAN's collection truck.
- Waste Management provides dumpsters to collect cardboard and garbage on a weekly basis from three locations on the reserve. These materials are primarily generated by businesses/commercial activities. In total there are six dumpsters across three locations: at the Kwunew Kwasun Centre (KKC), the the Naut'sa mawt Tribal Council on Jenkins Road, and below the Administration building (by the BC Ferries terminal). Each of the three locations has one dumpster for carboard and one for garbage.
- DL Bins provides one 40 yd<sup>3</sup> roll-off bin for general garbage, which is located permanently at the KKC, opposite the daycare in the upper part of the reserve. This roll-off bin is exchanged every couple of weeks by DL Bins.



*Image 6. Waste Management dumpsters for KKC*



*Image 7. 40 yd<sup>3</sup> roll-off from DL Bins*

Malahat's garbage is taken to Fisher Road transfer station on Vancouver Island. It is unknown exactly how much waste is managed each year and where the materials are taken for landfilling.

### 3.3 Other Recycling Taking Place in the Community

The following recycling initiatives are currently in place in addition to the curbside recycling.

- Shredded paper, confidential in nature, is picked up by a contractor for recycling.
- Refundable containers are collected within the Malahat Nation buildings. The CVRD (and Recycle BC) discourage refundables in the blue cart as these are accepted at nearby recycling centres in Fisher Road and Bings Creek (refer to CVRD's recycling information sent to Malahat residents). Residents lack easily accessible collection/drop-off options for refundables.
- Depot-only recyclables, such as flexible plastic, foam and glass are not recycled within the Malahat community, and these have to be self-hauled to a recycling centre or otherwise go into the garbage.

## WHERE IS THE RECYCLING CENTRE DROP-OFF?



### Recycling Centres Near Malahat

Bings Creek Recycling Centre  
3900 Drinkwater Road, Duncan BC

Fisher Road Recycling  
1355 Fisher Rd, Cobble Hill BC

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✓

Drop these items off at a Recycling Centre.  
Do not put them in your curbside tote

 <b>PLASTIC BAGS, PLASTIC WRAP &amp; CHIP BAGS</b>	 <b>FOAM PACKAGING</b>	 <b>GLASS JARS &amp; BOTTLES</b>	 <b>REFUNDABLE CONTAINERS</b>
 <b>BATTERIES, ELECTRONICS, &amp; APPLIANCES</b>	 <b>YARD WASTE</b>	 <b>ORGANICS &amp; COMPOSTABLES</b>	 <b>SCRAP METAL</b>

*Figure 12. Information provided to community members on depot recyclables*

Information on these initiatives is shared with the community. The Cowichan Valley Regional District handout (Figure 12) was given to all members to inform them about what material can go where.

### 3.4 Other Waste Material Management

**Seasonal brush/yard waste** from residential and commercial properties are managed by the operations and maintenance (O&M) staff and it is either burned or taken to Fisher Road. Individual residents are not generating much yard waste.

**Invasive plant species** can be taken to Fisher Road (Scotch Broom and Himalayan blackberry), or to Bings Creek if materials are double bagged (e.g., Japanese Knotweed, Poisoned Hemlock).

**Household hazardous waste (HHW)** is leftover household products that are flammable, corrosive, reactive or poisonous and requires special handling and storage techniques to prevent health and safety hazards and/or environmental pollution<sup>12</sup>. HHW items include pesticides, varnishes, paint, antifreeze, electronics, batteries, and leftover household cleaning products.

Incorrect disposal can contaminate curbside recycling, pollute the environment and cause explosions or fires in collection vehicles, at recycling facilities or at landfills<sup>13</sup>. These materials are banned from disposal in curbside recycling and garbage.

There is no community-led collection of HHW at Malahat Nation. The production of HHW comes from individual households and clean-up activities, such as removal of burned-down houses and waste from historic dumping areas within the reserve.

**Construction and renovation waste:** O&M staff are involved with renovation and construction of individual residential buildings, which are owned by the Band. There are dumpsters specific to construction, renovation and demolition waste which are in the community temporarily during a project. A contractor hauls the waste materials to a transfer station ultimately for landfilling.

**Demolition and land clearing waste:** This material from sources outside Malahat Nation is accepted at the Malahat Nelson<sup>14</sup> site (1800 Trowsse Road) in the southern part of the reserve. Customers pay per tonne at a scale house to bring land clearing waste. Some of the wood waste is burned with an air curtain burner to mitigate air emissions. Other materials are disposed of at this industrial/commercially designated fill site.

**Commercial waste:** The Malahat Business Park is being developed on-reserve and will be the community's future economic hub. The first commercial storefront opened in 2020 with additional businesses opening gradually. Commercial waste and recycling needs will need to be considered.

<sup>12</sup> Cowichan Valley Regional District HHW <https://www.cvrld.ca/3557/Household-Hazardous-Waste>

<sup>13</sup> Cowichan Valley Regional District HHW <https://www.cvrld.ca/3557/Household-Hazardous-Waste>

<sup>14</sup> Malahat Nelson is a partnership between Malahat Nation and Nelson Environmental Remediation Ltd. The company offers a wide range of specialized services to help customers responsibly handle waste materials from a civil construction project. Services include for example wood waste management, demolition and land clearing, and contaminated soil management.

### 3.5 Community Events Targeting Waste Reduction, Diversion and Responsible Disposal

Community clean-up events are important for Malahat Nation. Typically, there is a spring and fall clean up event where Malahat operation and maintenance (O&M) staff help to pick up and take away bulky waste and recyclables from members' houses.

In November 2023, the fall clean-up event was tied into a clothing swap and information session to engage the community on the solid waste management plan (Image 8 and Figure 13 show the promotion used ahead of the event).

The BC First Nations Recycling Initiative (a partnership between EPR programs) undertook two clean-up events with Malahat Nation in 2023. At the most recent event in November 2023, large and small appliances, electronics, metals and mattresses were collected and sent to a transfer station for recycling.



*Image 8. Picture of the sign inviting residents to attend the clothing swap event.*



*Figure 13. Promotional poster for cleanup event*

### 3.6 Malahat Staff Managing Recycling and Waste

Malahat Nation has various staff that play key roles in community planning. These roles vary from community safety and planning to upkeep of facilities. These roles include:

- **Land guardians:** There are currently two full time equivalent (FTE) lands staff with focus on community safety (e.g., wildlife management), maintaining cultural spaces, managing invasive species, waste management, etc.
- **Operation and maintenance (O&M) staff:** These staff members are responsible for manually emptying the garbage carts located near Malahat Nation buildings and bringing them to the Waste Management dumpsters. O&M have many focus areas and waste management is only one of them. There are currently 8 FTEs, but in the past, there were as many as 30 FTEs.
- **Janitor:** The janitor of the KKC and other Malahat community buildings is responsible for collecting waste materials from the building and bringing the waste to the dumpster or the garbage carts placed outside some of the commercial buildings.

### 3.7 Partnerships

Malahat Nation has developed many partnerships that are important for solid waste management planning, programs, and for providing their community with waste-related services. In summary, the current partnerships include:

- **CVRD:** The regional district recognizes that First Nations have autonomy and are therefore not part of the CVRD SWMP.<sup>15</sup> However, the CVRD is committed to working with Malahat Nation to help improve solid waste management, including illegal dumping. In 2023, the CVRD began providing bi-weekly curbside collection services for recycling.
- **BC First Nations Recycling Initiative:** This initiative, led by Recycle BC, is a partnership between nine stewardship agencies, who are responsible for various products under EPR legislation in BC<sup>16</sup>. This initiative:
  - Supports communities in starting or improving recycling programs.
  - Provides education, resources, and funding associated with transporting material for recycling as part of organized collection events. For example, they supported two clean-up events with Malahat Nation in 2023.

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<sup>15</sup> CVRD 2018 SWMP Citizens Document <https://www.cvr.ca/DocumentCenter/View/103978/2018-SWMP-Citizens-Documents?bidid=>

<sup>16</sup> BC First Nation Recycling Initiative <https://recyclebc.ca/projects/first-nations-recycling-initiative/>





## BC First Nations Recycling Initiative Design

The logo design (left) relates to our connection to the land. *The 3 Spirit Animals: Eagle of the air, Bear from the land and the Whale of the water and streams. This design reminds us of our connection to the traditional territories and we need to do our part for Mother Earth and recycle what we use ~ Sinàmkin*

Logo Created by Sinàmkin - Jodi Broomfield, Coast Salish Artist from Squamish Nation

Figure 14. BC First Nation Recycling Initiative Logo

- The Indigenous Zero Waste Technical Advisory Group (IZWTAG):** IZWTAG offers training and resources to First Nations to implement zero waste systems within their communities. Malahat Nation is an IZWTAG partner and has been involved in the BC First Nations Zero Waste Program. The IZWTAG Logo (Figure 15), was designed by Roger Vickers of the Gitxaala Nation.




Figure 15. IZWTAG logo

- Coast Waste Management Association:** Malahat Nation is an active member of Coast Waste Management Association (CWMA), which is a highly regarded membership group comprised of over 200 member organizations and 3400 people serving the solid waste industry across British Columbia and beyond<sup>17</sup>.
- Private waste collectors and haulers:** Malahat Nation has ongoing contracts with various service providers for waste collection and hauling. Current contractors include for example Waste Management, PAN Disposal and DL Bins.
- Businesses operating on Malahat land:** There are a diverse range of businesses operating on Malahat's reserve and there are opportunities to collaborate to support the planning and implementation of implementation ideas.
- Potential business opportunities:** Alpha Select Productions Services Inc. and Malahat Nation are in the planning phase to launch a new film services studio in Mill Bay. The studio will facilitate carbon neutral and sustainable production as well as maintaining zero waste and providing crew training services. The studio will focus on many emerging sectors in film production such as circular economy. Their green manager courses aim to introduce people to the new opportunities: Food production and waste, the repair, reuse and resale of textiles, plastics and the reuse and resell of construction material.

<sup>17</sup> Coast Waste Management Association <https://cwma.ca>





4.

**FOCUS AREAS**

## 4. FOCUS AREAS

To understand community priorities, the process for developing this plan included engagement with Malahat Nation members to ensure our understanding of the key issues and proposed strategies aligned with the needs of the community.

The following section describes the focus areas that emerged based on key issues that were voiced by community members through the engagement survey or raised by Malahat Nation staff. These have been grouped into 5 focus areas of waste prevention, waste diversion (recycling & composting), residual waste (garbage) management, other waste material management, and administration.

Recommended actions are identified for each focus area and the prioritized actions are further described in section 5.

### FOCUS AREAS



#### **WASTE PREVENTION**

This focus area includes all actions related to reducing waste in general, including reusing and repairing materials.



#### **WASTE DIVERSION (RECYCLING/COMPOSTING)**

This focus area includes all actions related to diverting all recyclable household material (accepted in curbside collection as well as all organic material (food and yard waste). Education is a key priority in this focus area.



#### **RESIDUAL WASTE MANAGEMENT (GARBAGE)**

This focus area includes every action related to garbage disposal, collection and how it relates to wildlife management.



#### **OTHER WASTE MATERIAL MANAGEMENT**

This focus area includes the management and safe disposal of all other waste such as household hazardous waste and clean-up of illegal dumping and historical waste sites.



#### **ADMINISTRATION**

This focus area includes actions related to effective leadership to track, measure success and manage the SWMP.

## 4.1 WASTE PREVENTION (Reduce, Reuse, Repair)

Community members asked for more opportunities for swaps and cleanups. To address this need, we recommend Malahat Nation to:

- Provide opportunities to have recurring clothing swaps at the same time as wider community clean-up events.
- Consider options to support ongoing repair and/or sharing programs for community members

**The following actions were identified related to waste reduction:**

1. Organize recurring community-wide swap event during the spring and fall clean-up days and look at ways to store collected clothing and toys from the events.
2. Consider procuring and promoting the use of zero waste stations at community events on reserve.
3. Review option to establish a residential/industrial tool library and maker-space.
4. Look at partnering with an organization, such as Habitat for Humanity, that can pick-up reusable items, such as furniture and household items.

## 4.2 WASTE DIVERSION (RECYCLING & COMPOSTING)

Many community members are unsure what to recycle, how to compost and want curbside collection services that are easy to use and understand. To address these needs, we recommend Malahat Nation to:

- Increase waste diversion through recycling, compost, and education programs
- Improve access to support or facilities where:
  - Refundables can be returned and recycled
  - Non-curbside recyclables can be dropped off (e.g., Styrofoam, flexible plastics, electronic waste, batteries, etc.)
- Make recycling as easy as garbage disposal. For example, there is a 40 yd<sup>3</sup> roll-off bin for landfilling located by the daycare. Many commonly disposed items could be reused or recycled (e.g., used furniture, scrap metal and mattresses).
- Improve source separation and recycling systems in the Malahat Nation administration building and commercial buildings. There is a need for more collection containers in the administration building for all recyclable items, and for containers in commercial buildings to be able to sort recyclables in the same categories that community members have on curbside.

- Explore opportunities for constructing an area for O&M staff to gather and store depot-only recyclables until they are transported to a depot for recycling.
- Consider the benefits and drawbacks of joining the food and yard waste collection service offered by the CVRD (the service is slated to start in 2025), or a service offered by a private contractor, such as PAN Disposal. The new service will require a significant effort to promote and launch.
- Work closer with the BC First Nations Recycling Initiative and undertake more clean-up events for EPR materials, such as electronics, appliances, metals, etc.
- Proactively plan for management of waste and recycling from businesses operating on Malahat land, e.g., require businesses in the Malahat Innovation Park to source segregate and recycle materials.
- Malahat Nation retained University of Victoria's engineering students to design a waste transfer station for the Nation. A conceptual plan for a facility by Salmon Arrow Terrace has been completed that would provide a place to store equipment, collect refundables, and store larger recyclables that are not included in roadside pick-up. The preliminary design of the facility includes sea cans, a concrete pad for drainage control, a covered area for material storage, a sorting area, a household waste storage area, and fencing to prevent wildlife interactions.

**The following actions were identified related to encouraging recycling and composting and improving existing services:**

1. Continue planning and developing a waste transfer station for storage of recyclables excluded from curbside collection program.
2. Identify and partner with organizations who can collect refundable beverage containers and benefit the community financially.
3. Look at the feasibility of collecting new materials curbside on a monthly basis to help residents who are unable to take materials to a centralized location or transfer site on-reserve.
4. Organize recurring community-wide spring and fall clean-up days to encourage recycling of some materials (e.g., household hazardous waste).
5. Develop waste and recycling requirements or best management practices for all the commercial activities on Malahat land.
6. Continue to collaborate with the CVRD and the BC First Nations Recycling Initiative (including Recycle BC) to access educational materials about the current recycling options.
7. Assess organics collection options and member needs and implement food waste collection.



8. Review opportunity for an on-site composter that is wildlife proof, which would create compost to improve soil and grow local food.
9. Ensure that the Malahat Nation Administration building source separates all curbside recyclables and common depot materials.
10. If deemed suitable, develop waste and recycling requirements in the Malahat Good Neighbour Law, and consider provisions in the Environmental Protection Law.

## **4.3 RESIDUAL WASTE MANAGEMENT (garbage destined for the landfill)**

### **Odour and wildlife attractants**

Keeping wildlife from accessing waste materials was a key issue among community members. Food waste makes up a large part of garbage from households on reserve and this makes the garbage odorous and it can attract wildlife. To address this issue, we recommend Malahat Nation to:

- Increase the frequency of garbage pick-up.
- Improve the upkeep of garbage carts and communal dumpsters to reduce odours and attractants. In 2023, the community had over 15 bears compared to typically one bear per year when the containers were cleaned by O&M staff.
- Improve bear-resistance of existing carts. Each household has their own garbage container, but there are no storage requirements for the household garbage containers and wildlife interactions are a common issue in the community. There are no garages where residents can store curbside carts. They are generally stored by the road at the pick-up location and these carts are not bear-resistant.
- Ensure consistent garbage pickup. PAN Disposal has not consistently picked up all household garbage at curbside. Some roads, or portions of roads get missed regularly and sometimes they only collect waste on one side of a road. Residents then empty their carts into the communal dumpsters, which can overflow and become very odorous, or leave their carts for the next scheduled pick-up, which also results in cart overflow.
- Keep the carts and dumpster area clean and free from odours. There are unclear expectations on the responsibility of cart cleaning as well as the maintenance around carts and dumpsters (e.g., removed all waste misplaced outside the container, maintained wooden structures where dumpsters are located, and power washed the concrete). O&M staff also helped to power wash all resident's garbage carts in some areas every month. A need to establish a clear and consistent workplan procedure for O&M staff or a contractor to clean and maintain areas around the garbage carts and dumpsters is needed.

- Offer food waste collection so food waste can be separated from garbage, reducing odours. Separated food waste can be collected as part of an organics collection for composting and the organics cart will need to be bear-resistant.

**The following actions were identified related to address wildlife conflicts related to waste management:**

1. Clean the curbside carts and waste dumpsters monthly to reduce the odours that are likely to attract bears.
2. Assess feasibility of removing two of the three locations where Waste Management currently provides communal dumpsters and increase the frequency of PAN Disposal's residential garbage collection.
3. Look at partnering with WildSafeBC to have a Community Coordinator provide education to the community on how to prevent wildlife interactions.
4. Pursue wildlife resistant carts for organics and garbage collection, if wildlife interactions remain an issue after cleaning curbside bins, dumpsters, and surrounding areas.

### **Garbage disposal**

Members seem happy with the current garbage collection as long as the service is consistent. However, recycling and composting can be made easier in comparison to throwing away garbage. We recommend Malahat Nation to:

- Consider if disposal capacity can be reduced.
  - There are two locations where dumpsters appear to be catering more to the residents (at Jenkins Rd. and by the boat ramp), where the commercial waste is limited. Consider whether there is still a need for these dumpsters if curbside garbage collection can better meet demands by households.
  - The 40 yd<sup>3</sup> bin is located by the daycare which is a safety concern to children. There can be rusty nails and broken glass that are spread from the dumpster to the play area.
  - Consider waste-to energy opportunities to help reduce reliance on landfill disposal. There is an opportunity for Malahat Nation to manage solid waste locally. However, based on MH's knowledge, there is currently no suitable proven waste-to-energy technology that would be suitable for Malahat's size. Community members should be given an opportunity to have a say what happens to their waste.
- Consider partnership opportunities with businesses on Malahat land. Malahat Economic Development has worked with an industrial ecologist from the University of Victoria to look at industrial symbiosis opportunities (refer to section 2.2.5). Malahat is looking for partnership opportunities to support sustainable development of Malahat.

**The following actions were identified related to managing garbage:**

1. Assess feasibility of removing two of the three locations where Waste Management currently provides communal dumpsters and increase the frequency of PAN Disposal's residential garbage collection.
2. Remove the 40 yd<sup>3</sup> roll-off bin located by the daycare and only bring it back if it is needed during community clean-up events.

**4.4 OTHER WASTE MATERIAL MANAGEMENT**

Members provided no specific feedback on waste materials other than recycling, composting or garbage. A solid waste management plan needs to cover all waste materials and we recommend Malahat Nation to:

- Prevent public littering and dumping (particularly along Mill Bay Road) through creation of tools for enforcement and removal of dumped wastes. This was also emphasized in the EMP.
- Consider areas identified by the EMP, including to:
  - stop on-reserve burning of waste through education.
  - develop appropriate storage and offsite disposal of hazardous building materials (e.g., mould, asbestos, lead-based paints, pressure-treated wood, polychlorinated biphenyls, etc.), construction waste (e.g., drywall, etc.), if generated and develop appropriate storage and management of fuels, petroleum products, solvents, and other chemicals.
- Malahat Nation is aware of mixed historical waste that is likely to be detected when the "pit" in the northern part of the reserve is cleaned up. The site is not identified as a contaminated site, but Malahat is corresponding with the federal government to potentially access funding for a clean-up. This site has unknown dumped materials and there may be some waste sorting needed.
- Malahat Nation needs to proactively plan for management of waste and recycling from businesses operating on Malahat land, e.g., require businesses in the Malahat Innovation Park to source segregate and recycle materials.

**The following actions were identified related to other waste materials apart from recycling, organics or garbage:**

1. Reduce/eliminate illegal dumping in problem areas by putting up trail cameras and signs that say 'No trespassing or illegal dumping. This area is under surveillance'.
2. Pilot community-led clean-up efforts with partners such as the Surfrider Foundation, Ocean Ambassador and/or IZWTAG.

3. Assess options for storage and offsite disposal of hazardous building materials and develop and communicate guidance to residents and Malahat staff on safe storage and disposal of HHW.
4. Explore energy recovery opportunities to manage solid waste in an integrated way that can also support a local circular economy. This could be a waste to energy project on Malahat land.
5. Cleanup historical waste site in the northern part of the reserve.

## 4.5 ADMINISTRATION

The Malahat Nation Administration is recommended to:

- Appoint a dedicated Waste Management Champion who is able to spearhead waste reduction, reuse, recycling and other waste management actions. Having a Champion is key to successfully implementing this plan. A dedicated staff resource was also identified in the Malahat Eco-Industrial Framework to support sustainable development facilitation. It is unclear if one staff member is sufficient to lead both waste management actions identified in this plan as well as the Eco-Industrial Framework initiatives.
- Begin waste tracking and performance monitoring. Malahat Nation is currently using several contractors to manage solid waste. A representative for Malahat Nation can be responsible for gathering performance data on an annual basis. Contractors have not been asked to provide information on how much waste Malahat Nation is being landfilled and where the waste is sent.
- Consider alternative funding to increase staff involved with waste and recycling. O&M staff and Land Guardians have many focus areas and are often unable to prioritize waste and recycling.
- Build an understanding of current and future long-term maintenance costs and staffing needs. Waste management has not been a key focus with dedicated staff and budgets. This should be a priority for O&M staff for all future planning.

**The following actions were identified related to the Malahat Nation Administration and their role in leading initiatives for waste management:**

1. Appoint a dedicated Waste Management Champion, who can lead waste reduction, recycling and other waste management actions.
2. Assess current and long-term maintenance costs and staffing needs to implement this plan.





5.

# ACTION PLAN

## 5. RECOMMENDED ACTION PLAN

This section sets out an ambitious, but realistic, road map for the community to guide future management of solid waste (waste and recyclables) over the next decade (2024 – 2034). Recommendations have been divided into different focus areas and distinct actions are outlined for the short-term (high priority issues that require attention in the next 1 – 3 years), medium-term (4 – 5 years) and long-term (6 – 10 years).

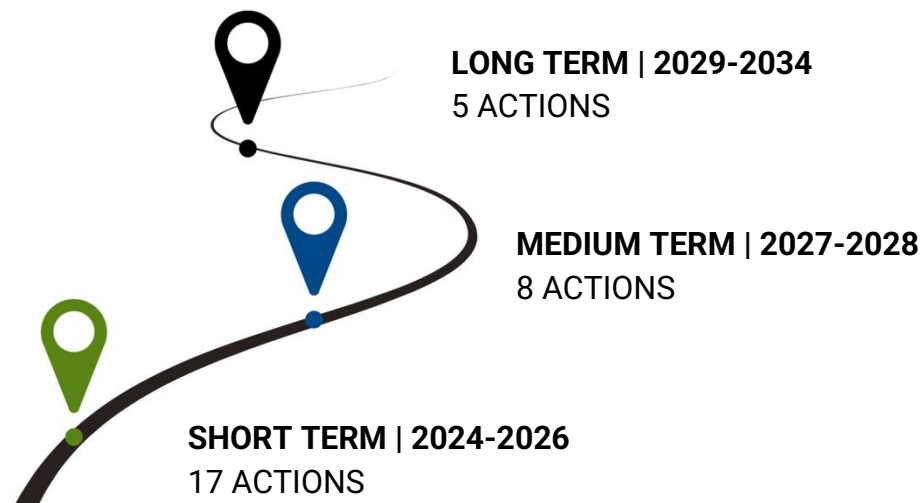
Education is a strong focus that requires on-going commitment. The development and implementation of education programs for different waste generators on Malahat land (residents, Malahat buildings, administration and businesses) are described as manageable actions spanning the entire 10-year period.

A detailed table of the recommended action plan can be found in Appendix A, which presents additional details that will support implementation, including:

- Responsibility: who is responsible for implementing and supporting each action.
- Impact on Malahat staffing and capital requirements: staff resource commitment and funding requirements are graded:
  - LOW (little to no ongoing staff resources and funding required),
  - MEDIUM (additional staff and/or funding beyond current levels are needed), and
  - HIGH (multiple staff are needed and significant funding is necessary to implement the action).

### A ROAD MAP FOR THE FUTURE

The action plan will act as an ambitious yet realistic road map for the community to guide future management of solid waste (waste and recyclables) over the next decade (2024 – 2034).



## 5.1 Short Term Actions 1 - 3 years (before 2027)

FOCUS AREA	RECOMMENDED ACTION
<b>ADMINISTRATION</b>	1. Appoint a dedicated Waste Management Champion, who can lead waste prevention, waste diversion (recycling and composting) and other waste management actions, including performance tracking as outlined in the plan.
<b>WASTE DIVERSION</b>	2. Continue planning and developing a waste transfer station for storage of recyclables excluded from curbside collection program (e.g., glass, refundables, foam, flexible plastics, mattresses, e-waste, etc.). A preliminary design has been developed for two options. The area has to be staffed or well maintained, and collected materials need to be brought to a Recycling Centre (Bings Creek or Fisher Road).
<b>WASTE DIVERSION</b>	3. Identify and partner with organizations who can collect refundable beverage containers and benefit the community financially.
<b>WASTE DIVERSION</b>	4. Look at the feasibility to collect materials curbside. Residents can be asked to place divertible materials at the roadside on a monthly basis for collection by O&M staff. Pilot collection in a targeted area of the community. Refer to action 16 for full implementation if the collection is deemed feasible to expand.
<b>WASTE PREVENTION, DIVERSION AND RESIDUAL WASTE MANAGEMENT</b>	5. Organize recurring community-wide spring and fall clean-up days during the same week as a community swap event. Partner with the BC First Nations Recycling Initiative to be able to accept a range of EPR materials at no cost. HHW collection needs will need to be considered if stewards can cover costs.

FOCUS AREA	RECOMMENDED ACTION
<b>WASTE PREVENTION</b>	6. Look at ways to store collected clothing and toys from clean-up events so that they can be offered to the local daycare and/ or recirculated to families within the nation via Facebook group or a suitable area (e.g., the KKC building).
<b>RESIDUAL WASTE MANAGEMENT (WILDLIFE MANAGEMENT)</b>	7. Clean the curbside carts and waste dumpsters on a monthly basis to reduce odours that are likely to attract bears. This is important to raise as a priority for O&M staff.
<b>RESIDUAL WASTE MANAGEMENT</b>	8. Assess feasibility of removing two of the three locations where Waste Management currently provides communal dumpsters and increase the frequency of PAN Disposal's residential garbage collection. Implement if deemed feasible.
<b>RESIDUAL WASTE MANAGEMENT</b>	9. Remove the 40 yd <sup>3</sup> roll-off bin located by the daycare and only bring back if needed during community clean-up events.
<b>OTHER WASTE MATERIAL MANAGEMENT</b>	10. Reduce/eliminate illegal dumping in problem areas by putting up trail cameras and signs that say 'No trespassing or illegal dumping. This area is under surveillance'.
<b>WASTE DIVERSION AND ADMINISTRATION</b>	<p>11. Develop waste and recycling requirements or best management practices for all the commercial activities on Malahat land, including any hotels, marina, retail, and small-scale commercial businesses, as planned in a new town centre.</p> <p>Malahat Nation will have to outline requirements for the businesses to recycle and manage garbage responsibly. Assess suitability of financial incentives to encourage source segregation of recyclables, e.g., reduce property tax for companies that implement three-streams collection (compost, organics and garbage).</p>



FOCUS AREA	RECOMMENDED ACTION
<b>ADMINISTRATION</b> (EDUCATION)	12. Continue to collaborate with the CVRD and the BC First Nations Recycling Initiative (including Recycle BC) to access and distribute educational materials about the current recycling options, curbside recycling contamination and the value of separating recyclables properly.
<b>WASTE DIVERSION</b>	13. Assess organics collection options and member needs: either joining CVRD's three-stream curbside collection (starting in 2025) or using a private collector (PAN disposal). The assessment can also survey member needs (food waste with or without yard waste). There is an opportunity to collect food waste in smaller containers (e.g., opportunity to purchase Municipality of North Cowichan's old food scraps bins when they transition to an automated cart collection) and O&M can be in charge of placing food waste into a large cart for weekly pickup.
<b>WASTE DIVERSION</b>	14. Implement food waste collection and support households to clean collection carts.
<b>ADMINISTRATION</b>	15. Assess current and long-term maintenance costs and staffing needs to implement this plan.
<b>WASTE DIVERSION</b>	16. Malahat Nation administration building can lead by example and source separate all curbside recyclables and common depot materials. Include a plan to deliver to the depot.

## 5.2 Medium Term Actions 4 - 5 years (2027 - 2028)

FOCUS AREA	RECOMMENDED ACTION
<b>WASTE PREVENTION AND WASTE DIVERSION</b>	2 Consider procuring and promoting the use of zero waste stations at community events on reserve. This can include purchasing reusable dishware (plates, bowls, mugs, and silverware), or provide a waste sorting station with consistent signage to sort materials into individual streams (e.g., compostable, refundables and recycling).
<b>WASTE PREVENTION</b>	3 Review option to establish a residential/industrial tool library and makers space owned by Malahat or a tenant cooperative that manages and lends common equipment and purchases bulk supplies. Implement initiative if deemed feasible.
<b>ADMINISTRATION</b>	4 If deemed suitable, develop waste and recycling requirements in the Malahat Good Neighbour Law, and consider provisions in the Environmental Protection Law. Requirements can set-out which recyclables has to be segregated at source (in the house or in a business) and which materials are allowed to be sent as garbage for landfilling. Requirements have to be clearly communicated to residents and businesses with clear guidance on what's required and why.
<b>OTHER WASTE MATERIAL MANAGEMENT (HHW) AND ADMINISTRATION</b>	<p>5 Develop and communicate guidance to residents and Malahat staff on safe storage and disposal of HHW. Residents will need to know what types of materials are being collected, by whom and where to leave them for collection.</p> <p>Malahat staff need guidance on what to do if there is a spill and what support they have to manage household hazardous wastes.</p>

FOCUS AREA	RECOMMENDED ACTION
<b>ADMINISTRATION (EDUCATION)</b>	6 Look at partnering with WildSafeBC to have a Community Coordinator (WCC) provide outreach and education to the community how to prevent wildlife interactions.
<b>WASTE DIVERSION</b>	7 If deemed feasible, start a monthly collection (Clean-up Day/ Waste Diversion Day) to help residents who are unable to take materials to a centralized location/ transfer site on-reserve.
<b>WASTE PREVENTION (REUSE)</b>	8 Look at partnering with an organization, such as Habitat for Humanity, that can pick-up reusable items, such as furniture, household items, collected by Malahat. Identify a suitable storage area(s) as these items can build up each month.
<b>OTHER WASTE MATERIAL MANAGEMENT</b>	9 Pilot community-led clean-up efforts with partners such as the Surfrider Foundation, Ocean Ambassador and/or IZW TAG.

### 5.3 Long Term Actions 6 - 10 years (2029 - 2034)

FOCUS AREA	RECOMMENDED ACTION
<b>WASTE DIVERSION AND RESIDUAL WASTE MANAGEMENT (WILDLIFE MANAGEMENT)</b>	10 If wildlife interactions remain an issue after cleaning curbside bins, dumpsters, and surrounding areas, Malahat Nation can pursue wildlife resistant carts for organics and garbage collection.
<b>WASTE DIVERSION</b>	11 Review opportunity for an on-site composter that is wildlife proof, which would create compost to improve soil and grow local food. This could start as a pilot and grow in size based on what works. The Jora composting system has been successful in other First Nation communities and can be looked at with other options. This review can be pursued if there is sufficient interest in a communal garden and there need for local compost material.
<b>ADMINISTRATION (CIRCULAR ECONOMY)</b>	12 Explore energy recovery opportunities to manage solid waste in an integrated way that can also support a local circular economy. These can include technologies such as anaerobic digestion, gasification and pyrolysis. This could be a waste to energy project on Malahat land.
<b>OTHER WASTE MATERIAL MANAGEMENT (HHW)</b>	13 Assess options for storage and offsite disposal of hazardous building materials.
<b>OTHER WASTE MATERIAL MANAGEMENT</b>	14 Cleanup historical waste site in the northern part of the reserve if funding is available.



## 5.4 Measuring Success

Measuring success is important to understand progress made towards goals outlined in the Plan. On-going data collection is key to measuring success and the Plan identifies the need to dedicate a specific Waste Management Champion to lead waste prevention, recycling and waste management initiatives, including data collection for performance tracking.

Malahat Nation needs to begin understanding how much waste, and what type of waste is being sent to landfill. It is recommended that a waste composition audit is conducted to gain insights into what's sent for landfill disposal and to identify focus areas. There may be an opportunity to partner with the CVRD and their waste composition studies going forward to reduce the cost of conducting the audits.

The table below shows examples of some potential performance metrics that Malahat Nation may want to track annually.

FOCUS AREA	EXAMPLE METRICS	DATA SOURCE
<b>WASTE DIVERSION</b>	Quantities of recyclables collected via community clean-up events	Estimated volumes can be identified instead of kg/tonnes, if this is more practicable.
<b>WASTE DIVERSION</b>	Kg of recyclables collected per household	Based on CVRD reports (if available)
<b>WASTE DIVERSION</b>	Average contamination rate of curbside recyclables	Based on CVRD reports (if available)
<b>RESIDUAL WASTE MANAGEMENT (WILDLIFE MANAGEMENT)</b>	Number of wildlife interactions	Based on information from the Conservation Officer (if available)
<b>RESIDUAL WASTE MANAGEMENT</b>	Waste composition data (complete audit and analysis)	Unlikely to be available every year. The CVRD's waste composition may also be applicable.

FOCUS AREA	EXAMPLE METRICS	DATA SOURCE
<b>RESIDUAL WASTE MANAGEMENT</b>	kg of garbage sent to landfill per household or per person	Based curbside collection data
<b>RESIDUAL WASTE MANAGEMENT</b>	Kg of garbage sent to landfill per business	To be assessed. This can be part of business requirement or as part of commercial waste collection if completed by Malahat's contractors.

## NEXT STEPS

Within the first year of implementation of the SWMP, Malahat Nation will benefit from collecting data on performance and set specific targets for the next 10 years. Due to lack of baseline performance data, this plan does not identify specific targets.

It is recommended to set up a spreadsheet with the implementation plan (in appendix A) and add in performance monitoring metrics (plus any other metrics that become available to measure solid waste implementation success). Use this spreadsheet as a guide and reporting tool. Refer to it monthly to update the progress status, and on an annual basis, take time to fully update and review progress and direction. Share the successes with the community and ensure there is continual support from council, community members and staff.

Design an annual workplan that feeds into the master implementation plan spreadsheet and provide a broad status update at the completion of the short-term actions (3 years) and again at the completion of the medium-term actions (5 years) and again once all long-term actions have been completed (around 10 years). With the completion of this solid waste management plan (or near completion), begin the process of engaging the community at the 10-year mark to design the next solid waste management plan to guide waste reduction and diversion from 2035-2045.

## APPENDIX A: ACTION IMPLEMENTATION PLAN

SHORT-TERM ACTIONS: 1-3 YEARS (BEFORE 2027)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
1	Appoint a dedicated Waste Management Champion, who can lead waste prevention, waste diversion (recycling and composting) and other waste management actions, including performance tracking as outlined in this plan.	Malahat Administration	Medium – one staff member is needed	Medium	
2	<p>Continue planning and developing a waste transfer station for storage of recyclables excluded from curbside collection program (e.g., glass, refundables, Styrofoam, flexible plastics, mattresses, e-waste, etc.). A preliminary design has been developed for two options.</p> <p>The area has to be staffed or well maintained, and collected materials need to be brought to a Recycling Centre (Bings Creek or Fisher Road).</p>	Malahat Administration to lead and seek external funding and discuss if O&M can become the champion.	Medium	<p>Consulting support for detailed design, tendering, and construction administration: \$20,000-\$30,000.</p> <p>Material costs for lights, culvert, fencing, dump bins, were estimated to 13,500 - \$28,000.</p> <p>Engineering and construction costs estimated at \$80,000 - \$130,000 (excluding site grading, resurfacing, contingency).</p>	
3	Identify and partner with organizations who can collect refundable beverage containers and benefit the community financially.	Malahat Administration to look into feasibility and discuss operational aspects with Lands and/or O&M staff.	Low	Low	
4	Look at the feasibility to collect materials curbside. Residents can be asked to place divertible materials at the roadside on a monthly basis for collection by O&M staff. Pilot collection in a targeted area of the community. Refer to action 16 for full implementation if the collection is deemed feasible to expand.	Malahat Administration to look into feasibility and discuss operational aspects with Lands and/or O&M staff.	Low	Low	

SHORT-TERM ACTIONS: 1-3 YEARS (BEFORE 2027)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
5	Organize recurring community-wide spring and fall clean-up days during the same week as a community swap event. Partner with the BC First Nations Recycling Initiative to be able to accept a range of EPR materials at no cost. HHW collection needs will need to be considered if stewards can cover costs.	Malahat Administration to lead with operational support from the Lands and/or O&M staff.	Low	Low	
6	Look at ways to store collected clothing and toys from clean-up events so that they can be offered to the local daycare and/or recirculated to families within the nation via Facebook group or a suitable area (e.g., the KKC building).	Malahat Administration to lead with operational support from the Lands and/or O&M staff.	Low	Low	
7	Clean the curbside carts and waste dumpsters on a monthly basis to reduce the odours that are likely to attract bears. This is important to raise as a priority for O&M staff.	O&M staff	Low	Low	
8	Assess feasibility of removing two of the three locations where Waste Management currently provides communal dumpsters and increase the frequency of PAN Disposal's residential garbage collection. Implement if deemed feasible.	O&M staff	Low	Low	
9	Remove the 40 yd <sup>3</sup> roll-off bin located by the daycare and only bring back if needed during community clean-up events.	O&M staff	Low	Low (may result in cost savings)	
10	Reduce/eliminate illegal dumping in problem areas by putting up trail cameras and signs that say 'No trespassing or illegal dumping. This area is under surveillance'.	Lands and O&M staff to coordinate.	Low	Low	
11	Develop waste and recycling requirements or best management practices for all the commercial activities on Malahat land, including any hotels, marina, retail, and small-scale commercial businesses, as planned in a new town centre. Malahat Nation will have to outline requirements for the businesses to recycle and manage garbage responsibly. Assess suitability of financial incentives to encourage source segregation of recyclables, e.g., reduce property tax for companies that implement three-streams collection (compost, organics and garbage).	Lands and O&M staff to coordinate development of tool.	Low	Medium Consulting support \$10,000 - \$20,000	



SHORT-TERM ACTIONS: 1-3 YEARS (BEFORE 2027)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
12	Continue to collaborate with the CVRD and the BC First Nations Recycling Initiative (including Recycle BC) to access educational materials about the current recycling options, the issue of curbside recycling contamination and the value of separating recyclables properly.	Lands and O&M staff to coordinate and share messaging with community members.	Low	Low	
13	Assess organics collection options and member needs: either joining CVRD's three-stream curbside collection (starting in 2025) or using a private collector (PAN disposal). The assessment can also survey member needs (food waste with or without yard waste). There is an opportunity to collect food waste in smaller containers (e.g., opportunity to purchase Municipality of North Cowichan's old food scraps bins when they transition to an automated cart collection) and O&M can be in charge of placing food waste into a large cart for weekly pickup.	Lands and O&M staff	Low	Low - Medium Consulting support \$10,000 - \$20,000	
14	Implement food waste collection and support households to clean collection carts.	Washing all food scraps carts may need to be part of O&M's weekly/ bi-weekly tasks to reduce odours.	Low	Low	
15	Assess current and long-term maintenance costs and staffing needs to implement this Plan.	Malahat Administration	Low	Low Consulting support \$5,000 - \$10,000	
16	Lead by example at the Malahat Nation administration building and source separate all curbside recyclables and common depot materials.	O&M staff with buy in from the janitor.	Low	Low	

MEDIUM-TERM ACTIONS: 4-5 YEARS (2027-2028)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
17	Consider procuring and promoting the use of zero waste stations at community events on reserve. This can include purchasing reusable dishware (plates, bowls, mugs and silverware), or provide a waste sorting station with consistent signage to sort materials into individual streams (e.g., compostable, refundables and containers).	O&M staff with operational support from the janitor and Lands staff.  Janitors and O&M staff must be consulted on how to move this material to the depot.	Low	Low	
18	Review option to establish a residential/industrial tool library and makers space owned by Malahat or a tenant cooperative that manages and lends common equipment and purchases bulk supplies. Implement initiative if deemed feasible.	Malahat Administration to lead and potential commercial partners (or O&M staff) to help operate and maintain.	Low	Low - Medium	
19	If deemed suitable, develop waste and recycling requirements in the Malahat Good Neighbour Law, and consider provisions in the Environmental Protection Law. Requirements can set-out which recyclables has to be segregated at source (in the house or in a business) and which materials are allowed to be sent as garbage for landfilling. Requirements have to be clearly communicated to residents and businesses with clear guidance on what's required and why.	Malahat Administration to lead with enforcement capacity from the Lands staff.	Medium (enforcement capacity is needed)	Medium Consulting support for the development of requirements: \$10,000 - \$20,000.	
20	Develop and communicate guidance to residents and Malahat staff on safe storage and disposal of HHW. Residents will need to know what types of materials are collected and by whom/ where. Malahat staff need guidance on what to do if there is a spill and what support they have to manage household hazardous wastes.	Lands staff to lead with input from O&M staff.	Medium (staff may need specific knowledge to handle HHW)	Low- Medium Consulting support for the development of requirements: \$10,000 EPR funding can potentially offset costs.	
21	Look at partnering with WildSafeBC to have a Community Coordinator (WCC) provide outreach and education to the community how to prevent wildlife interactions.	Malahat Administration	Low	Low	

MEDIUM-TERM ACTIONS: 4-5 YEARS (2027-2028)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
22	If deemed feasible, start a monthly collection (Clean-up Day/ Waste Diversion Day) to help residents who are unable to take materials to a centralized location/ transfer site on-reserve.	The collection can be done by either the Lands or the O&M staff.	Medium	Medium - High	
23	Look at partnering with an organization, such as Habitat for Humanity, that can pick-up reusable items, such as furniture, household items, collected by Malahat. Identify a suitable storage area(s) as these items can build up each month.	Malahat Administration to lead with input from O&M and Lands staff.	Low	Low	
24	Pilot community-led clean-up efforts with partners such as the Surfrider Foundation, Ocean Ambassador and/or IZWTAG.	Malahat Administration supported by Lands and O&M staff.	Low	Low	

LONG-TERM ACTIONS: 6-10 YEARS (2029-2034)					
#	Action Item	Responsibility	Impact on Malahat Staffing (Low, Med, High)	Capital Requirements (Low, Med, High)	Progress Status
25	If wildlife interactions remain an issue after cleaning curbside bins, dumpsters and surrounding areas, Malahat Nation can pursue wildlife resistant carts for organics and garbage collection.	Malahat Administration to lead and seek funding	Low	Medium Fully bear proof solutions can cost up to \$300 per household.	
26	Review opportunity for an on-site composter that is wildlife proof, which would create compost to improve soil and grow local food. This could start as a pilot and grow in size based on what works. The Jora composting system has been successful in other First Nation communities and can be looked at with other options. This review can be pursued if there is sufficient interest in a communal garden and there need for local compost material.	Malahat Administration to lead with input from O&M and Lands staff.	Low – Medium (staffing needed if implemented)	Low-Medium Consultant support to assess feasibility: \$5,000 - \$10,000 Capital cost depend on technology and size.	
27	Explore energy recovery opportunities to manage solid waste in an integrated way that can also support a local circular economy. These can include technologies such as anaerobic digestion, gasification and pyrolysis.	Malahat Administration, with support from Lands staff.	Low	Low-Medium Consultant support to assessment: \$20,000 - \$50,000 depending on material focus.	
28	Assess options for storage and offsite disposal of hazardous building materials.	Lands staff and O&M	Low – Medium (staffing needed if implemented)	Low-Medium Consultant support to assessment: \$5,000 - \$15,000 depending on material focus. Capital cost depend on material focus.	
29	Cleanup historical waste site in the northern part of the reserve if Provincial funding is available.	Malahat Administration with support from Lands staff and O&M.	Low	Low provided federal or provincial government funding is available.	