WHITEPAPER: From Waste Management to Resource Management
"Reversing Island County's Wasted Opportunity"

TITLE: Transforming Island County Organics from Waste to Resource

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In Collaboration with Whidbey Climate Action > Targeting Organics

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HISTORICAL REFERENCE:

In order to understand the logic of Island County Solid Waste Services, it is instructive to review why we have the system we have today. Why is it organized the way it is?

As a primary frame of reference, look back one hundred years when most Island County residents simply burned their trash and/or dumped their garbage into a hole in the ground at the back of the farm or into a gully. In the early decades of the 1900s most of the garbage was organic and what did not simply rust away was inert glass. That too was in the day when appliances were few in number and were made to last and long before toxic chemicals and plastic pollution became ubiquitous. Nevertheless, back when people were burning and throwing garbage away willy-nilly it did **pose a health threat**. That is why counties around the country referred to garbage collection and disposal services as "Sanitary Services."

Waste disposal systems were mandated to follow Department of Public Health regulations. Waste Services were designed by the local government through the lens of public health. To comply with regulations the simple *"One-Bin" collection and operating a "Community-based Dump"* were the only community infrastructure needed.

As far as disease prevention, the One-Bin / Community Dump duo was successful --- diseases were prevented and unsightly garbage did not litter the landscape. The old county dumps of the 1940s & 1950s were places where fathers took their children to look for treasures – following the old adage that one man's treasure is another man's garbage. [1] Quite literally, they were an informal community material exchange center.

In the latter half of the 1900s that all changed. The Community dump aka Sanitary Landfills turned out to be anything BUT sanitary and what was created was neither land nor fill. The rapid increase in the quantity of industrial toxic waste mixed with agricultural pesticides brought an end to family rummaging. The advent of the "consumer-driven economy" resulted in an exponential increase in the quantity and kind of materials in the municipal solid waste stream. The old community dumps became hazardous waste sites. County operators were

[1] I will never forget finding a box of old "Classic Comic Books" at a local dump with my dad (circa 1954)

charged with the new duties of mitigating the impacts of toxic materials and management of the resultant toxic leachate. [2]

MAKING CHANGES

Local County Landfills are now closed everywhere as they were never designed to deal with the new load of toxic contamination. Here in Island County, the community landfill at Coupeville has been closed for years, yet every year thousands of dollars (including County staff time) are spent managing and monitoring the old site to mitigate the toxic contaminants to ensure they do not poison island drinking water. [3] Everywhere in America (and around the world) the small community dump morphed into "Community Transfer Stations" where materials were collected, sorted, and compacted for transport to larger regional landfills.

Island County's Regional Dump, the Roosevelt Landfill owned by Republic Industries, is located four hundred miles away and 1,800 feet up from its railhead switching yards situated on the banks of the Columbia River. Roosevelt is one of the largest solid waste landfills in the Americas. It is designed to take upwards of 140,000,000 TONS of mixed garbage over the next 40 years. The Roosevelt site was chosen because the location historically only receives 9" of rain a year, thus reducing potential problems containing leachate. [4] Leachate at Roosevelt is not treated, it is collected at the bottom and pumped up to be re-circulated onto the compacted pile of rubbish – concentrating toxicity over time. This type of leachate recirculation also increases methane pollution emissions[5].

What is the Problem!

Island County residents' annual waste disposal weights going to Roosevelt Dump are in line with the average American – slightly less than a *ton per year per person.* Island County Waste managers identified around 60,000 tons of mixed garbage annually that gets collected and compacted at the Coupeville Transfer Station. The journey to the regional dump then begins! The first leg is 24-ton loads trucked the 40 miles to Burlington Rail head. There they are loaded onto the daily garbage train for the 400-mile trip to the Columbia River. At the Roosevelt

[2] **Landfill leachate** is a liquid that forms when organic wastes along with precipitation (like rainwater) percolates through waste deposited in a landfill. As the liquid moves through the waste, it becomes contaminated by various chemicals and substances. This contaminated liquid, known as leachate, seeps out of the landfill and pollutes ground water, standing water and land.

[3] Island County Solid Waste Plan 2020 - table ES-4

[4] Rainfall patterns in the age of climate change are unpredictable. Climate science understands that places like Roosevelt Landfill, just as what happened in August 2022 in Death Valley, California where 75% of its annual rain fall fell in 24 hours, is now probable anywhere in the Northwest. (rework this for syntax)

[5] https://dontwasteourfuture.org/newsandideas/roosevelt-landfill-in-washington-reported-five-years-of-zero-emission-exceedancesbut-epa-inspection-report-tells-a-different-story

Regional Dump railhead they are offloaded onto 28 wheeler trucks for a 1,800 foot climb to be dumped, compacted and covered **EVERY DAY, 365 days a year.** [6]

The "One Bin" system designed in the 1900s to solve a sanitation problem is now:

A> **VERY EXPENSIVE TO OPERATE**

- Island County Solid Waste Division has FY/2023-24 budget of $10M + Island County residents pay on average $48/month for the ONE-BIN collection. In 2025 the cost of disposing Island County garbage at Republic Inc.'s Roosevelt Landfill will increase from the 2024 average cost of $264,000 per month to $350,000 per month – a 33% increase in one year. BIG WASTE = BIG EXPENSES.

Projected 2025 budgeted cost for Island County is $4,200,000 for dumping only.[7]

B> **A HUGE CONTRIBUTOR TO GREENHOUSE GAS (GHG) POLLUTION**

- Side Loading Compactor Garbage Trucks get on average 2.53 MPG on their weekly route over most of the 600 miles of roads on Whidbey alone, 52 weeks per year.

- On average eight 24-Ton Compacted-rubbish Trucks drive 80 miles RT daily from Coupeville to Burlington Railhead

- The Garbage Train consumes 3 to 5 gallons of diesel fuel per mile. Therefore, for its 300-mile trip, it consumes **900 to 1,500 gallons of diesel fuel**. Estimated CO2 emissions would range between 20,115 lbs. to 33,525 lbs. of GHG emissions *each way per day![8]*

- Organic Waste in a landfill turns into methane. (For every 1,000 tons (907 metric tons) of food waste landfilled, an estimated 34 metric tons of fugitive methane emissions (2,720 mmt CO2e) are released[9]) , Methane as a Greenhouse Gas is eighty to eighty-six times more potent than CO2 over its first 20 years in the atmosphere.[10]

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[6] Competing For Your Trash: The Huge, Hidden Landfills Of The Columbia River Gorge | Northwest News Network

[7] Conversation: Island COunty Waste Manager (Dec. 2024)

[8] When a gallon of diesel is burned it emits 22.5 lbs. of GHG Pollution

[9] https://www.epa.gov/system/files/documents/2023-10/food-waste-landfill-methane-10-8-23-final_508-compliant.pdf?trk=public_post_comment-text

[10] Methane (CH_4) is significantly more potent as a greenhouse gas compared to carbon dioxide (CO_2). Over a 100-year period, methane is approximately **28 to 36 times** more effective at trapping heat in the atmosphere than CO_2. Over a shorter 20-year period, methane's potency increases to about **80 to 86 times** that of CO

C> UNSUSTAINABLE AND OUT OF COMPLIANCE WITH STATE LEGISLATION

- In 2022 The State of Washington passed "HB 1799" requiring diversion of 75% of organics from landfills**.** Additional legislation passed in 2024 targets reduction of food scraps to landfills by 90% by 2030.

Limited Scope of Inquiry:

The goal of this Whitepaper is to help our Island County community identify new less expensive and more ecological means of handing our waste discards.

However, this White paper's scope does not try to address the challenges of transforming all of Island County Solid Waste System. Obviously, the redesign of the receiving environment at the Coupeville Transfer Station will undoubtedly be a major topic for community consultation. Despite recent improvements at the Coupeville Transfer Station, the transfer station's general design and operation funnels materials towards landfill disposal.

Elsewhere, other modern transfer stations are designed to incentivise customers to deposit *source separated*[11] resources into specially designated receiving areas. Any residual co-mingled waste loads are then directed to a wide open concrete floor where staff with the space and proper equipment are able to further source separate targeted items – be they salvaged for reuse or repurposing or recycling e.g. steel, aluminum, cardboard, glass, and/or plastic items. Transfer stations should invariably have appointed space provided solely for construction materials, e.g., wood, concrete and glass. Obviously, hazardous materials, which are often disguised in the ever present "black bag" as at the Coupeville style transfer stations, can be separated out for approved treatment.

It is prudent now to start taking the discard streams apart and identifying better ways to reduce - reuse – recycle and compost specific elements. If we can start, even one step at a time, we will be that much closer to serving the much-needed 21st Century Environmental and Sustainability mandates to conserve resources and reduce the amount of toxic materials as a part of a greater long term sustainable Zero Waste to Landfill Strategy.

THE PRIME FOCUS: ORGANIC RESOURCE RECOVERY

In the spirit of taking one step at a time, this Whitepaper from here on focuses on the challenge of

great to have these footnotes but they need a citation–where did the info come from?

[11] The understanding of source separation is key to defining effective and less expensive ways of managing discard material streams. Garbage is made when "discarded materials" are co-mingled – mixed up together - making everything worthless dirty and potentially toxic. There are many different ways to "source separate" – taking food waste out of the garbage bin means nothing can rot and instead of weekly collection for "sanitary concerns" twice or once a month may be just fine depending on volume.

harvesting the "lowest-hanging fruit" – It will be the one resource that can be recovered and reprocessed here on Whidbey ***by the community*** *and* ***for the community's benefit****: organic material.*

At present, the exact amount of organic material sent to Roosevelt Regional Landfill has not been "officially" identified. It is estimated that organic materials arising from the single "One-Bin" disposal system compacted for transport to Roosevelt Landfill ranges between 40 to 50% of all the material.

This organic fraction consists mostly of commercial and residential food waste, landscape trimmings along with an undetermined amount of construction and wood/forestry waste.

RECOVERING ORGANICS WITH A SOUTH WHIDBEY FOCUS

Initially, this whitepaper discussion document puts a fine focus on organic discard recovery options and opportunities in the South Whidbey area.

This is not to discount the urgency and efficacy of a potential Island County-wide investigation. But in reality this county has three distinct areas of operation, and to get a clear view of the "organic discard conundrum" we need to break it down into three areas.

The first area is Camano Island. Camano residents are aligned and receive compost products from Snohomish County commercial compost makers. Singling out Camano by itself does not prevent further investigations that could look at incorporating a greater community level of participation in developing more robust composting solutions. [12]

The second is Oak Harbor. Oak Harbor's local government directly provides a THREE-BIN Collection service – collecting both recycling and green waste/food in separate bins along with the landfill bin. The ways and means of their THREE-Bin collection service need to be investigated for its costs and benefits when compared to the possible potential of "community based" composting solutions. To date, no analysis has been executed; but this analysis should be on a future agenda. It needs to be made explicit that the City of Oak Harbor provides its own Resource Collection services -- The local government owns its own trucks and employs the drivers who pick-up and deliver products for further processing. It needs to be noted that Oak Harbor delivers organic materials to a local commercial composter / landscape contracting company where it is composted and offered at retail to the public.

This contrasts with Island County's Unincorporated area – along with the City of Langley and Coupeville – where the Island County local government has nominated Island Disposal Inc. – a

[12] The author has to confess to his low level of community experience with Camano folks. His short discussions with County waste managers identified that Camano residents have options for depositing organic material and buying compost. However, the level of multiple level bin collection that includes green waste / food the author simply has limited knowledge – as this project evolves no doubt that will change. Apologies for now.

wholly-owned subsidiary of Waste Connections LTD, another national big waste company, to be the sole franchise to pick up the landfill-bound "One Bin." Island Disposal Inc. collection services are supported by direct customer user-pays fee.

In the waste industry world, there have been long and involved discussions about the pros and cons of public vs private waste collection services. Comparing the level of customer appreciation for the two distinct types of service will inform any investigation as to what works best here on Whidbey / Camano Island, but this is not an area of concern in this Whitepaper.

Finally, there is South Whidbey. A community known for its collective ability to work together for the sake of the common good. If ever there was an ideal community to internally solve its management of organics, South Whidbey is the place to start.

There is something else that needs to be recognized that makes Whidbey Island perfectly positioned to transform the way it manages its organic resources.

Firstly, there is a direct immediate financial bonus. To put it into focus for you: every ton of organic waste diverted from Roosevelt Landfill represents a direct savings for Island County residents. As noted above, the average projected cost to continue dumping Island County garbage (assuming no change in tonnage compared to past trends) is $350,000 per month. That monthly charge is based on weight — ergo, reduce the weight > save money.

Given other waste profiles in Washington State - rural communities like Whidbey Island with similar "One-Bin" collection, have up to 40 % organics in landfill-bound garbage. Assuming we eliminate 80% of the organics from landfill (as the State of Washington mandates)

- ***Annual cost savings for Island County could be around $1,260,000 per year.***

The second prime advantageous characteristic that makes organic recovery a bonus for Island County —- Whidbey Island farmers, home gardeners, local parks and reserves, and folks like Whidbey Camano Land Trust all have an ongoing need for quality compost.

Locally collected, processed and applied compost is the missing link in Island County Food System drive for self sufficiency and resiliency.

To put it in the most simplistic way —locally sourced compost is a WIN/WIN/WIN/WIN situation.

- ➔ Avoid high disposal fees so we Save Money
- ➔ Reduce Island County's Greenhouse Gases emissions.
- ➔ Expand Island County agricultural economic vitality while expanding employment opportunities.
- ➔ Build Island County soil fertility to help regenerate ecosystem vitality.

So the question remains — How are we going to harvest all those benefits?

It will require everyone's participation. It will require a community ready to work together. It will require a community-wide education and training program to help homeowners compost at home or with their respective HOA or5 neighborhood. It will require local government adoption of new decentralized ways of managing resources rather than remaining reliant on large, centralized, fossil-fuel-powered wasting systems. It will require investment into essential market research to inform project design. It will take time to test and roll out pilot projects. It will need a new coalition of Compost Champions from the likes of farmers, grocery store and restaurant owners, landscapers, home gardeners — to name but a few – to be a part of the solution. We just need the will, leadership and investment to make the transition a reality. We can secure grants and use the long term financial savings of avoided transport, processing, and landfill dumping costs to pay for the preliminary planning and setting in place required infrastructure.

For now, it starts with gathering resources to support *creating a common vision to transform our existing "Waste Management" paradigm to a more affordable/sustainable "Resource Management" framework*, identify & execute research, and for now work collectively to plan and launch a pilot project or two to inform what works and what does not.

Note: To augment this whitepaper additional information will be distributed by the author to inform the community conversation on recovery and uses of organic resources in Island County.

Appendix Index

#1 - Defining Scale and Scope of possible Community Composting options.

#2 - Roadmap for Recovering Island County Organics: identifying what we need to know to create a blueprint for setting in place the foundation for organic resource recovery in Island County.

#3 - Rolling-out " Langley Pilot Projects" to Inform design and delivery of community composting programs.[13]

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[13] Whidbey Climate ACTION'S Climate Fund has provided two $5,000 grants to spark community compost ACTION. Langley Food Bokashi / Worm Composting Program and the Sweetwater Farm Biochar Education Project.