

# Salt Spring Island Composting Pilot Project

## SUMMARY

*prepared June, 2012*

*by the*

**Salt Spring Island Agricultural Alliance**



*funding provided by Vancity enviroFund™*

**Vancity**

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# Salt Spring Island Composting Pilot Project SUMMARY

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Anaerobic Digestion of Abattoir Offal on Salt Spring Island, June 2012

SSIAA Response to the AWCR Policy Intentions Paper, April 2012

Salt Spring Island Central Composting Feasibility Study—Final Report, March 2010

Salt Spring Island Central Composting Feasibility Study—Preliminary Research Report, Dec 2009

*cover photo: islanders unload branches at first “Bring Your Branches” day, Feb 18, 2012*

## Introduction

This project is part of the Salt Spring Island Agriculture Infrastructure project funded by the Vancity enviroFund™ and continues the work begun in 2009 with the Central Composting Feasibility Study.

Many Salt Spring farmers use compost to add organic matter and microorganisms to the soil and to replace the nutrients removed when crops are harvested and sold. The island generates quantities of organic material suitable for composting, including tree trimmings and yardwaste, kitchen scraps from households and restaurants, and vegetable waste from grocery stores.<sup>1</sup> Much of this valuable resource is currently shipped off island, which has negative implications in terms of GHG emissions and costs in addition to the loss of nutrients and organic matter. Some is disposed of by outdoor burning, which can present a fire hazard and causes air pollution. Closing the cycle by composting these materials on island and making the finished compost available to local growers is a long-term objective of the SSI Agricultural Alliance and included in one of three key recommendations of the SSI Area Farm Plan.

The composting pilot project has proved challenging and, while progress has been made, we have failed to achieve the original goal, which was to have an operational central composting facility in place by December 31, 2011 with records of feedstock, output, and sales of finished product. However we have established an ongoing woody yard-waste program which has decreased the amount of material currently burnt or shipped off-island to landfills.

### Work undertaken

At the time the work statement was prepared in October 2010, we had submitted a Temporary Use Permit application to the Islands Trust for a suitable site that was owned and operated by an organic livestock farmer interested in managing the pilot demonstration. It appeared that the pilot would be ready to roll as soon as regulatory approvals were received. The proposed work statement read:

“Once regulatory approval is secured, informational materials regarding the practical operational aspects of the project and its benefits will be provided to the public. Operations are expected to commence in the Spring of 2011. The project will decrease the amount of materials that are currently burnt or shipped off-island to landfills and will provide organic farmers with a valuable soil amendment which will reduce input costs and increase production capacity.”

In June 2011 we reported to Vancity that the pilot demonstration project ran into difficulty with the chosen site when a neighbour complained, having misunderstood the type of composting operation that was proposed. This resulted in the cooperating farmer (landowner) withdrawing support for the project. A subsequent search for alternative sites and operators was unsuccessful.

By November 2011 we had decided to take a different approach, involving a number of different farms that would accept clean woody debris from the public on specific days through the year. This approach eliminated the need for regulatory approvals. Several farmers expressed interest in receiving material, but in the end only one farmer with the capacity to handle traffic and woody debris was prepared to accept it, and this farm was located in an area of larger properties about a twenty minute drive from the more densely settled Ganges area. CRD and the Salt Spring Golf and Country Club provided drop off locations in the Ganges area, and these received the bulk of the material.

Three “Bring Your Branches” days were held in the Spring of 2012. The first two were held at two different sites and the last at one site only, for a total of five drop-off opportunities. Number of vehicles, material collected and users’ responses were tabulated. The Ganges area material was donated to the new Rainbow Road Park Allotment Gardens, Salt Spring’s first and already popular and thriving allotment gardens. It was used for path mulch.

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<sup>1</sup> see Salt Spring Island Central Composting Feasibility Study—Preliminary Research Report, Dec 2009 for estimates of volumes.

Concurrent with these activities, a response was prepared to the proposed changes to the provincial Agricultural Waste Control Regulations and submitted in April. These changes if enacted would in our view have the effect of eliminating opportunities for farm composting on Salt Spring's small farms by making it virtually impossible for small farms to comply with the regulations, which are already restrictive. A response was thus viewed as essential in order to keep the regulatory door open for farm composting on Salt Spring Island.

Composting options for the solid waste from the abattoir, also part of the Vancity enviroFund™ project funding, were explored since waste disposal represents a significant percentage of the estimated operating costs of the facility. A feasibility study for anaerobic digestion was prepared by a specialist in small scale agricultural biogas applications.

Dialogue continued with CRD solid waste staff. The composting objectives of the Salt Spring agricultural community have been discussed with the CRD Salt Spring Solid Waste Advisory Committee with a view to integration with kitchen scrap diversion plans.

## Results

- A total of 41 cubic yards of chipped woody yard waste was produced from the Ganges area sites. The participating farmer had not yet chipped his material at time of writing.
- CRD has recognized the value of the “Bring Your Branches” service for the Ganges area and an ongoing arrangement with CRD PARC for “Bring Your Branches” days and a Fall “Leaf Exchange” is in the process of being established.
- Annual feedstock in the range of 50—80 cubic yards of wood chips for composting and/or mulch is projected, based on the pilot results. This material is in addition to the wood chip feedstock volumes estimated in the Preliminary Research Report,<sup>2</sup> which used volumes reported by utility arborists. By promoting the service to landscapers and other larger volume users, volumes could be increased.
- Anaerobic digestion of Salt Spring's abattoir solid waste is technically feasible and a small scale digester is available for rent to prove the concept and enable detailed technical and cost analyses. Advantages of anaerobic digestion include fully contained system with low odour, control of pathogens, high nutrient effluent, and biogas, surplus to process heat requirements, available to meet abattoir hot water needs. Disadvantages include high capital costs and ongoing requirements for professional management.
- The consultation period for the proposed revisions to the Agricultural Waste Regulations was extended to May 31. The results are not known at time of writing.
- An agricultural position on the CRD Salt Spring Solid Waste Advisory Committee has been established.

## Environmental benefits

Diversion of woody debris from outdoor burning or trucking off island has local air quality and GHG emission reduction benefits. The pilot project diverted 41 cubic yards of chips to the community allotment gardens, thereby enhancing local organic food production.

For homeowners with small parcels on Salt Spring, outdoor burning is the only free option to dispose of woody debris. The local waste transfer station charges to drop off woody debris and then chips it and ships it off island. Both of these options have high environmental costs. Arborists with chippers are available and relatively “green” but are beyond the means of lower income residents. Several “Bring Your Branches” participants mentioned how pleased they were that they did not have to burn the material. Shipping the abattoir waste off-island removes valuable nutrients from Salt Spring farms and the transportation generates GHG and other emissions.

While it is not yet known if the anaerobic composting of this waste will be practical, the environmental benefits of renewable energy production and nutrient recycling are technically feasible given the anticipated volumes.

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<sup>2</sup> Salt Spring Island Central Composting Feasibility Study—Preliminary Research Report, Dec 2009

## Bring Your Branches pilot, Spring 2012

*First Press Release*

### BRING YOUR BRANCHES- Pilot project to help farmers and homeowners

Farmers on Salt Spring just can't get enough compost. Meanwhile homeowners are sometimes faced with daunting piles of branches and trimmings and nowhere to put them. In an effort to solve these two problems, the Salt Spring Island Agricultural Alliance is sponsoring Bring Your Branches days.

The first Bring Your Branches day will be held on Saturday February 18 between 10:00 am and 2:00 pm at two locations, one at the south end and one in Ganges. Everyone is invited to bring clean branches and woody trimmings. There is no charge to drop off your material, but it must be clean with no invasive species (blackberry, broom and gorse), and no contaminants such as stones, plastic or garbage. The material must also be small enough to go through a chipper, so stumps and large diameter logs are not acceptable. If you have more than a pickup truck of branches, please arrange in advance.

South-enders are invited to bring clean branches and woody trimmings on Feb 18 to Hope Hill Farm, 235 Musgrave Road. Hope Hill Farm is a small mixed farm, owned by Cam and Vera Robinson. They have prepared an Environmental Farm Plan and a priority for the farm is soil building, using animal manure, bedding and other compost materials. Tree trimmings are high in carbon and balance the nitrogen in the manure, making for perfect compost. Cam and Vera say: "any good carbonaceous material is welcome and we are excited to host the first community pilot project administered by the Salt Spring Island Agricultural Alliance".

North-enders may drop off their clean branches and woody trimmings on Feb 18 at the site of the new Community Gardens behind the pool at 262 Rainbow Road. As a one-time gift, the material collected will be chipped and donated to the Community Gardens, to be used for path mulch and compost.

If the first Bring Your Branches day is successful, the Agricultural Alliance intends to sponsor Bring Your Branches days at different locations around the island on a regular basis. Bring Your Branches is part of a larger effort by the Agricultural Alliance, supported by funding from Vancity credit union, to increase the amount of compost available to island growers. The Alliance will keep track of the amount of material donated to Bring Your Branches to assess if a permanent composting site is viable. Enquiries from farmers wishing to host a Bring Your Branches day are welcome. For more information please contact the Agricultural Alliance composting coordinator Elizabeth White 250-537-2616

**BRING YOUR BRANCHES!**

**Saturday, February 18; 10 am to 2 pm**

TWO LOCATIONS:

**South Island:**  
Hope Hill Farm 235 Musgrave Rd.

**North Island:**  
262 Rainbow Rd. (behind Rainbow Rd. Pool)

*Branches and clippings wanted for composting by island farmers.  
Clean up your yard and help island farmers.*

**CLEAN MATERIAL ONLY**

<p style="text-align: center;"><b>YES</b></p> <ul style="list-style-type: none"> <li>✓ YES branches</li> <li>✓ YES trimmings</li> </ul>	<p style="text-align: center;"><b>NO</b></p> <ul style="list-style-type: none"> <li>X NO invasive species (blackberry, gorse, broom etc.)</li> <li>X NO stones, plastic, garbage</li> <li>X NO food waste</li> </ul>
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**If you have more than a pickup truck of branches, or for more information, please call 250-537-2616**

Bring Your Branches is part of the Salt Spring Island Agricultural Alliance's Pilot Composting Demonstration Project. Funding support provided by Vancity.

Table 1. Vehicles and Volumes, Bring Your Branches pilot, Spring 2012

18-Feb-12		Bring Your Branches	#1			
RAINBOW ROAD PARK	# vehicles					
Pickup truck	18					
Panel truck	1					
SUV/SUT	3					
Sedan	1	Loose material				
wheelbarrow	1	w, yds	l, yds	h, yds	v, cu yds	
<b>Total # vehicles</b>	<b>24</b>	3	7	2	42	
<b>Volume after chipping</b>						<b>9 cu yds chips</b>
HOPE HILL FARM	# vehicles					
Pickup truck	3					
One ton	1					
small load	1					
<b>Total # vehicles</b>	<b>5</b>					
	volume					
Material in yards	18	cu yds loose material				
31-Mar-12		Bring Your Branches	#2			
GOLF COURSE	# vehicles					
Pickup truck	35					
Panel truck	5					
Station wagon	6					
SUV	1					
Hatch back	1	Loose material				
Sedan	6	w, yds	l, yds	h, yds	v, cu yds	
Trailer	7	3	26	1.5	117	cu yds loose branches
<b>Total # vehicles</b>	<b>61</b>	1	2	1	2	cu yds pile of leaves
<b>Volume after chipping 3 trucks @ 8 yds ea</b>						<b>24 cu yds chips</b>
HOPE HILL FARM	# vehicles					
Pickup truck	5	includes 3 loads brought at other times				
<b>Total # vehicles</b>	<b>5</b>					
	volume					
Material in yards	3	cu yds loose material brought on March 31				
	16	brought at other times				
Total loose material	19	cu yds loose material				
26-May-12		Bring Your Branches	#3			
GOLF COURSE	# vehicles	total visits=	22	(some combined loads)		
Pickup truck	8					
Panel truck	1					
SUV	1					
Hatch back	1					
Sedan	10	Loose material				
Trailer	8	w, yds	l, yds	h, yds	v, cu yds	
<b>Total # vehicles</b>	<b>29</b>	2	19	1	38	cu yds loose material
<b>Volume after chipping</b>						<b>8 cu yds chips</b>
<b>Total chipped material from Ganges area, 3 collection days</b>						<b>41 cu yds chips</b>