District of Mission Rot Pot Program

District of Mission in the Fraser Valley Regional District, BC

Population: 37,549 (2013 BC Stats)

Land Area: 225.7 km^2

Population Density: 161.4 persons/km^2

Median Age: 39.3

Housing Mix – SF/MF – 90:10

Average persons per household: 2.8

2012 Regional District Per Capita Disposal Rate: 709 kg/capita/year

Pre-Program SF Per Household Waste Disposal Rate: 443 kg/household/year

Pre-program SF Per Capita Waste Disposal Rate: 158 kg/capita/year

Current SF Per Household Waste Disposal Rate: 345 kg/household/year

Current Per SF Capita Waste Disposal Rate: 123 kg/capita/year

Program Highlights / Summary

In 2011 the District of Mission introduced a community wide "Rot Pot" program to increase participation in kitchen scraps diversion. For over ten years, Mission has collected commingled organics (kitchen scraps and yard waste) at the curb on a weekly basis, but the collection service was largely underutilized. By giving approximately 11,000 households their own Rot Pot (46-litre green bin), Mission revived their program and consequently increased diversion. The Rot Pot is collected in the same truck that collects yard waste. Kitchen scraps are processed at the Mission Landfill.

Mission is part of The Fraser Valley Regional District (FVRD). Mission's source-separated organics program will assist the FVRD's Solid Waste Management Plan targets on their long-term path to Zero Waste: 65% diversion by 2016, 80% diversion by 2018, 90% diversion by 2024.

The Rot Pots were paid for from the refuse reserve fund for the landfill, as keeping food waste out of the landfill will save landfill space and extend the lifespan of the landfill. Total project costs came to $325,000, the majority of which ($250,000) was spent on purchasing the containers. Residential taxes cover the operating costs of collection and processing.

Organics collection rose significantly once the Rot Pots were distributed. The overall amount of food waste sorted into separate bins by residents during the pilot project increased from 25 kg in the first week of the pilot project to 155 kg in week 10 (for the 80 households involved in the pilot) representing a six-fold increase in separated food waste. The annual waste disposal rate decreased from 443 kg per household prior to the program to 345 kg per household following program implementation. This equates to a 22% reduction in waste disposal.

Mission staff feels that conducting a pilot project was a huge part of program success. They created a very solid project plan with a focus on communication – to residents, Council, and the media. Having a catchy name helped popularize the program and the name really caught on.

Program Details

Collection

The Mission organics program includes all food wastes, contaminated paper, and yard waste. Following a Request for Proposal for the containers to be used, Mission chose a 46-litre Norseman-brand bin for its strength and ease of handling and hired its curbside collection contractor to distribute the green bins (nicknamed “Rot Pots”) to 9,100 households in June 2011. The hauler collects the “Rot Pots” by hand and material is mixed in with the same truck that collects yard waste. Collection is weekly.

Processing

The collected organics (food scraps and yard waste) are sent to the Mission landfill for composting in static, aerated, covered windrows. The facility processor markets the finished compost in bulk to landscapers and retailers. The facility currently processes curbside collected organics from approximately 11,000 households, together with yard waste and a limited amount of commercial organics dropped off at the site.

Promotion / Education

During the pilot project, residents were provided with a green bin, which featured a sticker depicting acceptable items, as well as an educational flyer. Halfway through the pilot, ‘kitchen catchers’ were provided to part of the pilot study group, together with additional information. Educational material was prepared with a “community-based social marketing” (CBSM) approach in mind. Although the kitchen catchers seemed to get positive comments from residents, those survey respondents who did not currently practice food waste composting stated that to start (in order of significance), they would require a free or cheap curbside bin and only secondly a kitchen catcher.

During district-wide implementation, a Frequently Asked Questions brochure was distributed to all residents with their bins, so that this information was readily available. Information included how to be a "Rotten Potter" and why removing organics from the landfill is critical to reducing GHGs and why this is important. Curbside Calendars included recommendations on eliminating fruit flies and odours during the hottest months of the year. Compost information is still readily available on the District's website (www.mission.ca).

For Earth Day 2012 and 2013, Mission held a compost giveaway event that allowed residents to pick up free compost from the landfill. The event's popularity increased significantly, with 166 vehicles arriving in 2012 and 358 in 2013, to accept their share of one cubic yard per household.

Supporting Policies and Regulations

Mission is part of The Fraser Valley Regional District (FVRD). Mission's source-separated organics program will assist the FVRD's Solid Waste Management Plan targets on their long-term path to Zero Waste: 65% diversion by 2016, 80% diversion by 2018, 90% diversion by 2024.

Mission's Community Energy and Emissions Plan (CEEP), was developed in 2011. Research conducted for the CEEP found that the emissions associated with solid waste make up about 10% of community emissions.

Program Results

Financial Data

Capital Costs
The Rot Pots were paid for from the refuse reserve fund for the landfill, as keeping food waste out of the landfill will save landfill space and extend the lifespan of the landfill. Total project costs came to $325,000, the majority of which ($250,000) was spent on purchasing the containers. The remainder went to educational materials as well as upgrades to the composting facility. Which were required to accommodate the additional food waste.

Operating Costs
Annual collection and processing fees for Single-family & Duplex residents (included on tax notices) are $127.50 for recycling and compost collection only.

This includes an annual handout of an additional 150 Rot Pots per year to new homeowners or as replacements.

Staffing Implications
No additional staffing was provided / budgeted for, and program implementation was integrated into the daily duties of the Environmental Services staff.

Cost Recovery
Residential taxes cover the operating costs of collection and processing.

Cost savings related to transportation to Mission Landfill instead of an independent processor in Abbotsford are estimated to be approximately $7,500 per year, based on a gas price of $1.20/litre, and a savings of about 6,250 litres of diesel fuel each year.

Environmental

Reduction and Diversion
Organics collection rose significantly once the Rot Pots were distributed. The overall amount of food waste sorted into separate bins by residents during the pilot project increased from 25 kg in the first week of the pilot project to 155 kg in week 10 (for the 80 households involved in the pilot), representing a six-fold increase in separated food waste. One year into the program, equal weights of garbage and green waste were collected (July 2011) compared to double the waste in July 2010 prior to program implementation. In 2010, the year before the rot pot was introduced, Mission collected 1,570 tonnes of commingled food and yard waste at the curb. In 2013, Mission collected 2,680 tonnes of curbside food and yard waste commingled, with an additional 1,920 tonnes of food and yard waste dropped off at the landfill directly (excluding brush and branches).

Kg organics diverted per household per year as a result of program: 244 (food and yard waste)

Percent increase in diversion: Mission was at 50% residential diversion prior to program (recycling and organics), and have seen a 41% increase in organics diversion (total diversion unavailable).

Disposal Impact / Landfill Space Savings
The difference in curbside collected garbage pre- and post- Rot Pot was 4,078 tonnes in 2010 compared to 3,790 tonnes in 2013.

It should be noted there is free tipping at the landfill for residential food waste, grass, moss and leaves. This encourages diversion from landfilling given the fee for waste disposal is currently $97/tonne. The municipality has estimated that the organics collection program should extend the life of its landfill by about ten years.

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GHG Reduction
Annual GHG reductions do not include additional assumed emission reductions related to transportation to Mission's landfill for composting compared to an alternate facility.

2013 GHG reduction* = 2086.1 CO_2e diverted
(Diverting 2,680 tonnes of organics from landfill)
*as a result of case study program

Social

Political Acceptability
Staff focused on involving council and community leaders to help promote the project. Since implementation a new council was elected. They seem to be quite happy with the program.

Community / User Acceptability
Upon delivery, the Rot Pots were generally well received by the public; there were a few refusals and returns, but mostly positive feedback. Giving out kitchen catchers as well as the Rot Pots made a big difference in the participation rate. Although the municipality itself does not distribute bin liners, they do encourage people to line the Rot Pots with newsprint to reduce the number of times they need to be cleaned to avoid the 'yuck factor'.

The popularity of the Rot Pots has also resulted in an interest in composting in the business sector, so Mission hopes to start some sort of pilot waste-diversion project with the business community.

Community Economic Development
Having a catchy name helped popularize the program and the name really caught on. Staff says a local building supply store is selling bin liners and marketing them under the Rot Pot name.

Dacon (who runs the compost operation at the landfill) has a staff of 1 full-time and 1 part-time dedicated to the Mission organics program. Their contract gives them ownership of the finished product, which they market successfully to the local community.

Lessons Learned

- Mission staff feels that conducting a pilot project was a huge part of program success. They created a very solid project plan with a focus on communication – to residents, Council and the media. The pilot project provided an opportunity to assess the effect of varying "perks", such as providing 8-litre kitchen catchers to only part of the study group. While an increase in participation was noted from this initiative, the full program roll-out did not include kitchen catchers, due to cost.

- There were some timing issues with the delivery of the bins, which came from Ontario. However, all Rot Pots ended up being distributed by the end of June, before the summer holidays. It was deemed crucial to not have bins sitting in front of empty houses, whose occupants were vacationing away from home, which could have presented a security issue.
- The bins are not bear-proof, so like with any curbside material, residents need to be reminded to store the bins inside a secure building or enclosure until the morning of the collection.

Communities with Similar Programs

Though not using 46L Green Bins, these municipalities are collecting food scraps mixed with yard waste in resident-provided containers. All materials are transferred to the hauler collection truck by hand (non-automated systems).

- City of Abbotsford – www.abbotsford.ca
- Township of Langley – www.tol.ca
- Langley City – www.city.langley.bc.ca
- City of Coquitlam – www.coquitlam.ca

Program Contact

Jennifer Meier, Environmental Coordinator
District of Mission
at jmeier@mission.ca
or by phone 604.820.3795