Regional Compost Feasibility Study and Pilot Project

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Northern RI Conservation District

Building Unconventional Partnerships Through Innovation to Solve Water Quality Issues on the Scituate Reservoir
Background

- 60% of Rhode Islanders get their water from the Scituate Reservoir Watershed
- Limnological studies in 2011 and 2013 showed elevated levels of phosphorous in the Moswansicut and Regulating sub-watersheds
- Over 40 livestock farms are located within these sub-watersheds
  - Most are small-scale, owning between 5-10 acres
  - Little ability to spread, compost or remove manure with close proximity to streams and open water
Producers in the Watershed

While livestock producers are not the sole contributors of phosphorous to the reservoir, they are a large contributing factor.
Conservation Innovation Grant

Unconventional Partnerships

USDA
United States Department of Agriculture

Natural Resources Conservation Service

Providence Water

The Compost Plant

Northern RI Conservation District

Roger Williams University
Purpose of Project

- Determine the feasibility of the removal of manure from livestock producers most affected sub-watersheds and create a compost soil amendment out of the manure.

- Estimate the amount of nutrients reduced by manure removal.

- Determine the feasibility of creating a manure transfer or compost facility on Providence Water land and create a NRCS practice standard.
Methods:

- Postcard survey to identify all livestock producers in Scituate Reservoir Watershed, focusing on Moswansicut and Regulating watersheds
- Conduct on-site visits with producers to determine eligibility and estimate current manure on-site
- Removal of manure using farm equipment and/or toters in November-December 2016 by The Compost Plant FREE OF CHARGE
Too good to waste

1. What types of animals do you own?
   - Sheep
   - Chickens/small birds
   - Cows
   - Pigs

2. How many acres of farmland do you own?
   - 6-8 acres
   - 9 or more acres

3. What is your method of manure storage or removal?
   - Put it in a pile
   - Compost it
   - Remove it from your land
   - Add it to the garden
   - Other

4. Would you be interested in participating in a free manure pick-up program?
   - Yes
   - No

Tell us a bit about your farm:
Name:
Email:
Phone #:
Address:

Questions? Please visit our website: nricd.org

Northern Rhode Island Conservation District
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Equal Opportunity Employer and Provider
Results:

- Received 12 Surveys - 6 interested in participation
  - 3 participated:
    - 12 acre livestock farm with pigs, cows, chickens and horses (over 40 animals)
    - 4 acre farm with 2 sheep and 2 horses
    - 5 acre farm with pigs, horses, chickens and goats (~10 animals)
- Manure estimates calculated for manure on-site
  - The Compost Plant removed manure once-weekly for six weeks. Worked with landowners to remove the initial amount on-site first
- Collected a total of 110 yards of manure
Cost of Manure Removal is High

- Trucking costs for The Compost Plant would not be sustainable over time
- Small-scale producers are unwilling to pay for the removal of manure from their farms
- Our pilot project determined that our methods were not feasible.
Lessons Learned:

- Participation in the survey and project was low! We were surprised!
  - Our assumptions about landowner behavior and interests were wrong

- Manure isn’t seen as a “problem” by landowners
  - Small-scale livestock producers find value in their manure, even if they aren’t using it
  - Seen as an afterthought
  - Didn’t participate consistently, week to week

- Manure isn’t being properly managed as a resource across the board
  - Most stored in piles at the back of the property, uncovered, on bare ground and near wetlands

- Connections aren’t being made between water quality and manure storage
Beginning in April, we will be engaging in informal discussions with producers throughout the reservoir to gather more information on landowners relationships to manure.

We will use this information to re-strategize education and outreach to producers, connecting water quality to manure storage.

Instead of writing a NRCS practice standard or citing a manure transfer station/compost facility, we will focus on hands-on workshops for small-scale livestock producers:

- Properly composting on-site
- Citing manure storage areas to ensure protection of ground and surface water.
Thank You!