Committee Report

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Electoral Area/Municipality	All areas and municipalities

SECTION 1: EXECUTIVE SUMMARY

The purpose of this report is to present a summary of the results of the Resource Recovery System Efficiency Study (the Study) and to recommend moving forward with the closure of Riondel, Kokanee Park Marina, and Winlaw Recycling Depots.

SECTION 2: BACKGROUND/ANALYSIS

The 2021 Resource Recovery Plan (RRP) committed to the strategy of ensuring that the RDCK Resource Recovery system is financially sustainable and resilient. As part of this, the RDCK set an action item of undertaking an efficiency study of the Resource Recovery system. The purpose of the Study was to:

1) Assess cost recovery of tipping fees to:
    a. Understand the costs of managing specific waste types and how much of these costs are currently covered by tipping fees versus taxation;
    b. Ensure that the balance between tipping fees and taxation is fair and equitable;
2) Benchmark the system to determine if the RDCK is over or under-serviced, both internally (between sub-regions) and externally (comparing similar regional districts); and,
3) Identify options to recognize efficiencies and improve cost-effectiveness and equitability, while ensuring regulatory compliance.

The proposed scope of work to accomplish these goals was presented to the JRRC in July 2023. The RDCK received proposals from two proponents and in September 2023, GHD Limited (GHD) was procured to complete the Study. GHD created a data model to assess tipping fee cost recovery and completed a benchmarking assessment comparing service levels in the RDCK both internally and externally. The results of these assessments were used to evaluate the performance and efficiency of the system as a whole, as well as for each sub-region.

The following sections will further detail each of the assessments, as well as summarize GHD's recommendations and how Staff see these fitting into their work plan.

TIPPING FEE COST RECOVERY ASSESSMENT

GHD worked with RDCK Staff to develop a data model to analyze the cost recovery of the existing tipping fee structure by waste material. This was completed by incorporating resource recovery expense, tipping fee revenue, and waste tonnage data from three full fiscal years (2020-2022), as well as capital expense data from 2016 through 2022 and planned capital expense data from 2023-2027. This data was used to estimate the cost

per tonne to manage specific materials as well as the revenue from tipping fees per tonne, both at the sub-regional and regional level.

Expenses were organized by three distinct sub-categories: operations and maintenance (O&M) costs, capital costs, and administrative costs. Expenses were allocated to waste material types where possible, and where not (some capital and most administrative expenses), they were allocated equally across the material types such that the cost to manage each material was proportional to the tonnage of that material handled.

GHD noted that the three administrative sub-region model of the RDCK Resource Recovery system, and the variation in infrastructure and in how materials and finances are managed across these sub-regions, is akin to operating waste management systems for three separate regional districts, which added a significant level of complexity to the building of this model. Due to this complexity and nature of the data available, there were numerous assumptions and limitations in developing the model. As such, the cost to manage output values in the model are not exact and have an uncertainty of +/-$10 per tonne for large throughput materials (those greater than 3% of waste stream by weight) and a higher level of uncertainty for smaller throughput materials (those less than 3% of waste stream by weight). Assumptions and limitations of the model include the following:

- Tonnage data:
    - As the RDCK does not have scales at all sites, conversion values were used to estimate total tonnages collected. Tonnage data for household hazardous waste, recycling, and tires was provided by the product stewardship organization or contractor collecting that material.
    - As the organics program for food waste had not yet been fully implemented in the assessment period, annual organics tonnages and associated tipping fee revenues were estimated based on tonnages received between January 2023 and July 2024.
- Expense data:
    - With the exception of salary-related expenses, expenses were averaged across the years of data available to determine average annual cost (2020-2022 for O&M and administrative expenses, 2016-2027 for capital expenses).
    - For salary-related expenses, the model used 2022 salary data as using an average would underestimate the salary burden of the resource recovery program. Salary-related expenses for positions that have been added since 2022 (Resource Recovery Projects Advisor, Field Supervisors, Compost Operator) were also added to reflect expenses as accurately as possible in the model.
    - Costs associated with HB Tailings Facility were not included in the model.
- Tipping fee revenue data:
    - To account for tipping fee increases that occurred since 2022 (10% in 2023 and a subsequent 10% in 2024), the 2020-2022 averaged tipping fee revenue values were increased to represent what the revenue would be based on 2024 tipping fees.

For each material in the study, the model generated a cost per tonne to manage and tipping fee revenue per tonne, for the RDCK as a whole and for each sub-region (Table 1). The cost to manage materials was generally lowest in the West due to having the largest throughput of waste, followed be East and then Central sub-regions. Costs were highest in the Central sub-region primarily due to significantly more hauling being required as there is no active landfill in this sub-region, yet Central still pays for a portion of landfill operations via an annual transfer to the West.

Table 1: Material Management Costs ($/tonne)

MATERIAL	EAST	CENTRAL	WEST	RDCK
Mixed waste[1]	$183	$233	$146	$193
Asbestos[2]	$183	-	$146	$193
Biosolids	-	-	$78	$88[3]
Construction, demolition, renovation (CDR)[2]	$183	$233	$146	$193
Organic waste	$613	$202		$314
Scrap metal[1]	$196	$174	$92	$144
Septage	-	$106	$78	$101
Soils	$95	$101	$78	$88
Tires[2]	$106	$136	$118	$125
Wood	$191	$239	$149	$199
Yard and garden	$135	$166	$168	$163
Recycling	$571	$1,039	$701	$933
Household Hazardous Waste (HHW)	$6,411	$1,195	$5,284	$1,664

[1] Includes materials that are managed as mixed waste (bulky waste, land clearing, noxious weeds, rubble)

[2] The actual cost to manage these materials is underestimated in the model as it was not possible to estimate and model the exact costs associated with management of each and every material, especially for the smaller throughput materials that require additional handling or administrative support. For example, asbestos-containing materials require additional administrative support for permitting and scheduling, require more soil or borrow material for immediate cover, and due to these cover requirements, take up more space in the landfill than just the footprint of the disposed asbestos.

[3] When administrative and capital costs are allocated across the entire region as a whole, they are slightly higher than those for just the West sub-region, resulting in a higher estimated cost to manage this material regionally than those estimated for the West sub-region to manage independently.

The cost/tonne and revenue/tonne values from the model were used to estimate the percent cost recovery from tipping fees for each material, for the RDCK as a whole and for each sub-region. Table 2 below summarizes the tipping fee cost recovery based on the results of the model.

Table 2: Tipping Fee Cost Recovery (%)

MATERIAL	EAST	CENTRAL	WEST	RDCK
Mixed waste	79%	78%	116%	87%
Asbestos	276%	-	231%	189%[2]
Biosolids	-	-	77%	69%[2]
Construction, demolition, renovation (CDR)	122%	112%	163%	122%
Organic waste	14%	63%		42%
Scrap metal[1]	49%	45%	75%	52%
Septage	-	54%	74%	57%[2]
Soils	23%	22%	61%	50%
Tires	284%	260%	311%	275%
Wood	38%	33%	47%	41%
Yard and garden	17%	17%	18%	18%

[1] While the tipping fees for scrap metal do not recover the costs associated with managing it, once the revenues from scrap metal recycling are applied, costs are fully recovered (estimated 153% cost recovery for the RDCK as a whole).

[2] Cost recovery for the RDCK as a whole is slightly underestimated for this material. This is due to the fact that this material is not managed in all three sub-regions. When administrative and capital costs are allocated across the entire region in the

model, they are slightly higher than those for just the individual sub-regions, resulting in a higher estimated cost to manage and therefore lower cost recovery regionally.

The tipping fee cost recovery assessment indicated that the RDCK's cost to manage most materials exceeds what is being recovered by current tipping fees, and that cost recovery varies significantly across sub-regions for some materials.

As per the 2021 RRP, the "user pay" model, where users who generate waste pay for its disposal, is something that the RDCK strives towards in its resource recovery system, where feasible. Based on this, tipping fees would ideally cover, at minimum, the cost to manage waste materials that end up in the landfill. User pay is also the goal of Extended Producer Responsibility programs such as RecycleBC; however, until stewardship organizations are able to establish rates that actually cover the cost to manage the materials they recycle, subsidization through taxation will be necessary for these programs.

According to GHD's waste specialists, typically in regional solid waste operations, mixed waste tipping fees are set higher than the estimated cost to manage this material in order to incentivize diversion and to provide revenue to subsidize the costs to manage divertible materials, such as wood, yard and garden, and scrap metal. However, as diversion rates increase, the waste stream going into the landfill and associated tipping fee revenue typically decreases, which, in the absence of EPR programs that cover the full costs of diversion, means that taxation will always be needed to achieve the goal of increasing diversion.

Based on the cost recovery values identified by the model and guided by the user pay principle and capabilities of the current Resource Recovery system, GHD made the recommendations shown in Table 3 below.

Table 3: Summary of Tipping Fee Assessment Recommendations

MATERIAL	RECOMMENDATION(S)	RATIONALE
Mixed Waste	Increase the tipping fee to approximately $193/tonne	Tipping fee should cover, at minimum, the regional cost to manage this material.
Wood	Increase the tipping fee for clean wood to 75% of the mixed waste tipping fee Increase the tipping fee for all other wood waste (i.e. painted wood, furniture, laminates, etc.) to match the rate for mixed waste and dispose of in the landfill without processing.	Clean wood and wood waste are currently accepted at a lower tipping fee to incentivize diversion, but the RDCK does not currently have an end market for the volume of wood being received, resulting in high processing costs (wood grinding), only for it to be stored at facilities taking up space or ending up in the landfill. Many beneficial end uses of wood, such as compost or biochar, are prevented by mixing clean wood with other wood waste.
Yard & Garden	Increase the tipping fee to 75% of the mixed waste tipping fee Consider the cost savings of discontinuing the free yard and garden drop-off months versus the community benefit (e.g. fire prevention)	Similar to wood waste, yard and garden materials are costly to manage due to processing and hauling, and the RDCK currently receives far more than it is able to use (in compost, mixed with dried septage at landfill sites). Greater than 50% of the yard and garden materials collected are received during the free yard and garden events. Due to low/lack of tipping fees, this service is substantially paid for through taxation.
Soil	Increase the tipping fee for clean soil to 75% of the mixed waste tipping fee	Soil is needed for landfill cover material, but not in the amounts that were received during the timeframe of the study. Accepting too much soil

MATERIAL	RECOMMENDATION(S)	RATIONALE
	Increase the tipping fee for contaminated soil to match the tipping fee for CDR	consumes valuable landfill airspace. As regulations regarding the relocation of clean soil have become more stringent, there are few options for clean soil disposal and a low tipping fee is not necessary to incentivize soil disposal at landfills. If additional clean soil is needed, a lower rate could be provided on a case-by-case basis. The environmental containment structure of a landfill is necessary to manage the potential impacts from contaminated soil, similar to any other landfill materials, therefore the tipping fee for this should at minimum, recover the life cycle costs of a landfill, as reflected in the tipping fee for mixed waste.
Rubble	Eliminate this waste category and include as CDR	Rubble is not received in significant amounts across the region, but a decent amount was received in the East sub-region during the timeframe of the study. Rubble was likely incentivized with a lower tipping fee such that the material could be stockpiled and used at facilities for road building; however it currently is disposed of as mixed waste (i.e. landfilled). As such, it should be charged to reflect this cost to manage as CDR to reflect the additional challenges associated with landfilling larger materials until an end use that allows for diversion is developed.
Septage	Implement planned increase to $90/tonne in 2025	The septage bylaw dictates that the tipping fee will increase by $20/tonne in 2025, bringing this tipping fee to $90/tonne. This will allow for slightly higher than cost recovery in the West sub-region, where the most septage is received, and close to cost recovery in Central, where minimal septage is received. Cost recovery for Septage in the East sub-region was not calculated as part of this study as significant changes are currently underway for septage management in the East sub-region, so detailed analysis of the current system did not have much value.
Organics	Allow time for full implementation of the program and evaluate cost recovery again in a few years	The organics program is still getting off the ground and increasing tipping fees at this point might discourage participation in this program. It would be best to re-assess cost recovery for this material in a few years once the tonnages going into the facility have stabilized more and the pilot for biosolids composting is completed.

MATERIAL	RECOMMENDATION(S)	RATIONALE
-	Aggregate system costs and revenues across the RDCK instead of by sub-region	Tipping fees are currently the same across all sub-regions, with the exception of the per container rate for mixed waste in the Central sub-region. As tipping fee revenue currently remains in the sub-region where it was collected, while the cost to manage materials varies across sub-regions, this results in significant variation in the level of taxation required across the three sub-regions. The taxation for waste management services in the Central sub-region is more than four times the taxation in the West sub-region, while taxation in the East is about triple that in the West. Aggregation of costs and revenues at the regional level would result in a more equitable and efficient Resource Recovery system for RDCK residents.

BENCHMARKING ASSESSMENT

GHD completed a jurisdictional scan to identify regional districts with similar characteristics and demographics to the RDCK for the external benchmarking assessment. From the list of twenty-seven (27) regional districts in BC, seven (7) regional districts were identified as similar to the RDCK. Service level and financial benchmarking criteria were set based on conversations between GHD and Staff, and public availability of data. Service level and financial data was collected, tabulated, and analyzed for the selected regional districts, as well as for the three RDCK sub-regions for internal benchmarking. Tables summarizing these detailed analyses are in Section 4 of the Study, included as Attachment A.

Comparison to Other Regional Districts

Of the seven regional districts, the RDCK ranked second in both the service level and cost benchmarking, indicating that the RDCK Resource Recovery system provides residents with a high level of service compared to the other regional districts in the Study, alongside a relatively high cost per capita to pay for the system and this level of service. Of the regional districts in the Study, the RDCK had the highest tipping fee for mixed waste.

Equitability in the balance between tipping fee revenue and taxation to cover the costs of the Resource Recovery system is a subjective measure. There is no correct or perfect amount, it depends on the values and goals of the governing body. GHD completed a simplified costing exercise to benchmark this balance across the regional districts in the Study. Based on this crude analysis, the RDCK ranked second for cost recovery via tipping fees, which is reflective of its higher tipping fees, indicating that the user pay principle is being applied more strongly in the RDCK than in other regional districts.

GHD notes that as diversion has been prioritized and growing over the past 15 years, solid waste systems are increasingly leaning on taxation as opposed to tipping fees for funding, due to loss of tipping fee revenue as materials are increasingly diverted from landfills. The results of the simplified costing exercise show that of the regional districts in the Study, on average 40% of waste system costs are being funded through tipping fees, with the remaining 60% through taxation. This excluded the RDEK who has limited tipping fees at landfills only and therefore relies almost exclusively on taxation for funding. Based on this simplified analysis, the RDCK was funded slightly more through tipping fees than average, with 45% tipping fee cost recovery and 55% funded through taxation.

Comparison between RDCK Sub-Regions

Based on the service level benchmarking analyses, GHD deemed the system to provide an equitable level of service across the RDCK, with slight variations. The East sub-region has the most facilities per capita and by area, but also the highest proportion of rural population without access to curbside services, while the Central sub-region has the highest service level with the most operating hours per capita and access to a year-round eco-depot, but accepts fewer materials than the other sub-regions due to not having an active landfill (i.e. asbestos, biosolids, bulky waste, and land clearing waste).

To further investigate where the Resource Recovery system might be under or over-operating internally, GHD completed a benchmarking analysis at the RDCK facility level by using the weekly number of summer operating hours and tonnage collected at each site to determine an estimated average weight collected per hour of operation at each site.

As expected, the landfills receive the highest weight of waste per hour of operation, while the standalone recycling depots receive the lowest. One exception to this is Grohman Narrows Transfer Station, which receives more waste than the Nakusp Landfill. There were three (3) facilities that received less than 50kg of material per hour of operation:

- Riondel Recycling Depot
- Kokanee Park Marina Recycling Depot
- Winlaw Recycling Depot.

GHD identified that these three facilities represent potential opportunities to reduce system costs as each is in close proximity (less than 20 minute drive) to other RDCK recycling facilities. As these facilities are satellite recycling depots, they only accept a portion of recyclable materials and residents must access nearby transfer stations/core depots for disposal of flexible plastics, foam, and other waste materials. Even at low weekly hours of operation, the costs of operating, maintaining, and hauling materials from these three facilities is approximately $120,000 per year, which is about 10% of the budget for recycling services.

An additional four (4) facilities only received between 50 and 100 kg per hours of operation:

- Salmo Recycling Depot
- Crescent Valley Recycling Depot
- New Denver Recycling Depot
- Yahk Recycling Depot and Transfer Station

GHD proposed that the Salmo, Crescent Valley, and New Denver facilities' hours of operation could be reduced to 12 hours or less per week to reduce operating costs and bring the efficiency of these sites more in line with other RDCK facilities. The Yahk facility is open only four (4) hours per week and there are no nearby RDCK facilities, so no changes were recommended here.

Core and Satellite Recycling Depot Comparison

GHD also completed a benchmarking of the distribution of core and satellite recycling facilities across the regional districts in the Study and across the RDCK. This identified that the RDCK operates the second highest number of recycling depots, and a high number of satellite depots compared to other regional districts, most of whom do not operate any. GHD states that even with the closure of the four satellite depots suggested above and some reduction in hours at the other depots listed, the RDCK would continue to provide its residents a reasonable to high level of service compared to most of the other regional districts in the Study.

SUMMARY

The Study identified that the RDCK Resource Recovery system is operated generally efficiently despite the complexities of the three sub-region administrative model. The RDCK provides a high level of service and accessibility to waste and recycling compared to similar regional districts and the cost to run the system reflects this. Internally, GHD deemed the system to provide an equitable level of service across the RDCK, with slight variations. GHD identified that efficiencies and cost savings could be recognized in several areas. Table 4 summarizes the recommendations made by GHD and how Staff propose to address these.

Table 4: System Efficiency Study Recommendations and Implementation Plan

Recommendation (GHD)	Proposed Plan (RDCK Staff)
Increase tipping fees for select materials	Tipping fee increases will be proposed for incorporation in an update to the Resource Recovery Facilities Regulatory Bylaw No. 2905, expected to be presented to the Board by the ***Environmental Coordinator*** in December 2024.
Change how select materials are accepted and stored (scrap metal, wood, yard and garden)	The ***Environmental Coordinator*** will conduct a review of end markets for scrap metal, wood, and yard and garden materials to guide/improve diversion strategies and reduce storage time at facilities (in-house).
Reduce the operating hours at three (3) facilities	The ***Resource Recovery Operations Coordinator*** will conduct a more thorough site hours review in early 2025 to determine if operating hours should be adjusted at RDCK facilities.
Closure of three (3) facilities	Staff seek authorization from the Board to plan the closure of at minimum, the Kokanee Park Marina Recycling Depot, as well as the Riondel and Winlaw Recycling Depots in 2025. This would be overseen by the ***Resource Recovery Technician.***
Continue to optimize use of Strong scale software to track flow of materials across the RDCK	The ***Environmental Coordinator*** will continue to optimize use of the Strong scale software, including implementing tracking of source sector of waste (i.e. residential, commercial, CDR) in 2025.
Track waste hauling by material type to better understand that costs associated with each material	The ***Operations Supervisor*** will request that waste material type be included on waste hauler invoices (East and West sub-regions) and implement internal tracking system for in-house waste hauling (Central sub-region) in 2025. The ***Resource Recovery Projects Advisor*** will compile and analyze this data after one year of collection to better understand the hauling costs associated with each material, to help guide further diversion strategy development.
Continue to monitor the implementation of new extended producer responsibility (EPR) programs and evaluate how the RDCK should participate	The ***Resource Recovery Technician*** will continue to advocate for increased EPR programs, and monitor and plan for their implementation.
Conduct a regionalization study to assess the cost-benefit of operating from a single, centralized administrative system	**Option 1:** The ***Resource Recovery Projects Advisor*** could conduct an equitability analysis using the 2025 budget to estimate the difference in tax allocation if all services were under one administrative sub-region, as well attempt to quantify potential efficiencies in staff time. **Option 2:** The ***Resource Recovery Manager*** and ***Technician*** could pilot regionalization by combining the allocation services for recycling (A116-A118) into one centralized service in 2025.

Staff have provided further analysis and recommendations on the suggested recycling facility closures in the sections below. The remaining recommendations from the Study are provided for information only at this point in time. Staff will assess each of GHD's recommendations and provide the JRRC with more fulsome analysis in coming months for those that require direction or authorization from the Board.

SECTION 3: DETAILED ANALYSIS

3.1 Financial Considerations – Cost and Resource Allocations:

Included in Financial Plan:	☒ Yes ☐ No	**Financial Plan Amendment:**	☐ Yes ☒ No
Debt Bylaw Required:	☐ Yes ☒ No	**Public/Gov't Approvals Required:**	☒ Yes ☐ No

Tipping Fee Changes

Based on the results of the tipping fee cost recovery assessment, GHD recommended considering increases to tipping fees for mixed waste, clean wood, wood waste, clean (uncontaminated) soil, waste (contaminated) soil, rubble, and yard & garden waste. Table 5 shows the estimated increase in annual tipping fee revenue that could be expected based on GHD's recommended tipping fee increases and the average waste tonnages from the period of the Study.

Table 5: Estimated Annual Tipping Fee Revenue Increase

Material	Current Tipping Fee ($/tonne)	Proposed Tipping Fee ($/tonne)	Estimated Additional Annual Tipping Fee Revenue ($)[1]		
			EAST	CENTRAL	WEST
Mixed waste	$151.25	$193.00	$275,258	$397,251	$488,767
Clean wood waste[2]	$78.75	$144.75	$4,158	$6,290	$6,065
Wood waste[2]	$78.75	$193.00	$64,894	$97,992	$94,496
Uncontaminated soil[3]	$21.75	$144.75	$41,414	-	$254,899
Waste soil[3]	$48.50	$242.00	$120,996	-	$744,714
Rubble	$43.00	$193.00	$38,400	$10,350	$33,300
Yard & Garden[4]	$60.50	$144.75	$42,883	$56,233	$19,462
		TOTALS	**$588,003**	**$568,116**	**$1,641,703**

[1] Relative to the 2024 tipping fee revenue, based on 2020-2022 average waste tonnages.
[2] There is insufficient data to estimate the proportion of wood waste that is clean versus non-clean as, while the Bylaw differentiates these materials, it is not currently differentiated in the scale data system. Due to this, it was estimated that clean wood would make up 10% and waste wood would be 90% of the total wood waste.
[3] The proportion of uncontaminated versus waste soil varies significantly from year to year; the proportion varied from 63-99% waste soil in the years since 2020. To provide a conservative estimate, the proportion of waste soil was assumed to be 65%.
[4] Based on average tonnage of paid yard and garden waste (assumes continuation of bi-annual free yard & garden collection months).

These estimates do not account for fluctuations in tonnage that would likely occur due to changes in tipping fees and/or material management. When updating tipping fees, consideration should be given to the balance between the user pay (tipping fee) and taxation-based system models. GHD noted that while the RDCK strives to have a user-pay system, as diversion rates grow, increased taxation becomes necessary to fund waste systems, as tipping fee increases cannot be made in perpetuity. If tipping fees are too high, they will discourage proper disposal and diversion. Maintaining the use of tipping fees satisfies the RRP guiding principle to incorporate the user-pay model, where feasible, to reduce the amount of taxation required. While cost recovery is a helpful guide, it should not be the only factor in setting tipping fees. For comparison, Table 6 shows the range of per tonne tipping fees for these materials in neighbouring regional districts.

Table 6: 2024 Tipping Fees in Neighbouring Regional Districts ($/tonne)

Material	RDCK	Columbia Shuswap Regional District	Regional District of East Kootenay	Regional District of Kootenay Boundary
Mixed waste	$151.25	$90	free	$120
Clean wood waste	$78.75	$50	free	$50
Wood waste	$77.75	$50	$0-$200	$120-$175
Uncontaminated soil	$21.75	$10	$0-$40	$10-$20
Waste soil	$48.50	$40	$100	$20-$40
Rubble	$43.00	$90	free	$50
Yard & Garden	$60.50	$0-$90	free	$50[1]

[1] Tipping fee for woody plant waste. Grass clippings and leaves are $5/load.

Of these regional districts, the RDCK already has the highest tipping fees for mixed waste, clean wood waste, and uncontaminated soil. It is unlikely that other regional districts are recovering the full costs to manage these materials through tipping fees, indicating that they are likely leaning towards more taxation-based waste management strategies, or simply haven't quantified the cost of managing different waste types. This data will be considered in the development of formal recommendations relating to tipping fee and material management changes, to be made as part of an upcoming bylaw amendment.

While the recommended tipping fee increases and material management changes would increase cost recovery, under the current administrative model the distribution of added tipping fee revenue would not be even across the three sub-regions and would result in further discrepancies in taxation levels. The West sub-region would see the greatest benefit as it receives the greatest proportion of the high throughput materials (mixed waste, soil, septage), yet has the lowest cost to manage these materials. As GHD points out in the Study, the West sub-region waste services are likely being subsidized with tipping fee revenues from material generated in the Central sub-region, as the West hosts the primary receiving landfill for both sub-regions. This provides additional justification to consider evaluating centralizing system administration through a regionalization study.

In addition to increased equitability for residents across the RDCK, potential financial benefits of regionalization would also include cost savings related to administrative and operational efficiency. Both GHD and the consultants overseeing the RRP (Maura Walker Environmental Consultants Ltd. and Carey McIver and Associates Ltd.) pointed out that the current Resource Recovery system operates similar to three separate regional districts. While there are some cost savings compared to the operation of three independent regional districts in having staff that oversee programs across all three, administration and management of the three sub-regions is far more complex than operating as a single regional district. The cost benchmarking in GHD's Study identified that the RDCK had one of the highest costs per capita of the regional districts in the study. While part of this is likely related to the relatively high level of service provided by the RDCK, operating with three administrative sub-regions also results in increased staff, staff time, and associated cost. Further analysis would be required to quantify the cost savings of regionalizing waste services.

Changes to Service Levels

It is anticipated that the new RecycleBC incentive rates proposed for 2025 will cover close to 60-65% of the RDCK's current cost to manage recycling. The recommended facility closures and hours reductions would help to close the gap between recycling system costs and the incentive received from RecycleBC, further reducing the amount of subsidization required from taxes. Similar to the facilities GHD recommended for closure, the Ymir

Transfer Station and Recycling Depot is also located less than 20 minute drive from other RDCK facilities. The Ymir facility is currently only open 6 hours per week, so there would not be much cost savings in reducing hours at this site, but closure of this facility would result in cost savings for the Central sub-region, which currently has the highest tax burden of the three sub-regions.

Even with the closure of these four facilities, the RDCK would have above average facility density and operating hours per capita compared to other regional districts in the Study, indicating that the RDCK would still be providing a high level of service to its residents. The Central sub-region would still have the highest facility hours of operation per capita of the three sub-regions, but would have the lowest facility density.

The closure of these facilities would result in the cost savings shown in Table 8. The values in this table do not include costs related to administrative and managerial staff time for these facilities. The Study indicated that the cost per tonne for the RDCK as a whole to manage recycling is $933/tonne and to manage mixed waste is $193/tonne.

Table 8: Facility Operating Costs

Facility	Annual Operating Cost (2023)	Operating Cost per Tonne of Recycling
Winlaw Recycling Depot	$33,382	$2,384/tonne
WEST SUB-REGION TOTAL	**$33,382**	
Kokanee Park Marina Recycling Depot	$68,562	$1,459/tonne
Ymir Transfer Station and Recycling Depot	$45,304	$612/tonne[1]
CENTRAL SUB-REGION TOTAL	**$113,866**	
Riondel Recycling Depot	$17,552	$1,463/tonne
EAST SUB-REGION TOTAL	**$17,552**	

[1] Costs and tonnages are for waste and recycling combined, so this value reflects the combined cost per tonne for all materials accepted at this site (mixed waste and recycling).

Reductions in operational hours at other low volume facilities would also result in cost savings; however staff would need to conduct an operational hours review to determine what hours reductions would be reasonable and to quantify cost savings. It should be noted that, while it is not anticipated that this change would deter residents from continuing to separate recyclable materials from their waste, any reductions seen would result in a reduction to the incentive received from RecycleBC to fund this program.

3.2 Legislative Considerations (Applicable Policies and/or Bylaws):

Tipping fee changes will require an amendment to the Resource Recovery Facilities Regulatory Bylaw No. 2905.

Staff recommend that further in-house evaluation be completed to assess the costs and benefits of regionalization of the Resource Recovery system, and recognize that any changes related to allocation of expenses and cost recovery would require amendments to the following bylaws:

- Creston and Electoral Areas A, B & C Refuse Disposal Local Service Area Bylaw No. 924 (1992), as amended by Bylaw No. 1072 and Bylaw No. 1148;
- Central Waste Management Subregion Refuse Disposal/Recycling Local Service Area Establishment Bylaw No. 1071, as amended by Bylaw No. 1149; and,
- West Waste Management Subregion Refuse Disposal/Recycling Local Service Area Establishment Bylaw No. 1070, as amended by Bylaw No. 1140.

3.3 Environmental Considerations

The Study and its recommendations focus on efficiency primarily from an equitability and financial perspective; however decisions regarding how to implement the recommendations need to also take into account the related environmental impacts which can be difficult to quantify.

Changes to tipping fees and practices in material acceptance could result in increases in illegal dumping or reductions in diverting materials from the landfill. In particular, the environmental impacts related to the recommendation to landfill non-clean wood waste are unclear. Environmental benefits include reducing greenhouse gas (GHG) emissions associated with wood grinding and reducing on-site fire hazard from storage of chipped materials at facilities. However, this would also result in an increased amount of waste hauling (and associated GHGs), increased landfill airspace consumption, and increased organic material in the landfill resulting in increased GHG emissions related to anaerobic decomposition. Similarly, elimination of the biannual free yard and garden months could result in increased community fire risk. Further analysis would be required to quantify the cost-benefit of recommended changes to wood and yard and garden material management.

Closure or hours reductions at recycling facilities may lead to more recyclable materials being landfilled. As residents using the Winlaw, Kokanee Park Marina, and Riondel satellite recycling depots need to use the nearby transfer stations/core depots to dispose of other waste materials anyways, it is not anticipated that this change would deter residents from continuing to separate recyclable materials from their waste, nor should it incur significantly more GHG emissions related to transportation. The supplemental waste composition study, scheduled for 2028, will help to quantify the impact of these changes in the waste stream (if implemented).

3.4 Social Considerations:

Tipping fees have generally been set at the same rate across all three sub-regions to promote user equitability between sub-regions and to prevent excessive transportation of waste (i.e. users seeking cheapest disposal option). The revenue from these tipping fees currently stays in the sub-region in which it was collected. Where cost recovery is less than 100%, the balance is covered primarily through taxation, with some amounts covered by grants and/or incentives. The discrepancies in cost to manage materials across sub-regions, while having a single tipping fee structure to promote user equitability, results in inequitable tax subsidization for residents across the RDCK. Based on this structure, residents in the Central sub-region pay more than four times those in the West, while residents in the East pay almost three times those in the West in taxation for the same level of service. Regionalization is an option that would improve equitability in taxation across the Resource Recovery system.

The potential closure of satellite recycling facilities would reduce convenience for users of impacted facilities, requiring residents to store their core recycling materials for delivery along with their other waste and recyclables at the nearest transfer station/recycling depot. Potential reductions in facility operating hours would require users to adapt to new hours.

3.5 Economic Considerations:

No economic considerations at this time.

3.6 Communication Considerations:

Communication of plans to increase tipping fees by up to 10% for select materials was sent to all municipalities and account holders on October 18 and 30, respectively.

If recycling facility closures are authorized, communication of closures would need to be made to the public and facility staff/operators a minimum of thirty days in advance of proposed closure date. As the Ymir Transfer Station and Recycling facility provides more service than the other satellite recycling depots, more notice would be required if closure of this facility were pursued.

No additional communication considerations at this time.

3.7 Staffing/Departmental Workplace Considerations:

The works proposed based on the recommendations of the Study shall be completed by several members of the Resource Recovery team, as highlighted in Table 4 above. The Resource Recovery Projects Advisor will guide the implementation of these actions, with oversight and support from the Resource Recovery Manager and General Manager of Environmental Services.

3.8 Board Strategic Plan/Priorities Considerations:

The Tipping Fee Cost Recovery Assessment and System Efficiency Study aligns with the RDCK's strategic objectives to manage assets and service delivery in a fiscally responsible manner and to continue to innovate to reduce the impact of waste.

SECTION 4: OPTIONS & PROS / CONS

RECOMMENDATION 1: CENTRAL SUB-REGION

OPTION 1: That the Board authorize Staff to not extend the existing lease agreement with Kokanee Creek Marine Ltd. for the lease of lands and operations associated with the Kokanee Park Marina Recycling Depot and permanently close the Kokanee Creek Marina Recycling Depot effective December 31, 2024.

Pros:

- Reduces costs to the Central sub-region by approximately $68,562 while still providing residents a reasonable to high level of service compared to other regional districts.
- Helps to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.

Cons:

- Residents who use this satellite depot will have less convenience for core recycling material disposal and will have to store these materials for delivery along with their other waste and recyclables at the nearest transfer station/recycling depot.
- May result in slight increases in recyclable materials being landfilled.

OPTION 2: That the Board authorize Staff extend the existing lease agreement with Kokanee Creek Marine Ltd. for the lease of lands and operations associated with the Kokanee Park Marina Recycling Depot.

Pros:

- Allows the RDCK to continue to provide a higher level of service than other regional districts.
- Residents who use Kokanee Park Marina Recycling Depot will continue to have convenient access for disposal of core recycling materials.

Cons:

- Does not result in any cost savings or help to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.

RECOMMENDATION 2: EAST SUB-REGION

OPTION 1: That the Board authorize staff to plan the permanent closure of Riondel Recycling Depot in 2025.

Pros:

- Reduces costs to the East sub-region by approximately $17,552, while still providing residents a reasonable to high level of service compared to other regional districts.
- Helps to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.

Cons:

- Residents who use this satellite depot will have less convenience for core recycling material disposal and will have to store these materials for delivery along with their other waste and recyclables at the nearest transfer station/recycling depot.
- As this site would no longer be staffed, this would eliminate the oversight for the current collection of waste in the same location through the site staff. This may either increase disposal without bag tag (resulting in revenue loss) or require additional staffing and therefore cost under service S189 Refuse Transfer Area A.
- May result in slight increases in recyclable materials being landfilled.

OPTION 2: That the Board does not authorize staff to plan the permanent closure of Riondel Recycling Depot in 2025.

Pros:

- Allows the RDCK to continue to provide a higher level of service than other regional districts.
- Residents who use Riondel Recycling Depot will continue to have convenient access for disposal of core recycling materials.

Cons:

- Does not result in any cost savings or help to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.
- Continues to provide the oversight for the current collection of waste in the same location through the recycling site staff.

RECOMMENDATION 3: WEST SUB-REGION

OPTION 1: That the Board authorize staff to plan the permanent closure of Winlaw Recycling Depot in 2025.

Pros:

- Reduces costs to the West sub-region by approximately $33,382, while still providing residents a reasonable to high level of service compared to other regional districts.
- Helps to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.

Cons:

- Residents who use this satellite depot will have less convenience for core recycling material disposal and will have to store these materials for delivery along with their other waste and recyclables at the nearest transfer station/recycling depot.
- May result in slight increases in recyclable materials being landfilled.

OPTION 2: That the Board does not authorize staff to plan the permanent closure of Winlaw Recycling Depot in 2025.

Pros:

- Allows the RDCK to continue to provide a higher level of service than other regional districts.

- Residents who use Winlaw Recycling Depot will continue to have convenient access for disposal of core recycling materials.

Cons:

- Does not result in any cost savings or help to close the gap between the operating cost of the RecycleBC program and the funding provided through RecycleBC incentives.

SECTION 5: RECOMMENDATIONS

RECOMMENDATION 1: CENTRAL SUB-REGION

That the Board authorize Staff to not extend the existing lease agreement with Kokanee Creek Marine Ltd. for the lease of lands and operations associated with the Kokanee Park Marina Recycling Depot and permanently close the Kokanee Creek Marina Recycling Recycling Depot effective December 31, 2024.

RECOMMENDATION 2: EAST SUB-REGION

That the Board authorize staff to plan the permanent closures of Riondel Recycling Depot in 2025.

RECOMMENDATION 3: WEST SUB-REGION

That the Board authorize staff to plan the permanent closure of Winlaw Recycling Depot in 2025.

Respectfully submitted,
Heidi Bench, Projects Advisor

CONCURRENCE

Resource Recovery Manager – Amy Wilson
General Manager of Environmental Services – Uli Wolf
Corporate Administrative Officer – Stuart Horn

ATTACHMENTS:
Attachment A – Tipping Fee Cost Recovery Assessment & Resource System Efficiency Study