



TO: Patrick Donaghy, Operations Manager
Regional District of Mount Waddington

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FROM: Maura Walker

PROJECT: RDMW SWMP
Update

SUBJECT: Regional Solid Waste Management Plan Update – Strategies and Actions

1. Introduction

The process to update the RDMW's Regional Solid Waste Management Plan (RSWMP) began in the fall of 2019 with the establishment of a RSWMP Advisory Committee. The committee has received, reviewed and commented on several documents describing the state of the current waste management system and what options are available to enhance this system. The memoranda and reports provided in this planning process so far are:

- Existing System Report, November 20, 2019
- Technical Memo RDMW Waste Minimization, November 28, 2019
- Technical Memo RDMW Residual Waste Management, February 10, 2020
- Technical Memo RDMW Other System Components, February 10, 2020

This memorandum presents a series of proposed strategies and actions (Section 2) that were developed based on input received from the RSWMP Advisory Committee and senior RDMW staff. Also included are the financial implications of the recommended actions (Section 3).

The finalized version of these strategies and actions, to be prepared after receiving input from the advisory committee, will become the basis of the updated RSWMP which will be subject to public and stakeholder consultation.

2. Proposed Strategies and Actions

Although reduction, reuse and recycling are the most desirable approaches to managing waste, the key focus for this plan has emerged to be the long-term use of the 7 Mile Landfill and Recycling Centre (7MLRC). This facility is the cornerstone of the RDMW's waste management system – providing a regional landfill, a consolidation point for most extended producer responsibility (EPR) programs, a pre-processing facility for residential and ICI recyclable materials, and a composting facility. In other words, it plays a critical role in the region's waste diversion system as well as its residual waste management system.

The current Design, Operation and Closure Plan for 7MLRC estimates landfill life to be 52 years. However, the development plan will ultimately displace the area currently used for RDMW's extensive recycling operations, as well as the area used for composting. In order to ensure that RDMW continues to have an integrated solid waste operation that includes recycling, composting and disposal, additional



land adjacent to the landfill will be required. This strategy is discussed under “Residual Waste Management” later in this memorandum.

The following proposed strategies and actions are presented here in an order that generally reflects the Waste Management / Pollution Prevention Hierarchy, shown in Figure 1.



Figure 1: Waste Management Hierarchy

At the end of each proposed strategy and associated actions, cost estimates have been provided.

Reduction and Reuse

Strategy: Build awareness of reduction and reuse through events and campaigns that encourage behaviours that minimize waste.

Actions: The specific actions to achieve this are:

1. **Continue to allow for recovery of reusable items and materials received at 7Mile and continue to seek additional opportunities for reuse.** This approach could be expanded to other RDMW recycling depots.
2. **Increase support to the self-management of organic waste** (e.g. backyard composting, grasscycling, digesters) through the provision of low cost composters/digesters, information displays and the provision of workshops. Education should emphasize how to manage organics in a manner that is “Wild Safe.”
3. **Undertake a campaign that targets reduction of “avoidable” food waste** utilizing available campaign materials (e.g. Love Food, Hate Waste). Avoidable food waste is food that could have



been eaten at some point. (Unavoidable food waste include egg shells, coffee grounds, banana peels, etc.)

4. To encourage edible food to be eaten rather than thrown away and to assist in feeding hungry people within the community, **identify and address barriers to the donation of food by businesses and institutions.**
5. **Enhance the profile of organizations involved in the reuse, repair and rental of goods**
6. **Encourage a reuse mindset through hosting and/or supporting reuse events** (e.g. community swaps, repair cafes).
7. **Develop regional campaigns to encourage reduction and reuse behaviours** (e.g. use of reusable bags and refillable mugs, green giving, etc.). Campaign materials can be sourced from other local governments that have already developed effective communication tools.
8. **Develop a fund that could seed local circular economy projects.** Create a fund, possibly with other community partners, where individuals, businesses, community groups and non-profit organizations, could apply for funding to assist with establishing initiatives that contribute to a local circular economy. Such initiatives could include repair cafes, gleaning programs, initiatives that link food waste generators with potential users, lending libraries, etc.

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Increase self-management of organic waste	\$ 3,000 for backyard composters / digesters	\$ 1,000	\$ 2,500	Start up: develop information displays and other outreach materials (printed and online). Ongoing: provision of workshops and print materials
Food waste reduction campaign	\$ -	\$ -	\$ 2,000	Use communication materials available through other government agencies. On-going cost for printing, web site design, promotion.
Research barriers to ICI food donations	\$ -	\$ 4,000	\$ -	Study (contracted out)
Promote existing reuse organizations	\$ -	\$ 1,000	\$ 500	Start-up: Information gathering, development of on-line and printed materials. Ongoing: Information updated and reprinted bi-annually
Support reuse events	\$ -	\$ -	\$ 2,500	Funding of events and promotional materials
Regional reduction and reuse campaigns	\$ -	\$ -	\$ 2,000	Utilizing campaign materials available through other government agencies. On-going cost for printing, web site design, promotion.
Seed fund for circular economy projects	\$ -	\$ -	\$ 5,000	To be distributed annually based on applications. Other financial partners anticipated, which would increase the overall value of the fund.



Organic Waste Management

Organic waste diversion saves landfill space, reduces landfill gas and leachate generation and contributes to tackling climate change. The Province’s Clean BC Strategy calls for 90% of organic waste to be diverted from landfills and turned into renewable resources by 2030. RDMW currently composts yard waste, wood waste and biosolids.

Strategy: Expand composting capacity to include food scraps once the expansion of 7MLRC is confirmed.

Actions:

1. **Maintain the use of variable tipping fees** to encourage the source separation of yard waste and fine garden waste (yard waste that does not require grinding)
2. **Continue to compost yard waste at 7 Mile Landfill** (currently as part of the biosolids composting program).
3. **Develop a Food Waste Diversion Strategy** in consultation with municipalities and First Nations.
This strategy would include:
 - a. An assessment of the capacity of 7MLRC to have an expanded composting operation to include food waste, including associated capital and operating costs. This initial step would determine if there is a need to source organic waste processing capacity through an RFP or other means.
 - b. Options to encourage the diversion of ICI food waste
 - c. Options to collect residential food waste
 - d. Options for remote communities.

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Develop a Food Waste Diversion Strategy	\$ -	\$ 2,000	\$ -	To be undertaken with in-house resources. Budget for research-related costs.

Collection

Collection of garbage, recycling and (in the future) food waste from homes, businesses and institutions is a critical component of the solid waste system in the RDMW. Collection services are provided by municipalities, the RDMW and the private sector. There are several aspects of waste collection in the RDMW that will need to be reviewed to ensure the long-term success of the system and that the goals of this plan are met.

Strategy: To establish a collection system that allows for effective and efficient collection of all municipal solid waste streams and maximizes available waste diversion opportunities.

Action: Develop a Collection Strategy in concert with municipalities and the solid waste industry that will look at the most effective way to provide garbage, recycling and possibly organic waste collection to



homes and businesses with the municipalities and electoral areas. Items to be addressed as part of this strategy include:

- Based on community interest, the provision of collection services to communities in densely populated areas, particularly if the community is close to an area that already has curbside collection (Note that collection of curbside recycling in these areas will be subject to approval by Recycle BC)
- Potential provision of recycling collection services to multi-family buildings
- Collection of food scraps from homes, businesses and institutions
- Regional vs. municipal collection services

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Develop a Collection Strategy	\$ -	\$ 2,000	\$ -	To be undertaken with in-house resources. Budget for research-related costs and meetings.

Residential Recycling

Strategy: Maintain, and possibly improve, RDMW’s current high level of participation in recycling and low level of contamination.

Actions:

1. **Increase outreach to residents** to raise and maintain awareness of the recycling services available in the community, tackle emerging issues, and ensure residents are aware of program changes. Outreach could include:
 - Annual newsletter sent to property owners
 - Regular article in local newspapers
 - Display booth at community events
 - Direct engagement with residents using eco ambassadors (see Education and Outreach recommendations)
 - Recognition programs (contests, rewards)
2. Work with municipalities that provide curbside recycling collection to **add single-family equivalent multi-family residences to the collection service** (e.g. townhomes, mobile homes).

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Increase outreach to residents	\$ -	\$ -	\$ 1,750	RDMW contribution of \$0.50 per household on curbside per year. To be matched by participatory municipal and First Nation partners. Estimate of 3500 homes on curbside region-wide.
Add single-family equivalent multi-family residences to the collection service	\$ -	\$ -	\$ -	No new costs, but municipal staff time will be required to reach out to eligible units to consult and/or inform of the service change and participation requirements.



Industrial, Commercial and Institutional (ICI) Recycling

Strategy: Maintain and possibly increase current levels of ICI recycling through pricing signals complemented by policy and regulatory mechanisms

Actions:

1. **Continue to use differential tipping fees** to provide a financial incentive for commercial waste generators and haulers to source-separate waste materials for diversion.
2. As markets for recyclables improve and expand, RDMW will **extend the designation of “controlled waste” to other materials** to reinforce RDMW’s expectation that divertible materials will be source-separated (like was done for cardboard).
3. **Lobby the Province to include ICI-generated packaging and papers as a schedule in the Recycling Regulation** (similar or the same as one for residential packaging and papers).

There are no new costs associated with the above actions.

Construction / Demolition (CD) Waste Diversion

Strategy: Continue to reduce the quantity of waste from construction, renovation and demolition projects sent to landfill.

Actions:

1. **Continue to develop and distribute CD waste management information**, including information on recycling and reuse options, as well tipping fees and disposal bans. Distribution is intended to be done through:
 - Hard copies given to all persons applying for a building permit,
 - Local waste haulers,
 - Posted at building material suppliers, hardware stores, and community centres, and
 - Downloadable versions to be made available on the regional district website, with links to be posted on municipal websites.
2. **Expand the definition of “controlled waste” to include items that are readily recyclable** such as clean wood waste, asphalt shingles and metal. The list of controlled items should be reviewed annually and amended based upon the recycling market.
3. **Lobby to have construction materials as part of an extended producer responsibility (EPR) program.** Encourage the Province to follow through with their EPR strategy that includes placing construction materials under the Recycling Regulation (i.e. requiring the manufacturers and retailers to establish a collection and processing program across BC). \

There are no new costs associated with the above actions.



Education and Outreach

Strategy: Support all aspects of the waste management system through effective and efficient application of education and outreach.

Actions:

1. **Work collaboratively with other key stakeholders on education and outreach** to provide the opportunity to benefit from economies of scale and better leveraging of public dollars. Working collaboratively will support municipalities and First Nations without dedicated solid waste or communications staff, and provide a more consistent message and brand identity for use by all parties. This may be achieved through developing an inter-agency communications strategy on an annual basis that identifies the outreach projects for the year, along with the associated tools, participants, roles and responsibilities.
2. **Shift use of traditional print media to use of on-line media**, including apps, to take better advantage of the extensive use of smart phones by the public as a means of conveniently sourcing relevant, up-to-date information. There may be value in creating a multi-purpose app for North Island local government notifications and information (waste management, parks and recreation, emergency, etc.), where residents can sign up for appropriate “push notifications” or can find information related to local government services. Because not all areas of RDMW have cell service or good internet, for the time-being there will still be a need to provide some waste management information in hard copy.
3. **Implement an educational outreach program targeting school children** that focuses on the waste management hierarchy and individual responsibility. Targeting students can influence longer-term effectiveness as students bring home new ideas and practices that can impact others in the household.
4. **Hire eco-ambassadors to do community outreach** / direct community contact in the summer months (May through August). The ambassadors can engage people on maximizing their waste management behaviours, as well as on other RDMW fronts (invasive species, water conservation, etc.) through door to door visits, staffing information booths at community events or other high profile locations, and engaging local media. The eco-ambassadors could also undertake recognition programs.



Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Work collaboratively with other key stakeholders	\$ -	\$ -	\$ -	Annually develop and execute a regional communications plan to support regional and municipal waste management services (including reduction and reuse communications).
Use on-line media	\$ -	\$ -	\$ -	Part of individual program budgets, no separate budget required.
Outreach program for school children	\$ -	\$1,000	\$ -	Use/build on program content prepared by other regional districts. Delivered by eco-ambassador in May and June.
Eco-ambassador	\$ -	\$2,000	\$14,000	1 Summer student (May-Aug). Start-up budget to cover the cost of material production not covered in other budgets.

Extended Producer Responsibility (EPR)

EPR allows for an extensive array of diversion opportunities on the northern part of Vancouver Island. RDMW is a strong proponent for EPR and works collaboratively with Producer Responsibility Organizations to ensure that EPR collection services are available in the RDMW.

Strategy: To continue to ensure that EPR collection services are available in the RDMW and to support the expansion of EPR programs.

Actions:

1. **Lobby the province to include ICI packaging and papers, mattresses, construction materials and textiles in the Recycling Regulation.**
2. **Continue to work to improve EPR in BC by participating in organizations that are active in this area,** such as Coast Waste Management Association (CWMA), AVICC and BC Product Stewardship Council.
3. **Lobby the Province to expand the scope of hazardous materials** included in the Recycling Regulation, and expand the definition of products currently included, such as automotive paint being included under “paint.”
4. Lobby senior governments and product stewards to **improve product labelling** regarding recyclability.

There are no new costs associated with the above actions.



Recovery

Recovery refers to the practice of recovering materials or energy from residual waste. At the RDMW, recovery of divertible materials such as metal is practiced at the active landfill face by the landfill operator. Large items that can be readily recycled or reused are regularly pulled from the mixed waste deposited at the active face and then moved to the recycling area of 7MLRC.

During the process to develop this plan, technologies that recover energy from municipal solid waste (MSW) were reviewed. All technologies were recognized as not being financially viable for the small volumes of waste generated in the RDMW. The cost of energy recovery technologies requires significant volumes of waste materials to achieve an economy of scale, which has defined RDMW's strategy and action associated with recovery.

Strategy: To be open to the application of recovery technologies in the future and to monitor opportunities that could contribute positively to RDMW's solid waste management system.

Action: Continue to **participate on the AVICC solid waste committee** that is looking into collaborative, inter-regional solutions to solid waste management, including resource recovery options.

There are no new costs associated with the above action.

Residual Waste Management

Landfilling has been the primary method of residuals management in the RDMW since the first RSWMP was developed in 1996. Landfills will continue to remain an essential component of the RDMW solid waste management system to deal with the residual waste which cannot be practically removed from the waste stream along with items not designed for recycling that are disposed of as garbage.

There are two landfills permitted to receive MSW in the RDMW: RDMW's 7 Mile Landfill & Recycling Centre (7 MLRC) which operates as a regional landfill, and the Western Forest Product's landfill near Holberg. The Kwakwaka'wakw First Nation has an onsite incinerator to dispose of their solid waste and are not part of the RDMW solid waste program.

7 Mile Landfill & Recycling Centre

The 7 Mile Landfill began operation in 1992 in a Ministry of Transportation and Highways gravel pit located along the Island Highway (Hwy 19) approximately 16 km east of Port Hardy. The RDMW operates the site under a License of Occupation issued by the Province as well as Operational Certificate MR-08490 issued by the Ministry of Environment in December 2005.

7MLRC receives MSW and controlled waste from all communities in the RDMW with the exception of Holberg and isolated First Nations on the mainland. There are 7 RDMW transfer stations that are also part of the residual waste management system.

7MLRC also receives waste from the two First Nation communities outside of the regional district: Bella Bella and Klemtu. **RDMW intends to continue to offer this service to these two communities as part of**



this plan, for as long as these communities require this service and the waste volumes do not increase considerably.

As mentioned earlier in this memo, the development plan for the landfilling operation at 7MLRC will ultimately displace the area currently used for RDMW’s recycling and composting operations. In order for the north island to maintain its current and future levels of recycling and composting, additional land adjacent to the landfill will be required.

Strategy: Secure long term disposal capacity at 7MLRC while maintaining space for recycling and composting.

Actions: The following actions are intended to be done chronologically since each action presupposes successful completion of the prior action.

1. **Undertake a landfill conformance review** to identify if there are any substantial issues associated with the current landfill operation that may impact the long-term use of the site. This review is scheduled to occur in 2020. The outcome of this exercise would be applied to future plans for the facility.
2. **Obtain approval from the Province to acquire the land adjacent to the current landfill** that was formerly used by Ministry of Transportation and Infrastructure (MOTI) for aggregate extraction (the purple area shown in Figure 2). It is preferable for RDMW to be given title to the land for the purposes of a lateral expansion of the landfill site, however a long-term lease for the land (as is currently the case for the current landfill area) is also desirable. RDMW will consult as part of this RSWMP process, and on an on-going basis with the Kwakiutl First Nation in regards to the landfill’s development, and particularly on the potential expansion of the landfill area. (Note: Information exchange with the Kwakiutl First Nation in this regard has already begun.)
3. Upon receiving approval to expand the landfill area from MOTI, RDMW will **develop an updated DOCP** that will incorporate all the uses of this site, including the landfill operation, the recycling receiving and processing areas, and the composting receiving, processing and storage areas.

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Landfill conformance review	\$ -	\$ 8,000		Budget to hire consultants, support review, review and report on results
Obtain approval for 7MLRC expansion	\$ -	\$ 5,000	\$ 1,000	Includes ongoing consultation/engagement with Kwakiutl
Update the DOCP	\$ -	\$ 80,000		Budget to hire consultants, support plan development, review draft and final, report on results

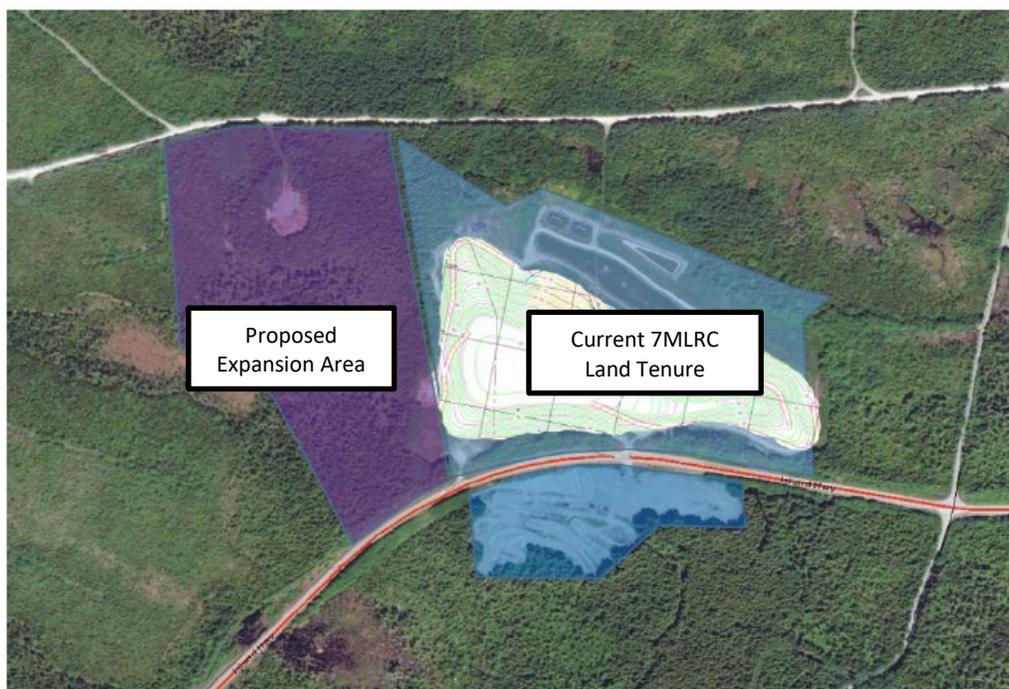


Figure 2: Map Showing Proposed Expansion

Landfill Gas Management

The RDMW is not required to collect landfill gas under the BC Landfill Gas Regulation. Instead, since 2011 the RDMW has voluntarily implemented a biocover methane emission reduction system at the 7 Mile Landfill.

This system was developed following RDMW's decision in 2009 to stop burning wood waste and instead use ground wood waste as a matrix for composting biosolids from the six secondary sewage treatment plants in the region. Although the compost produced on-site was originally slated for use as final cover material, the region's engineers recommended that this material could also be used as intermediate cover that might act as a natural biofilter to reduce methane emissions by more than would otherwise be expected in normal intermediate cover soils. Annual monitoring indicates that this is the case.

The compost biocover system is key to 7 Mile Landfill operation. Waste that would otherwise be buried as a source of landfill gas is instead used to help reduce the generation of landfill gas (and hence methane) as well as extend the life of the landfill. **The RDMW intends to continue using compost as a biocover to mitigate landfill gas.**

Contaminated Soils

A major challenge facing 7MLRC is that over the long term operation of the landfill, there is a deficit of cover material. To overcome this shortfall, 7MLRC accepts contaminated soils. The RDMW has a contractual relationship with Tervita Corporation that gives Tervita exclusive rights to bring



contaminated soils to 7MLRC, subject to RDMW management's approval. **The acceptance of contaminated soil will continue to be done subject to management's approval, available storage space and anticipated need for material.**

Asbestos

Asbestos is received and buried at 7MLRC within designated cells at the landfill. Customers that have asbestos for disposal must pre-arrange to deliver asbestos and are charged a tipping fee that is the same as regular garbage, despite the extra handling that is required. This policy is intended to encourage residents, businesses and contractors to segregate, properly package and deliver asbestos (or potential asbestos-containing materials) to the landfill for proper disposal, rather than "hiding" it in regular garbage or dumping it illegally. **This approach to asbestos receipt and disposal will be maintained.**

Nuisance Wastes

RDMW receives large volumes of waste from large industrial generators that may be of value to other users and/or recyclers. RDMW will continue to work with industrial waste generators, such as the local aquaculture industry, and local waste management businesses to identify appropriate solutions for key components of their waste. This may include reduced tipping fees to support source separation, or funding research into available recycling markets or alternative materials that could be recycled rather than disposed.

Illegal Dumping Mitigation

Illegal dumping is unsightly, can contaminate land and waterways, and can cause the dispersion of invasive weeds. Illegal dumping of waste is a challenge in both rural and urban areas of the RDMW and British Columbia. Although tipping fees are often cited as the cause of illegal dumping, this anti-social behaviour has been observed in areas without tipping fees.

Strategy: RDMW will continue their current illegal dumping mitigation measures.

Actions:

1. **Continue to assist with clean up events:** RDMW will assist community organizations with the clean-up of litter and illegal dumping on public land by waiving tipping fees and providing funding for equipment such as gloves, garbage bags and safety vests. Both the waiving of tipping fees and funding of equipment will require prior approval from RDMW management and budget availability.
2. **Continue to clean up illegal dump sites:** As illegal dump sites are identified, RDMW will assess and, if required, organize site clean-ups based on available budget.
3. **Continue to not charge tipping fees on fine yard waste:** Yard and garden waste that does not need grinding before it can be composted, such as grass and leaves, will not be charged a tipping fee when brought directly to RDMW facilities that accept yard waste. This is intended reduce the amount of yard waste that is dumped in the bush, in ditches, etc., which in turn, is



believed to reduce the potential for illegal dumping of other items and the spread of invasive species.

4. **Continue to not charge tipping fees on recyclable items** Similar to no tipping fees for fine yard waste, not charging a tipping fee on recyclables is intended to reduce the potential for these items to be illegally dumped.
5. **Establish a budget to support illegal dumping mitigation:** To better track the cost of illegal dumping mitigation and to ensure that funds are available to support clean up initiatives, a budget dedicated to illegal dumping mitigation should be established.

Cost Estimate	Capital	Operating		Notes
		Start-Up	On-going	
Illegal Dumping Mitigation program	\$ -	\$ -	\$ 4,750	Assumes 30 t/year of fees waived @ \$125/t, plus \$1000 for financial assistance and cleanups

Human-Wildlife Conflict Mitigation

The RDMW constructed an electrified bear fencing around the perimeter of the active landfill cell at 7MLRC. The municipalities of Port Hardy, Port McNeill and Port Alice are listed as municipal partners with Bear Smart BC, an organization that aims to reduce conflicts with bears and thereby reducing the destruction of bears. The District of Port Hardy developed a Human-Bear Conflict Management Plan in 2010 and has detailed information on how to minimize such conflicts on their website. The District's solid waste bylaw also includes provisions for the secure storage of waste receptacles between pick-up days.

Strategy: Continue to monitor and address wildlife-related issues and encourage residents, businesses and other stakeholders to implement waste management practices that mitigate potential conflict with wildlife.

Action: As part of the development of both the Collection Strategy and the Organic Waste Diversion Strategy, human-wildlife conflict mitigation measures will be considered and incorporated into the strategies.

There are no new costs associated with the above action.

Wood Waste / Land Clearing Waste Management

In the RDMW, most land clearing waste (land cleared for development or farming) is either chipped and left onsite, or piled and burned on site, depending on local bylaws regarding open burning. All burning activities are regulated by BC's Open Burning Smoke Control Regulation, which specifies the conditions under which burning of tree waste can occur.

Facilities that receive wood waste include:



- The District of Port Hardy has a site for the disposal of stumps.
- Tree waste is accepted by Northland Power Chip, which chips it into hog fuel.
- Dryland sort debris is received by Sea Soil, where it is sorted into hog fuel and fines (which are used in their composting operation)
- At 7MLRC, wood is stockpiled together until it can be ground. Once ground, it is blended with biosolids and composted on-site (Note: Wood waste generated by cedar shake and shingle mills is the responsibility of each mill and is not accepted at 7MLRC.)
- At the Malcolm Island Recycling Centre, clean wood waste is stockpiled and ground as needed and local uses are sought for the chips, such as mulch and trail building.

Strategy: RDMW will continue to accept wood waste at 7MLRC as long as there is capacity at the site to receive, store and process the material. Additionally, RDMW supports the operation of private and public facilities that can receive wood waste and process it for beneficial use (hog fuel, compost amendment, etc.).

Action:

1. Wood waste storage, processing and composting will be incorporated into the DOCP for 7MLRC.
2. Assist local shake and shingle operations with identifying solutions for cedar wood waste management. This will be done through engaging with solid waste organizations that are actively engaged in developing Vancouver Island-based waste management solutions, such as the AVICC Solid Waste Committee and CWMA.

There are no new costs associated with the above actions.

Finance and Administration

Strategy: To maximize the application of user pay for waste management services to ensure that the system is paid, in part, by those who use it and also to incentivize waste reduction, reuse and recycling. The application of user pay will be balanced by the funding through property taxes to ensure that the system has a consistent source of income.

Action: The current solid waste revenue system does not maximize “user pay” as a financial fairness tool or as an incentive to reduce or recycle. RDMW will work with municipalities and other stakeholders to **prepare a Cost Recovery and Fairness Strategy**. This strategy will be linked with both the Collection Strategy and the Organic Waste Strategy described earlier in this memo.

The strategy will be developed with in-house resources, therefore no new costs associated with the above action.



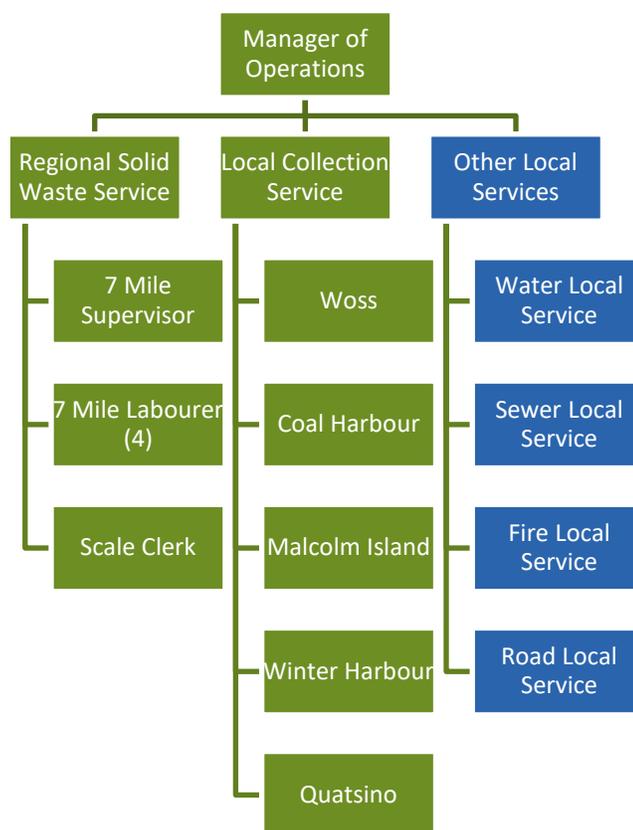
3. Financial Implications

The strategies, actions and costs associated with improving the solid waste management system in the RDMW have been discussed in previous sections. This section presents a summation of the estimated staffing needs (in full-time equivalent staff, or FTEs) and costs (in 2020 dollars) to the RDMW of the proposed solid waste management system.

Staffing

Solid waste management in the RDMW consists of two types of services: Regional Solid Waste which includes the 7-Mile Landfill and Recycling Centre, and Local Solid Waste that provides garbage collection that is often coupled with recycling and waste transfer stations. As indicated in Figure 3-1, the Manager of Operations is responsible for both the regional and local solid wastes service as well as local water, sewer, fire and road services. The scope of duties for the position involves direct staff reports as well as considerable contracted services at both the 7 Mile Landfill as well as the local collection services.

Figure 3: Manager of Operations Scope of Duties



Based on existing needs and proposed programs, an additional .5 to 1 FTE will be required to plan and implement the reduce, reuse and recycle strategies , regional education and behavior change programs, policy changes and illegal dumping mitigation contained in the proposed strategies and actions for inclusion in the updated RSWMP.



Expenditures

Table 1 provides the costs associated with the strategies and actions presented in previous sections (including an additional 0.5 FTE) with respect to their implications to the Board's approved Financial Plan for 2020-2024. As shown, implementing the strategies and actions identified herein result an increase in solid waste related expenditures for the years 2021 to 2024 in the order of 3% to 6%. These increases are reasonable and could be accommodated through a modest increase in taxes or tipping fees.

However, it should be noted that the full financial implications of the updated RSWMP will need to be reviewed pending the results of the landfill conformance review, Provincial approval to acquire the land adjacent to the current landfill (or not) as well as the operating and capital costs associated with the updated DOCP.



Table 1: Five-Year Financial Plan

	2020	2021	2022	2023	2024
REVENUE					
Property Taxes	\$ 545,400	\$ 556,308	\$ 567,434	\$ 578,783	\$ 590,359
Tipping Fees	\$ 400,000	\$ 408,000	\$ 416,160	\$ 424,483	\$ 432,973
Composting Revenue	\$ 180,000	\$ 183,600	\$ 187,272	\$ 191,017	\$ 194,838
Recycling Revenues	\$ 173,300	\$ 176,800	\$ 180,300	\$ 183,900	\$ 187,600
User Fees First Nations	\$ 88,000	\$ 89,760	\$ 91,555	\$ 93,386	\$ 95,254
Transfer from Reserves	\$ 313,000	\$ 2,000	\$ 22,000	\$ 2,000	\$ 2,002,000
Other	\$ 80,000	\$ 81,600	\$ 83,232	\$ 84,897	\$ 86,595
TOTAL OPERATING REVENUE	\$ 1,779,700	\$ 1,498,068	\$ 1,547,953	\$ 1,558,466	\$ 3,589,619
EXPENDITURES					
Existing Operating Expenditures					
Recycling	\$ 255,500	\$ 260,610	\$ 265,786	\$ 271,130	\$ 276,543
Composting	\$ 180,000	\$ 183,600	\$ 187,272	\$ 191,017	\$ 194,838
Landfill Operations	\$ 954,400	\$ 966,532	\$ 998,365	\$ 1,011,398	\$ 1,024,831
Contribution to Reserves	\$ 76,800	\$ 85,326	\$ 74,531	\$ 82,921	\$ 91,406
Total Annual Existing Operating Expenditures	\$ 1,466,700	\$ 1,496,068	\$ 1,525,954	\$ 1,556,466	\$ 1,587,618
Existing Capital Expenditures					
Capital Expenditures	\$ 313,000	\$ 2,000	\$ 22,000	\$ 2,000	\$ 2,002,000
Total Annual Existing Capital Expenditures	\$ 313,000	\$ 2,000	\$ 22,000	\$ 2,000	\$ 2,002,000
TOTAL ANNUAL EXISTING EXPENDITURES	\$ 1,779,700	\$ 1,498,068	\$ 1,547,954	\$ 1,558,466	\$ 3,589,618
PROPOSED OPERATING EXPENDITURES					
DIVERSION					
Reduction and Reuse	\$ -	\$ 20,000	\$ 10,000	\$ 14,500	\$ 7,500
Organics - Develop Food Waste Diversion Strategy	\$ -	\$ 2,000			
Collection - Develop Collection Strategy	\$ -	\$ 2,000			
Residential Recycling	\$ -	\$ 1,750	\$ 1,750	\$ 1,750	\$ 1,750
ICI & CD Expand the list of controlled waste materials	\$ -	\$ -	\$ -	\$ -	\$ -
Education and Outreach	\$ -	\$ 17,000	\$ 14,000	\$ 14,000	\$ 14,000
EPR - Lobby to have additional products under EPR	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total Diversion	\$ -	\$ 42,750	\$ 25,750	\$ 30,250	\$ 23,250
POLICIES					
Illegal Dumping Mitigation program		\$ 4,750	\$ 4,750	\$ 4,750	\$ 4,750
Cost Recovery and Fairness Strategy	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total Policies		\$ 4,750	\$ 4,750	\$ 4,750	\$ 4,750
PLAN MONITORING					
Enhanced data management at the landfill	\$ -		\$ 5,000	\$ 5,000	\$ 5,000
Plan Monitoring Advisory Committee	\$ -	\$ 500	\$ 500	\$ 500	\$ 500
Interim Assessment / Plan Update	\$ -	\$ -	\$ -	\$ -	\$ 35,000
Waste Composition Study	\$ -	\$ -	\$ -	\$ 25,000	\$ -
Sub-Total Plan Monitoring	\$ -	\$ 500	\$ 5,500	\$ 30,500	\$ 40,500
STAFFING - Additional .5 FTE	\$ -	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Total Proposed Annual Operating Expenditures		\$ 78,000	\$ 66,000	\$ 95,500	\$ 98,500
Proposed Capital Expenditures					
Increase self-management of organic waste	\$ -	\$ 3,000	\$ -	\$ -	\$ -
Enhanced data management at the landfill	\$ -		\$ 30,000	\$ -	\$ -
Total Proposed Annual Capital Expenditures	\$ -	\$ 3,000	\$ 30,000	\$ -	\$ -
Total Annual Proposed Expenditures	\$ -	\$ 81,000	\$ 96,000	\$ 95,500	\$ 98,500
TOTAL ANNUAL EXPENDITURES	\$ 1,779,700	\$ 1,579,068	\$ 1,643,954	\$ 1,653,966	\$ 3,688,118
Additional Funding Required	\$ -	\$ 81,000	\$ 96,000	\$ 95,500	\$ 98,500
Percentage Increase over approved Financial Plan	0%	5%	6%	6%	3%