SNEP Watershed Grants

July 2023 FINAL Report

Peer-to-Peer Project to Build Stakeholder Consensus to Prevent Nutrient Pollution from Composting Food Waste

Contract #SNEPWG-19-13-BBC-COMP
September 1, 2019 – June 30, 2023

Point of Contact:

Buzzards Bay Coalition
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Executive Summary

The Peer-to-Peer Project to Build Stakeholder Consensus to Prevent Nutrient Pollution from Composting Food Waste was an important opportunity to identify and bring together the commercial food waste composting stakeholders together with state and local communities and the Buzzards Bay Coalition to fully explore the challenges and opportunities that exist to encourage the composting process while protecting water quality. Communities around Buzzards Bay struggle to reduce the impact of nitrogen on coastal water quality. Changes in state law to require composting pose a potential unintended consequences of increased nitrogen pollution from composting operations. While composting can be an environmental victory, poorly sited and mismanaged operations can lead to significant water pollution. This project worked with stakeholders to understand the current state of regulations, best management practices to prevent nitrogen pollution from composting operations, and educated stakeholders on the potential for pollution from composting operations.

This project faced challenges due to the Covid=19 Pandemic, stakeholder reluctance, and MassDEP nitrogen regulations. These challenges prevented complete implementation of the project in that full consensus was not achieved, but the process served to educate the stakeholders both on the regulatory and industry side.

The project selected CBI as a professional facilitator to guide the stakeholder process. Project partners created a full stakeholder list and created a work plan for stakeholder engagement. After this initial step was complete, Covid -19 shut down the live stakeholder effort. The project moved remote webinars and meetings.

In an effort to ensure that the stakeholder group had a full and clear understanding of the regulatory universe governing composting, the first webinar included presentations from the Massachusetts Department of Environmental Protection and the Department of Agricultural Resources to discuss regulatory authority and the intersection between the two state departments. MassDEP regulates the composting process with certain exemptions that can elect to be governed by the rules of DAR.

The second webinar included presentations from composting professionals to discuss what technical services were available to composters and what best management practices can be employed to prevent nitrogen pollution.

A board of health stakeholder meeting was held to discuss concerns over regulations and how improvements can be made. Individual interviews were conducted with actual composters.

Lastly, research to identify overall loading of nitrogen from composting operations was completed.

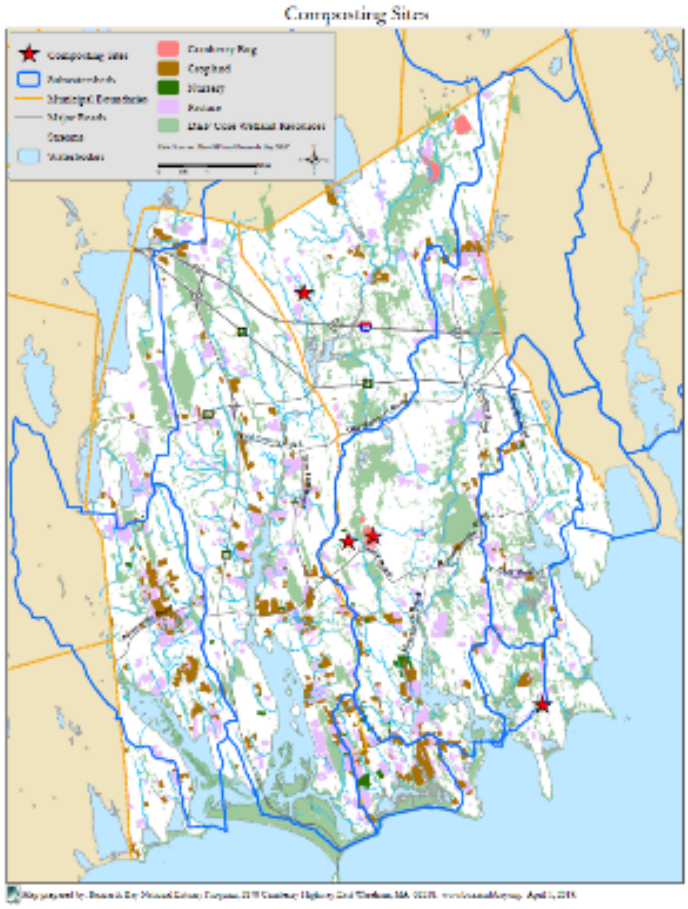
A total of $18,532.45 of grant funds were spent on the private consultant and staff time. A total of $13,366.52 of matching funds were contributed. Moving forward, the Coalition will continue to work on identifying the relative impact composting operations has on nitrogen pollution, what best management practices are best suited to eliminating the pollution source and what regulatory changes are necessary in order to protect coastal resource from composting nitrogen.

Project Report Narrative – Summary of Project Activities November 1, 2019 to June 30, 2023

Project Results and Goals – Addressing the Problem of Nitrogen Pollution from Composting:

This project sought to bring stakeholders together to fully explore the challenges and opportunities that exist to encourage composting while protecting water quality and addressing nitrogen pollution from composting operations.

Background: In 2014 the Commonwealth passed a state law banning the disposal of organic waste in landfills. In order to increase the number of composting facilities capable of processing this organic waste, state regulations for the siting and approval process were also relaxed. As with many changes in the legislative and regulatory environment, this left some ambiguity as to what regulatory agency was left with approval and oversight and what authority local communities' possessed. Practically speaking, the composting of organic material is a better environmental outcome than landfilling food waste, unfortunately, this de-regulation resulted in some facilities discharging nutrient rich leachate from their composting operations to nutrient impaired waterbodies within the Buzzards Bay watershed.



Nitrogen pollution is the greatest long term threat to the health of Buzzards Bay and its more than thirty harbors and coves. The primary source of the nitrogen to our coastal waters is from wastewater and many communities are making substantial investments in planning, infrastructure and treatment upgrades to remove nitrogen from our wastewater stream. However, the expansion of composting facilities throughout the Buzzards Bay region, without the proper oversight, may be a significant new nitrogen source to our sensitive coastal waters- threatening to undue the public investments made by our communities.

The ultimate objective of this project was to develop a solution by bringing stakeholders from each sector of the composting industry together to fully explore and understand the challenges of siting and operating a composting facility and build consensus around a set of model regulations and guidance which will encourage composting in an

environmentally safe manner. Clear regulations that define siting and operation protocols eliminates risks for business owners as well as protects community investment and water quality.

Short Term Objectives: The short term objectives of the project are best described by the grant's first three subtasks.

Task 1: Selection of a Professional Facilitator – The Coalition drafted a Request for Proposal (RFP) and distributed it to four professional facilitation firms. Responses were due on January 20, 2020. The Coalition shared the responses received and partners reviewed responses. The Coalition noted that some of the respondents lacked credibility among partners. It was critical to select a facilitator that brought unity to the group. CBI was seen as that respondent and selected CBI on February 15, 2020. The RFP is attached.

Task 2: Stakeholder Process Implementation Plan - Several preliminary phone calls were held between Ms. Petersen and Pat Field, CBI Senior Mediator. On February 25, 2020, Pat Field and Mr. Michaud joined Ms. Petersen in New Bedford for a kickoff meeting. At this meeting we compiled a complete list of stakeholders and developed strategies for reaching out to each of them. We also outlined the work plan for the project identifying the topics to be discussed at each of the planned stakeholder workshops. Mr. Field later completed the full work plan with the intention of holding the first stakeholder meeting in April 2020. Coalition staff commenced the compiling of a stakeholder list and will review with the facilitator. The initial work plan developed anticipated in-person meetings. However, as the pandemic unraveled discussions were held to assess how partners may best carry out the task with virtual calls.

Task 3: Stakeholder Meetings - By the end of March 2020, it become clear that the Covid-19 Pandemic would prevent the implementation of the in-person work plan. In an effort to preserve the value of in-person meetings, we decided to re-evaluate the possibility of small stakeholder meetings later in the year. Furthermore, the boards of health (critical stakeholders in this process) had to readjust priorities in order to address the pandemic. Finally, Coalition staff were working on a part time basis in 2020 due to Covid-19.

However, by 2021, the Coalition was ready to move forward with stakeholder meetings in a zoom format.

In order to ensure that all stakeholders share the same foundation of knowledge of regulatory requirements from both the Department of Environmental Protection and Department of Agricultural Resources, the Coalition hosted a webinar for all stakeholders on June 10, 2021 to present the water quality challenges and the state of regulations from each agency. The webinar was facilitated by CBI and recorded for viewing by stakeholders unable to participate live. The power point presentations are attached to this report.

The second webinar for all stakeholders regarding the technical resources available to composters and leachate best management practices occurred on July 15. Coryanne Mansell from Recycling Works and Andrew Carpenter from Northern Tilth, LLC. were the guest speakers. Their power points are attached.

Andrew Carpenter discussed siting considerations and the importance of minimizing the amount of stormwater that comes in contact with active compost piles. Other siting considerations included minimizing the footprint of the operation, collecting runoff, covering the operation, and managing moisture content.

Recycling Works provided an overview of the technical assistance they provide to composters including site layout and design and operational best management practices.

A Board of Health focus group was held on August 10, 2021 with the areas Boards of Health to discuss the challenges of siting composting and dangers to water quality at a local level.

Substantial work was put into outreach to stakeholders to notify them of the webinar and focus group and encourage participation.

In December, significant effort was put in to connecting with the composting community. In order to identify the entire universe of composting operations, the Coalition obtained the list of Massachusetts Department of Environmental Protection registered composters from MassDEPs website. However, the Department of Agricultural Resources does not publicly post their list of composters. The Coalition sent a public records request to DAR to obtain that list. With the lists in hand, the Coalition began working

with the MA Farm Bureau on identifying stakeholders who would be willing to talk about composting challenges. The Coalition drafted interview questions and began reaching out and scheduling one on one meetings. Individual interviews with composters and food producers were conducted March 2022 through June 2022.

In August 2022, CBI produced a summary report on commercial composter perspectives on water quality and composter support needs. In summary, composters revealed that regulations and fees were the greatest barriers to compost. Composters also expressed few insights and minimal knowledge about water quality issues from their operations. August 2022 Report Attached.

The long term objective of the grant was to find consensus on a set of solutions and regulations as outlined in task 4 of the grant.

Task 4: Solutions and Regulations - Developing a set of agreed upon solutions and regulations is a challenge. The stakeholder process highlighted 4 important challenges.

First, there appears to be a lack of scientific understanding about the nutrient load coming from composting operations. In an effort to quantify and compare nitrogen loads from composting operations to other sources of nitrogen the Coalition performed a literature review. The result of that review determined that there is a wide range of nitrogen concentrations coming from composting operations making it difficult to compare how much of an impact composting is having on water quality.

Second, composters were generally unaware that operations could adversely impact water quality, especially the discharge of nutrient rich water into groundwater and how that would impact surface waters.

Third, the amount of nitrogen from composting operations is dependent on a multitude of variables. Including what material is being composted and what best management practices are employed on site will all play a role in potential pollution.

Finally, composters are generally averse to further regulation.

Relevance of the Project to restoring and protecting coastal watersheds - Rural communities struggle to reduce the amount of nitrogen entering coastal waterways. Wastewater is still the predominant source of nitrogen adversely impacting our coastal watersheds. However, composting operations could potentially be large, localized sources of nitrogen to impaired waterbodies. It is important to address these potential potent sources as they threaten to undue effort and investment communities have made to solve the problem from long-term existing sources. Building a stakeholder group, beginning the discussion and identifying information gaps and expanding education is the critical starting place to control this source of pollution and protect coastal watersheds.

One of the most critical steps is establishing a framework of stakeholders to educate and take action to address the pollution source. Here, we have constituencies identified and some willingness to work together toward a solution.

Challenges and Setbacks – Three major challenges occurred during the course of the project which handicapped intended progress.

Covid 19 Disrupts the Stakeholder Process: This project was designed as a robust stakeholder engagement process. Unfortunately, mere months into the project, the Covid-19 global pandemic eliminated the immediate ability to have in person and open discussions. Not only did it make in-person meetings impossible, it also diverted the attention of our local boards of health, partners on this grant. The project eventually pivoted to a series of webinars and zoom stakeholder meetings. However, there is no replacement for in-person discussion.

Relative Nitrogen Contribution is Unknown: At the outset of this project, partners possessed one example of high concentration leachate coming from a composting pile within a watershed to an impaired waterbody. The concentrations were high enough to be of real water quality concern. The Coalition sought additional data points to determine the nitrogen load (concentration times water volume) of composting to other sources of nitrogen. A literature search revealed a wide variation in nitrogen loads from composting operations with many variables factoring in on the load itself.

The nitrogen load originating from a composting operation can be high or low depending on BMPs constructed, the amount of water in the composting pile, and the organic material accepted. It is important to note that while there as at least one example of a poorly managed compost site, some sites are not discharging leachate to surface water. Moving forward it will be important to better understand the impacts composting

MassDEP Title 5 Regulation Announcement: The next challenge presented to the project came with MassDEP's announcement of Title 5 and Watershed Permit regulation changes. In 2022, MassDEP announced that watersheds with Total Maximum Daily Loads would have to apply and implement a twenty year watershed permit or upgrade all septic systems to nitrogen reducing septic systems within five years. Many of the communities on the south coast opposed the regulations. Communities argued that the regulation was unfair and placed an undue burden on homeowners when private industry, like composting, was left unregulated by the state. These arguments asserted that composting was a major source of nitrogen to estuaries when the relative contribution is unknown. This political dynamic stifled stakeholder progress.

2.B. Next Steps & Recommendations

Complete Science Review - The Coalition will continue to pursue a more definitive answer as to the ultimate nitrogen impact composting has on water quality. A more thorough literature review and data assessment must be pursued.

Regulations - The Coalition will continue to complete a white paper which includes a list of best management practices and potential funding sources for implementation as well as a set of local and state regulations. Among those recommendations will be a requirement for composting to take place on an impervious pad which collects leachate water and prevents discharge into sensitive receptors.

2.C. Compliance – NA

2.D. Project Partners - Chris Michaud at the Dartmouth Board of Health was a key partner throughout the project devoting significant hours on the issue. Guidance and participation from Dartmouth Board of Health, MA Farm Bureau and Cape Cod Cranberry Growers was critical throughout.

2.E. Volunteer and Community Involvement - The municipal officials participating in this effort are volunteers and have committed significant time towards this project. Board of Health representation from the towns of Westport, Middleboro, and Dartmouth all participated in stakeholder group meetings.

2.F. Outreach & Communications – Significant effort was made throughout the grant period to ensure stakeholder engagement, particularly stakeholders from the composting industry. Webinar power point presentations, outreach communications, and interview questions are included.

3. Project Budget Report – Full Budget Summary Attached

Detailed Project Budget Tables and Narrative by Task

A total of $18,532.45 was billed towards the total grant award of $27,695. The challenges faced over the course of the grant term resulted in $9,162.55 in grant savings. A total of $13,366.52 was contributed toward the grant in the form of match for a total of 72% match.

Table 1 is the budget summary for the overall project showing total grant funds expended in the amount of $18,532.46 and a total match of $13,366.52. Attached is a quarter by quarter accounting of the budget including match.

TABLE 1.

Budget Category	Total Budgeted Grant Funds	Total Budgeted Match	Total Budgeted Grant + Match	Grant Funds Expended Cumulative	Match Funds Expended Cumulative	Match Source	Actual Expended Grant + Match
Personnel	$9,900.00	$12,007.00	$21,907.00	$9,900.00	$10,596.33	Partners	$20,496.33
Fringe	$1,950.00	$250.00	$2,200.00	$1,950.00	$1,489.00		$3,439.00
Travel	$87.00	$0.00	$87.00	$0.00	$151.96		$151.96
Supplies	$700.00	$900.00	$1,600.00	$0.00	$0.00		$0.00
Contractual	$12,500.00	$0.00	$12,500.00	$3,832.51	$0.00		$3,832.51
Other	$0.00	$0.00	$0.00	$0.00	$0.00		$0.00
Total Direct	$25,137.00	$13,157.00	$38,294.00	$15,682.51	$12,237.29		$27,919.80
Indirect (NICRA + 10% MTD)	$2,558.00			$2,849.95	$1,129.23		$3,979.18
Total	$27,695.00	$13,157.00	$40,852.00	$18,532.46	$13,366.52		$31,898.98

There was significant savings on the contractual line. The project budgeted $12,500 for a professional facilitator. The project only spent $3,832.51 on the contractor which resulted in a savings of $8,667.49.

PARTNER MATCH

Table 2 below identifies the amount of in-kind match contribution provided since November 1, 2019. The total amount of match funds is $13,366.52.

TABLE 2.

Match to SNEP									
Source	**Hours**	**Hourly Rate**	**Total Hourly**	**Fringe Rate**	**Total Fringe**	**Room Rental**	**Travel**	**NICRA**	**Total Match**
Budget			**$12,007.00**		**$250.00**	**$900.00**	**$0.00**		**$13,157.00**
C.Michaud	1.5	42	$63.00		$0.00	$0.00			$63.00
Total Q1 Match			**$63.00**						**$63.00**
C.Michaud	8	42	$336.00		$0.00	$0.00	$151.96		$487.96
Total Q2 Match			**$336.00**				**$151.96**		**$487.96**
Total Q3 Match	0		$0.00		$0.00	$0.00	$0.00		**$0.00**
Total Q4 Match	0		$0.00		$0.00	$0.00	$0.00		**$0.00**
Total Q5 Match	0		$0.00		$0.00	$0.00	$0.00		**$0.00**
Total Q6 Match	0		$0.00		$0.00	$0.00	$0.00		**$0.00**
C.Michaud	12	42	$504.00		$0.00	$0.00	$0.00		$504.00
CCCGA	2.5	49	$122.50	$10.00	$25.00				$147.50
Total Q7 Match	14.5		$626.50		$25.00	$0.00	$0.00		**$651.50**
Westport BOH	2	25.43	$50.86						$50.86
C. Michaud	4	42	$168.00						$168.00
CCCGA	3	49	$147.00	$10.00	$30.00				$177.00
K. Davis	2	44	$88.00						$88.00
Speakers	4	25.43	$101.72						$101.72
Total Q8 Match	15		$555.58	$0.00	$30.00	$0.00	$0.00		**$585.58**
Total Q9 Match	0	0	$0.00	$0.00	$0.00	$0.00	$0.00		**$0.00**
KP	18	66	$1,188.00	$12.00	$216.00				
Total Q10 Match			$1,188.00		$216.00				**$1,404.00**
KP	12	66	$792.00	$12.00	$48.00	$0.00	$0.00		$840.00
Total Q11 Match			$792.00		$48.00				**$840.00**
KP	10	66	$660.00	$12.00	$120.00				**$780.00**
Total Q12 Match			$660.00		$120.00				**$780.00**
KP	16.5	72.86	$1,202.19	$12.00	$198.00	$0.00	$0.00		**$1,400.19**
Total Q13 Match			$1,202.19		$198.00				**$1,400.19**
KP	65	72.86	$4,735.90	$12.00	$780.00	$0.00	$0.00	$1,033.80	
Total Q14 Match			$4,735.90		$780.00			$1,033.80	**$6,549.70**
KP	6	72.86	$437.16	$12.00	$72.00			$95.43	
Total Q15 Match			$437.16		$72.00			$95.43	**$604.59**
TOTAL Match			$10,596.33		$1,489.00		$151.96	$1,129.23	$13,366.52
Remainder			$1,410.67		-$1,239.00	$900.00	-$151.96		-$209.52

The majority of the match came from in-kind time from staff at the Coalition.

4. Supporting Documents

Attached:

1. Stakeholder List
2. Facilitation Services RFP
3. CBI Response to RFP
4. Working Group Protocols
5. WorkPlan
6. Webinar 1 Materials
7. Webinar 2 Materials
8. BOH Focus Group

9. Composter Outreach
10. Nitrogen Research

5. Certification

The undersigned verifies that the description of activities and expenditures in this final report are accurate to the best of my knowledge; and that the activities were conducted in agreement with the grant contract. I certify that the matching fund levels established in the grand contract and reported here have been met.

Grantee Signature:

Name: Korrin Petersen
Job Title: Vice President of Clean Water Advocacy
Date: July 31, 2023
Organization: Buzzards Bay Coalition

Summary Budget Table

Budget Category	Total Budgeted Grant Funds	Total Budgeted Match	Total Budgeted Grant + Match	Grant Funds Expended Q1	Grant Funds Expended Q2	Grant Funds Expended Q3	Grant Funds Expended Q4	Grant Funds Expended Q5	Grant Funds Expended Q6	Grant Funds Expended Q7	Grant Funds Expended Q8	Grant Funds Expended Q9	Grant Funds Expended Q10	Grant Funds Expended Q11	Grant Funds Expended Q12	Grant Funds Expended Q13	Grant Funds Expended Q14	Grant Funds Expended Q15	Grant Funds Expended Cumulative	Match Funds Expended Cumulative	Match Source	Actual Expended Grant + Match
Personnel	$9,900.00	$12,007.00	$21,907.00	$1,023.00	$1,848.00	$0.00	$561.00	$0.00	$132.00	$3,663.00	$1,683.00	$924.00	$66.00	$0.00	$0.00	$0.00	$0.00	$0.00	$9,900.00	$10,596.33	Partners	$20,496.33
Fringe	$1,950.00	$250.00	$2,200.00	$201.50	$364.00	$0.00	$110.50	$0.00	$26.00	$666.00	$306.00	$168.00	$12.00	$96.00	$0.00	$0.00	$0.00	$0.00	$1,950.00	$1,489.00		$3,439.00
Travel	$87.00	$0.00	$87.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$151.96		$151.96
Supplies	$700.00	$900.00	$1,600.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		$0.00
Contractual	$12,500.00	$0.00	$12,500.00	$0.00	$1,218.75	$0.00	$0.00	$0.00	$0.00	$890.63	$609.38	$0.00	$93.75	$540.00	$480.00	$0.00	$0.00	$0.00	$3,832.51	$0.00		$3,832.51
Other	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		$0.00
Total Direct	$25,137.00	$13,157.00	$38,294.00	$1,224.50	$3,430.75	$0.00	$671.50	$0.00	$158.00	$5,219.63	$2,598.38	$1,092.00	$171.75	$636.00	$480.00	$0.00	$0.00	$0.00	$15,682.51	$12,237.29		$27,919.80
Indirect (NICRA + 10% MTD)	$2,558.00			$257.15	$464.52	$0.00	$141.02	$0.00	$0.00	$811.25	$372.74	$204.64	$14.62	$175.41	$146.17	$262.43	$0.00	$0.00	$2,849.95	$1,129.23		$3,979.18
Total	$27,695.00	$13,157.00	$40,852.00	$1,481.65	$3,895.27	$0.00	$812.52	$0.00	$158.00	$6,030.88	$2,971.12	$1,296.64	$186.37	$811.41	$626.17	$262.43	$0.00	$0.00	$18,532.46	$13,366.52		$31,898.98

Match to SNEP

Source	Hours	Hourly Rate	Total Hourly	Fringe Rate	Total Fringe	Room Rental	Travel	NICRA	Total Match
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Total Q8 Match	15		$555.58	$0.00	$30.00	$0.00	$0.00		**$585.58**
Total Q9 Match	0	0	$0.00	$0.00	$0.00	$0.00	$0.00		**$0.00**
KP	18	66	$1,188.00	$12.00	$216.00				
Total Q10 Match			$1,188.00		$216.00				**$1,404.00**
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Total Q11 Match			$792.00		$48.00				**$840.00**
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Remainder			$1,410.67		-$1,239.00	$900.00	-$151.96		-$209.52

Name	Affiliation
Christopher Michaud	Dartmouth
Brian Wick	Cape Cod Cranberry Growers
Brad Mitchell	MA Farm Bureau
Matthew Armendo	Westport
Paul Schmid	Westport (Farmer too)
John Fischer	DEP
Patti Kellogg	DEP Southeast
Brian Dudley	DEP Southeast
Gerard Kennedy	DAR
Tom Adamcyzk	DEP
Sean Bowen	DAR
Jeff LaFleur	Ocean Spray
Lorenzo Macaluso	Center for EcoTechnology
John Majercak	Center for EcoTechnology
Coryanne Mansell	Center for EcoTechnology
Brian Penney	Republic Services
Will Conrad	SCS (Engineer) and Composter
	Atlantic Red Crab
James McSweeney	Industry Expert (Ocean Spray cons
Jim McBraughtny	Silvens Nursery
Henry Wainer	Sid Weiner and Sons
David Hickcock	Public Works Department (Dartmo
	Other Farm Composters?
Christine LeBlankc	LSP & Solid Waste
Jaime Jacquart	Umass Dartmouth
Sue Gaducci	Dartmouth Ag Commissioner
Geoff Kinder	Dartmouth Ag Commissioner (Rou
Derek Christianson	Dartmouth Ag Commissioner
Patty Gallagher	Ocean Spray
Thomas Yeransian	CRMC Bio Energy
Tom Kirby	
Jefferson Monroe	Good Farm
Bill Russell	Buzzards Bay Brewing
Lynne Brodeur	Dartmouth BOH
Thomas Hardman	Dartmouth BOH
Christian Pope	Dartmouth BOH
Tanja Ryden	Westport BOH
Philip Weinberg	Westport BOH
Donna Amaral	Westport BOH
Kevin Forgue	Carver BOH Agent
Eric Mueller	Carver BOH

Arthur Borden	Carver BOH
Barry Callis	Carver BOH
Karen Walega	Rochester BOH Agent
Glenn Lawrence	Rochester BOH
Dale Barrows	Rochester BOH
David Souza	Rochester BOH
Geoff Kinder	Round the Bend Farm
Scott Soares	MA Aquaculture Association
Seth Garfield	MA Aquaculture Association
Dan Martino	MV Farm Bureau and Agriculture
Jason Wentworth	MA Association of Dairy Farmers a
Beth Cassoni	MA Lobserman's Association
Seth Robain	Cape Cod Fisherman's Alliance
Kayla Davis	Middleboro BOH
Brittany Peats	MA Food System Collaborative
Skylar Cowley	Office of Rep Paul Schmid
Katelyn Parsons	MA Farm Bureau
denise Pavao	Ocean Spray

takeholders

email	Phone	Webinar Invite	Registered	Follow up
cmichaud@town.dartmouth.ma.us	5089101804	x	y	y
bwick@cranberries.org		x	y	
brad@mfbf.net		x	y	
armendom@westport-ma.gov		x		y
Paul.Schmid@mahouse.gov		x		y
john.fischer@state.ma.us		x		
patti.kellogg@mass.gov		x		
brian.dudley@mass.gov		x	y	
gerard.kennedy@state.ma.us		x		
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sean.bowen@state.ma.us		x	y	
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john.Majercak@cetonline.org				
coryanne.mansell@cetonline.org		x	y	y
info@atlanticredcrab.com		x		y
james@composttechnicalservices.com		x		y
	508 993 1993			
outh)				
'jjacquart@umassd.edu'		x	y	
		x via Chris		
nd the Bend Farm)		x		y
		x via Chris		
tyeransian@crmcx.com	508 339 3074	x		y
wspatti@comcast.net	774-263-2844	x		y
	714-785-0112			
bill.russell@buzzardsbrew.com				
		x		y
		x		y
		x		y
tanja.ryden@gmail.com		x		y
philipmitchellw@gmail.com		x		y
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kwalega@townofrochester.com		x		y
		x		y
		x		y
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oceanrancher@yahoo.com		x		y
dan-martino@hotmail.com		x		y
and MA Nursery and Landscape Association		x		y
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brittany@mafoodsystem.org				
skylar.cowley@mahouse.gov				
katelyn@mfbf.net				
dpavao@oceanspray.com				

Webinar 2	Registered	Follow up	Follow up
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REQUEST FOR PROPOSALS

Professional Facilitator to Guide Stakeholder Group to Develop Agricultural Composting Solutions

TO: Professional Facilitators

FROM: Korrin Petersen, Esq., Senior Attorney, Buzzards Bay Coalition

RE: Facilitation Services – Agricultural Composting Solutions

DATE: December 30, 2019

The Buzzards Bay Coalition (Coalition) is soliciting proposals from a professional facilitator to guide and build consensus among a stakeholder group to develop agricultural composting solutions that protect natural resources.

1. BACKGROUND AND PROJECT PURPOSE

Background

In 2014 the Commonwealth of Massachusetts passed a state law banning the disposal of organic waste in landfills. This ban required commercial producers of organic waste to seek alternative waste disposal options, including composting. In order to increase the number of composting facilities capable of processing organic waste to meet the disposal needs of the food producers, state regulations for the siting and approval process for *agricultural composting facilities* were changed. This legislative and regulatory change left some ambiguity as to what regulatory agency had approval and oversight authority over agricultural composting operations.

The lack of oversight resulted in some agricultural composting facilities discharging nutrient rich leachate from their composting operations to nitrogen impaired waterbodies within the Buzzards Bay watershed.

Nitrogen pollution is the greatest long term threat to the health of Buzzards Bay and its more than thirty harbors and coves. The primary source of the nitrogen to our coastal waters is from wastewater and many communities are making substantial investments in planning, infrastructure and treatment upgrades to remove nitrogen from our wastewater stream. However, the expansion of composting facilities throughout the Buzzards Bay region, without the proper

oversight, can become a significant new nitrogen source to our sensitive coastal waters-threatening to undue the public investments made by our communities.

Project Purpose

The purpose of this project is to reach consensus on a set of solutions that encourages agricultural composting in an environmentally-safe manner.

Project Approach

Composting disputes in southeast Massachusetts towns have been resolved through long administrative or judicial processes. This is an inefficient use of both time and financial resources. This Project seeks an alternate approach by identifying and bringing together stakeholders from each sector of the agricultural composting industry within impacted communities to discuss the problem, identify the challenges of siting and operating an agricultural composting facility and build consensus around a set of solutions which will encourage composting in an environmentally-safe manner.

In 2019 the Coalition was awarded grant funds through the Southeast New England Watershed Grants Program (funded by the U.S. Environmental Protection Agency in collaboration with Restore America's Estuaries), in partnership with the towns of Dartmouth, Westport and Middleboro, the Cape Cod Cranberry Growers Association and the Massachusetts Farm Bureau, to facilitate a stakeholder process to build consensus.

This facilitated consensus process will occur over the course of at least six working meetings scheduled between March 2020 to November 2020. The goal of the facilitated stakeholder meetings is to achieve consensus on a set of regulations to oversee the siting and oversight of agricultural composting facilities. The final grant deliverables will include suggested regulations that address the pollution issues and provide sufficient oversight on agricultural composting operations. Those solutions shall be drafted by the Coalition by February 2021. The grant provides up to $12,500 to hire a professional facilitator to guide the stakeholder group to consensus around solutions.

The Senior Attorney for the Coalition manages the Project and will provide support services to the selected Facilitator. Support services may include research on potential solutions, stakeholder communication and dissemination of information. A final workshop, coordinated by the Coalition, will be held showcasing the agreed upon solution by June 2021 and the facilitator shall be required to attend.

2. SCOPE OF SERVICES

The tasks and deliverables below describe an anticipated approach to meeting the Project's objectives. Bidders may present a variation to this approach as long as the proposal is clear, cost–effective, and is consistent with the approach, timeframe, and financial considerations described above.

Task 1 - Create Stakeholder Identification and Communication Plan – The Coalition has compiled a preliminary list of relevant stakeholders. The Respondent shall work with staff at the Coalition to finalize the stakeholder list and develop strategies and a process for reaching out to and communicating with stakeholders.

Deliverable – Stakeholder Communication Plan

Task 2 – Schedule Stakeholder Meetings – Work with the Coalition to secure locations and dates for a minimum of six meetings. Coalition staff will contact stakeholders in accordance with the communications plan in Task 1 and coordinate the logistics of the stakeholder meetings including the facility location and any refreshments.

Deliverable – Stakeholder Meeting Schedule and Commitment to Facilitate

Task 3 – Stakeholder Meetings – Prepare for and facilitate a series of stakeholder meetings to discuss the problem and develop consensus around potential solutions. All stakeholders shall have the opportunity to present their perspectives. The Coalition will be responsible for taking meeting minutes and providing sign-in sheets.

Deliverable – Preparation and in-person facilitation of a minimum of six stakeholder meetings.

Task 4 – Final Meeting - Attend June 2021final meeting where final results of the stakeholder meeting process will be explained.

3. SUBMISSION REQUIREMENTS

Please provide a bid, including a Scope of Services as outlined above. The bid must include:

- Project scope, including deliverables for each task
- Specific budget, broken down by task and personnel
- Proposed Project Schedule
- List of key personnel, and their hourly rates, who will be contributing substantial effort on this project
- Three (3) client references for which you have provided similar services within the past three years.

Submissions shall not exceed a cost of $12,500 and shall include all travel and meeting expenses.

4. DURATION OF CONTRACT

Contracting will be directly with the Coalition, with the majority of the work completed by December 2020. Terms of payment shall be 90% at end of Task 3 and 100% following completion of Task 4. Invoices requesting payment shall be provided to Ms. Korrin Petersen, Esq. at these payment intervals.

5. PROJECT LOCATION

The contractor should anticipate that a majority of the stakeholder meetings described above shall be held in southeast Massachusetts.

6. SUBMISSIONS

Deadline: January 20, 2020

One electronic copy of your proposal must be submitted by email to:

Korrin Petersen, Esq.
Buzzards Bay Coalition
114 Front Street
New Bedford, MA 02740
Ph: 508-999-6363 ext 206
Fax: 508-984-7913
petersen@savebuzzardsbay.org

Questions related to this RFP shall be submitted in writing via fax or email by January 10, 2019.

EQUAL EMPLOYMENT OPPORTUNITY

The Coalition does not discriminate in employment opportunities or practices on the basis of race, color, religion, sex, national origin, ancestry, age, disability, sexual orientation, veteran status, or any other characteristic protected by law.

CBI
CATALYZING COLLABORATION

January 10, 2020

Korrin Peterson

Buzzards Bay Coalition

114 Front Street

New Bedford, MA 02740

Dear Korrin:

The Consensus Building Institute (CBI) is pleased to present this proposal to the Buzzards Bay Coalition.

This proposal summarizes our approach and budget for facilitation of a stakeholder group on agricultural compositing solutions as well as CBI's unique qualifications to offer the Coalition on this endeavor: a blend of highly skilled facilitation and stakeholder engagement expertise; extensive agriculture, water quality, and regulatory project experience; and local Massachusetts understanding.

As you consider CBI's proposal, we invite you to contact us to further explore the opportunities and potential benefits of CBI's involvement. We are excited about the prospect of working with the Coalition and its stakeholders.

Thank you for considering our interest and proposal to help advance the Coalition's work.

Sincerely,

Patrick Field

CBI Managing Director

Cambridge, MA: 100 CambridgePark Drive, Suite 302, Cambridge, MA 02140 | Tel (617) 492-1414
Washington, DC: 1875 Connecticut Ave NW, 10th Floor, Washington, DC 20008 | Tel (202) 499-6882
Other Locations: New York, NY | San Francisco, CA | Denver, CO | Portland, ME | Santiago, Chile | Montréal, Canada
cbi.org | inquire@cbi.org

About CBI

The Consensus Building Institute (CBI), founded in 1993, improves the way that leaders collaborate to make organizational decisions, achieve agreements, and manage multi-party conflicts and planning efforts. A nationally and internationally recognized not-for-profit organization, CBI provides strategic planning, organizational development, and highly skilled facilitation for state and federal agencies, non-profits, and international development agencies around the world. CBI senior staff are affiliated with the MIT-Harvard Public Disputes Program and the MIT Department of Urban Studies and Planning.

More information about CBI can be found at www.cbi.org. The website includes general descriptions of services, detailed staff CVs and bios, case studies and related documents, and a knowledge center with various articles, blogs, tools, and exercises.

CBI Staffing

CBI proposes Patrick Field, CBI Managing Director, as the facilitator for this project. Mr. Field has extensive experience working in southeastern Massachusetts, on agricultural and water quality issues, and in working on coasts, oceans, and rivers. More about his qualifications is listed further below.

CBI Approach

CBI understands that there are four stages to this effort. They include:

1. Stakeholder identification and communication
2. Work planning and process design for the process
3. Facilitation of the stakeholder group, once formed
4. Final report writing and sharing with the general public

CBI offers the following possible approach, to be refined and honed with the Coalition, should CBI be awarded the work.

1. Stakeholder Identification

CBI would initiate the project by attending a project kick-off and detailed scoping meeting at the Coalition's offices in New Bedford at the start of the project. Then, CBI would seek to help identify clear goals and expectations for the process to be shared with stakeholders.

CBI would review the Coalition's initial list of stakeholders, ask questions, and offer suggestions for general or specific additions to the list and an overall framework for thinking about stakeholders (in general, those who are, might be, or at least believe themselves to be affected by a decision or action coupled with those in regulatory or administrative roles as well as in technical positions).

CBI would work with the Coalition to then develop a framework or approach to the stakeholder group that would reasonably reflect the range of interests, impacts, expertise, influence and authority of the stakeholders. This would involve thinking through whether:

a. Meetings are open or closed (are they subject to MA Open Meeting Laws?);

b. Meetings are membership or invitee-based versus open and fully participatory;
c. Engagement is strictly advisory, seeks consensus, or is decisive and determinative;
d. Final product is actual draft regulations or guidance, principles, and an approach to regulations that Coalition attorneys can draft into actual regulatory language;
e. Goal is learning and understanding versus creating options and deciding or recommending; and/or
f. Goal is a combination of broad interest identification, scoping of concerns, and giving voice versus working meetings focused on practical, possible solutions.

CBI would then work with the Coalition to identify an outreach approach based on the frameworks developed above. CBI would expect that the Coalition undertake most of the stakeholder outreach and enlistment once the plan is in place.

The product of this effort would be a *Stakeholder Process Design and Communication Plan.*

2. *Stakeholder Meetings Work Plan*

In order to prepare for the six stakeholder meetings, CBI would work with the Coalition to develop the following:

a. A work plan and schedule outlining, in draft, the frequency of meetings, length of meetings, location of meetings, and the general topics to cover in each meeting; and
b. A set of basic process protocols or ground rules that set the charge of the group or work, the purpose or intent, expectations for behavior and engagement, how decisions will be made and by whom, and the final products intended.

CBI would expect that the Coalition undertake the actual location and securing of meeting space, refreshments, and on-going communication with stakeholders regarding meeting times, location, agendas, etc.

The product of this effort would be a *Work Plan, Schedule and Ground Rules.*

3. *Stakeholder Facilitation*

Based on the work plan developed in the first phases, CBI would work with the Coalition before each meeting to:

a. Develop agendas;
b. Engage presenters as needed;
c. Outline the goals and purpose of the meeting; and
d. Provide background materials as needed and requested.

Ideally, to ensure a balanced process, CBI might suggest that the coalition identify one to two other leaders from those who do participate who can serve on a Coordinating Committee with the Coalition to help the facilitator prepare agendas, address issues, and resolve problems as they arise

The Coalition would be responsible for providing AV equipment, meeting space, meeting note taking and summary writing, refreshments, sign-up sheets, flip charts and easels for each meeting, and some kind of web-presence for the project. CBI would be responsible for preparing agendas, facilitating meetings, and reviewing meeting summaries prepared by the Coalition staff.

For budgeting purposes CBI has assumed six meetings in New Bedford with three hours each in duration.

The product of this effort would be a *Meeting Agendas and Reviewed Meeting Summaries.*

4. *Final report writing and sharing with the general public*

In addition to reviewing meeting summaries from each meeting, CBI would work with the coalition to develop the draft and final set of recommendation, including any final disagreements, that arise out of the work of the stakeholders.

This report would be issued to and reviewed by the group in their 5th and 6th meetings and then shared with the public for the final public workshop. The final meeting may take place at a longer interval than other meetings to provide time for thorough final writing, review, and vetting.

CBI will assist the Coalition and the stakeholders in hosting a final public workshop and CBI will either attend and/or facilitate this workshop as appropriate.

The product of this effort would be a *Workshop Agenda and Reviewed Final Recommendations.*

Proposed schedule

The proposed timeline is noted briefly below based on the RFP.

	2020												2021					
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Task 1: Planning and Coordination																		
Project Kick-off Meeting	●																	
Communication & Process Design Plan		●																
Work Plan, Schedule, and Ground Rules		●																
Task 2: Facilitating six, three hour meetings																		
Facilitated Meetings (every 4 to 6 weeks)			→	→	→	→	→	→	→	→	→							
Task 3: Report Writing and Closing Out																		
Final Report												●						
Suggested Regulations (by the Coalition)														●				
Public Workshop																		●

CBI Budget

The CBI proposed budget, staff hourly rate, and estimated expenses are described below. As noted below, Mr. Field's hourly rate, based on the federal GSA guidelines, is $187.50.

LABOR COSTS	Senior Facilitator	Phase
	(hours)	Cost
TASK 1 -Planning and Coordination		
Initial scoping and planning	4	
Create ground rules, work plan, schedule, dates	4	
Support team in reaching out to stakeholders	2	
SUBTOTAL LABOR	10	$ 1,875.00
TASK 2 - Facilitating six, three hour meetings		
Plan agenda, planning calls, coordination	3	
Facilitate meeting (assumes 1 hour travel, 0.5 hour on-site prep & 3 hour meeting)	4.5	
Debrief meeting	1	
Total for One Meeting	8.5	
ANNUAL TOTAL FOR SIX MEETINGS	51	$ 9,562.50
TASK 3 - Report Writing and Closing Out		
Attend final public workshop	4	
Review draft final recommendations	4	
Final coordination and close out	1	
SUBTOTAL LABOR	9	$ 1,687.50
TOTAL LABOR		$ 13,125.00
PROFESSIONAL RATES ($/HR) (Federal GSA rate)	$ 187.50	
OTHER DIRECT COSTS		
Transportation (8 trips to New Bedford, MA)	$ 696.00	
TOTAL OTHER DIRECT COSTS		$ 696.00
ESTIMATED CBI COST		$ 13,821.00
DISCOUNTED COST at 10%		$ 12,438.90

CBI References

Mr. Field's references include the following:

- Ryan Patch, Agency for Agriculture, Food, and Markets, Vermont, Ryan.Patch@vermont.gov
- Marli Rupe, Department of Conservation , Vermont, Marli.Rupe@vermont.gov
- Winton Pitcoff, MA Food System Collaborative, Massachusetts, winton@mafoodsystem.org
- Ken Kimmell, former DEP Commissioner, Union of Concerned Scientists, KKimmell@ucsusa.org

CBI Qualifications

The following is a short bio and select sample projects for Mr. Field.

Biography

Patrick Field is Managing Director at the Consensus Building Institute and Associate Director of the MIT-Harvard Public Disputes Program. Mr. Field has helped thousands of stakeholders reach agreement on energy, land use, development, and natural resource management issues across the United States and Canada since 1994. He has worked on numerous coastal, agricultural, and water quality projects in Massachusetts, across New England, and the U.S. He is co-author of the award-winning book, *Dealing with an Angry Public* (Free Press) *Land in Conflict: Managing and Resolving Land Use Disputes (*Lincoln Institute)*, Managing Climate Risks in Coastal Communities: Strategies for Engagement, Readiness and Adaptation (*Anthem), and *Resolving Land and Energy Conflicts (Anthem).* Mr. Field is listed on the roster of conflict resolution professionals of the U.S. Institute for Environmental Conflict Resolution, the U.S. Environmental Protection Agency, and the U.S. Department of Interior. He holds a Masters in Urban Planning from the Massachusetts Institute of Technology and a BA from Carleton College, Northfield, Minnesota.

Select Agriculture, Water Quality and Regulatory Projects

(full CV available here)

Creating a Payment for Ecosystem Services Model for Vermont, 2019. Facilitated a Working Group established by the Vermont legislature to bring together disparate groups exploring the creation of a payment for ecosystems approach to improve soil health, water quality, flood storage, carbon sequestration, and habitat protection while also increasing farm income.

Vermont Water Quality Partnership Strategic Plan, 2018-19. Facilitated a process of key state and federal agencies and non-profits to build out a clear, comprehensive strategic plan for an inter-organizational partnership to maximize efficiency and capabilities of diverse water quality programs across Vermont.

Delaware Coastal Zone Conversion Permit Regulatory Advisory Group, Delaware, 2017-19. Lead assessor, convenor, and facilitator of a regulatory advisory committee (RAC) to develop, by consensus to the greatest degree possible, the conceptual regulatory framework and approach to the Coastal Zone Conversion Act. Facilitating with the RAC Chair, former head of the Delaware Supreme Court, using extensive public engagement as well as technical work groups, the group reached consensus on its recommendations in Spring 2019.

Assumable Waters EPA Work Group, Washington, D.C., 2018-present. Facilitator of an EPA Office of Water working group, under the purview of the Assistant Administrator for Water, to revise regulations based on the Assumable Waters Subcommittee completed in 2017. Facilitate meetings with stakeholders, the Working Group, as well as track issues, options, and actions.

Land Stewardship for Fortune 100 Company, 2018. Helped design, convene, and facilitate a land stewardship workshop for a Fortune 100 company to help design a private-sector

nutrients program to ensure better nutrient management and soil health on 2 million acres of US farmland.

New York Harmful Algal Blooms Technical Summits, 2018. Facilitated five summits of experts and stakeholders across New York State to provide input into the Governor's 2018 signature environmental addressing nutrient inputs into 12 of the state's iconic water bodies contributing to increased harmful algal blooms affecting drinking water and recreation alike.

Title VI North Carolina Disproportionate Impact Due to Concentrated Animal Feeding Operations, 2017-2018. Mediator between NC DEQ and several environmental justice groups representing communities of color affected through air, water, and odor impact by some 2,000 confined feeding operations for swine. Mediated settlement was reached among parties through joint data collection, issue identification, option exploration of additional monitoring and permit conditions, and additional administrative commitments to meet Title VI requirements for participation, analysis, and inclusion.

Vermont Agency of Agriculture, Food and Markets Water Quality Program Strategic Plan, 2017. Facilitated the development of a strategic and implementation plan for the Water Quality Program tasked with providing technical support, grants, and regulatory oversight on nutrient management and best management practices for water quality protection across the state of Vermont.

Farm Bill Conservation Coalition Dialogue, 2017. Facilitated a group of diverse, bi-partisan conservation, farm, and environmental and groups to develop a consensus statement on new directions for conservation programs in the 2018 reauthorization of the US Farm Bill.

Pursuing a Unified Message on Agricultural Research Workshop, Washington, D.C., 2016-17. Facilitator for a Riley Foundation funded workshop among a set of leaders from natural resource and environmental non-governmental organizations (NGOs), natural resource societies, and universities to explore and create a unifying message with the perspective of the natural resource and environmental quality. Designed workshop, facilitated, and prepared final report.

Herring River Restoration, Wellfleet, MA, 2016-17. Mediator among a major land owner and local, state, and federal agencies in reaching agreement around financing, phasing, and contingencies for restoring the Herring River through return of tides to thousands of acres of salt marsh on the Outer Cape.

Assumable Waters Committee, Washington, D.C., 2015-17. Facilitator of an EPA Office of Water Subcommittee involving numerous states, EPA, tribes, and the U.S. Army Corps. The purpose of the subcommittee was to explore, understand, and develop guidance for how states and tribes can better assume the 404 permitting program by better defining which waters are assumable by states under complex law and legal and legislative history and which must be maintained by the USACOE. The committee reached agreement on alternatives for assumption for wetlands and waters. The final report was delivered to the EPA Administrator in spring 2017.

Vermont Agricultural Subsurface Tile Drainage Working Group, Vermont, 2016. Convened and facilitated a Vermont Agricultural Subsurface Tile Drainage Advisory Group (TDAG). This group brought together a diverse group of stakeholders including farmers, agronomists, environmental advocacy organizations, and federal and state agencies to

develop a report on the science and policy options regarding subsurface tile drainage past and current use and impacts on water quality.

Massachusetts Farming and Public Health, Massachusetts, 2016. Facilitator for an assessment, convening, and agreement on recommendations to improve the coordination, regulation, and understanding between local public health officials and local agricultural development on farms and in farmers markets and local processing.

Global Roundtable on Sustainable Beef Strategic Planning, 2015-16. Led a strategic planning process for the Global Roundtable on Sustainable Beef. Conducted interviews with Board members from the U.S., Canada, Latin America, and Europe. Designed and led a Board strategic planning retreat and prepared the draft strategic plan.

Caloosahatchee River Restoration, western Florida, 2013-15. Co-assessor and facilitator for a visioning and prioritization process with the South Florida Water Management District and its constituents on estuarine and river habitat in the Caloosahatchee River, the western outlet of the Everglades water system. Assessment concluded with an intensive, two-day science summit involving over 100 stakeholders to identify key indicators for ecological health, and an on-going implementers work group and stakeholder forums on prioritizing projects for action.

Farm to Institution New England (FINE), various locations, 2011-14. Lead facilitator helping a network of some thirty New England groups formalize and expand a network structure and decision-making for the burgeoning farm to institution movement in New England.

State of Vermont and Lake Champlain Phosphorus TMDL, Vermont, 2012-13. Co-facilitator for an intensive engagement process with the agricultural community in Vermont to develop adequate measures for addressing nutrient impacts to Lake Champlain. Work included focus groups, large public meetings, and preparing synthesis of findings, and an Agricultural Working Group (AWG) who met seven times. The AWG developed numerous recommendations and finalized their report to the Legislature and agencies in fall 2013.

Working Group on
Reducing Nutrients from Composting Organic Waste
In Southeastern Massachusetts

Operating Procedures
Draft March 2020

I. Purpose

The purpose of the Working Group is to engage commercial food waste composting stakeholders together with state and local communities and the Buzzards Bay Coalition (the Coalition) to explore the challenges to and opportunities for improving the composting process to reduce or eliminate nutrient discharge to fresh and coastal waters.

II. Scope of Work

The Working Group is tasked to:

- Identify and learn about current practices, geographies, and kinds of commercial composting in the southeast part of the Commonwealth;
- Identify the known and estimated impacts of composting on water quality;
- Identify better and best practices from knowledgeable experts and the advantages and challenges of such practices, including but not limited to, costs, technical capacity, scale, and other factors;
- Given current and best practices, identify the local to state educational, guidance, and regulatory tools that could advance better practices;
- Review draft model regulations, policy or guidance developed by the Coalition based on the Working Group's work.

III. Membership

The members of the Working Group include those representing:

- Municipal boards of health;
- State agencies including MDAR and DEP;
- Entities providing or who might provide composting including the Massachusetts Farm Bureau and the Cape Cod Cranberry Growers;
- Entities who may need composting such as food companies and fish processors; and
- Entities who might haul compost.

In addition, the WG will call on experts in the area of food waste composting to provide expert technical advice.

IV. Membership Responsibilities

A. Working Group members agree to the duel goals of protecting water quality and advancing organic composting in the state, both activities required by state regulations.

B. Working Group members will participate in the orderly conduct of meetings, in-person or on-line. Participants will stay on track with the agenda, be respectful of one another and diverse opinions, listen as well as speak, and be prepared for the meetings by reviewing agendas and materials distributed ahead of time.

C. Working Group members will not attribute statements to others involved in this process, seek to present or represent the views or position of other members, nor attempt to speak on behalf of the whole Working Group to the media.

V. Decisionmaking

The purpose of the workgroup is to provide recommendations to the Coalition who in turn will draft model regulations, policy and/or guidance.

The Working Group will strive to operate by consensus in order to develop its recommendations. Consensus is defined as *unanimous* concurrence of the members after Working Group discussion. Members may choose to "abstain." Abstention is a non-vote, and therefore does not count against consensus. Consent means that members can *accept*, even if reluctantly, the agreement that emerges. The goal of the Working Group is to reach consensus, recognizing that not all members will be equally satisfied with the outcome. Consensus may be on a set of options or choices with their advantages and disadvantages clearly articulated without the WG expressing a single or preferred approach. Should consensus not be obtained, the Working Group may report out areas of agreement and disagreement and the reasons for remaining disagreement. WG recommendations will be captured in meeting summaries or revised draft documents developed by the Coalition.

VI. Meetings

A. **Steering Committee.** A small steering committee will support the process. The Steering Committee will include a representative from the Buzzards Bay Coalition, the Cranberry Growers and a municipal public health agent.

B. **Agenda**: A small Steering Committee with support from the facilitator will be responsible for developing an agenda for all meetings, focus groups, and webinars of the Working Group that will be distributed ahead of time.

C. Materials: Materials to inform deliberations and for background will be prepared and distributed via the facilitator with a goal of distributing at least three (3) business days before each meeting.

D. **Form, Frequency and Location**. Due to the COVID-19, the meetings will be held in a variety of formats. At least initially, all meetings will be on-line through Zoom, which provides both phone and computer access. Meetings may include sectoral focus or breakout groups, educational webinars, and on-line meetings. In later months, if possible, meetings will be held in person in convenient locations in Southeastern Massachusetts. Should the situation permit, at a later time, a site tour may be arranged.

E. **Summaries**: Summaries of each of Working Group meeting will be prepared by the Coalition. The summaries will be written without attribution.

F. Public Notice and Comment: Meetings of the WG are open to the public.

VII. Facilitator Responsibilities

A. The facilitator is responsible for helping to ensure that the process runs smoothly and helping the parties resolve their differences and achieve consensus on the issues to be addressed. The facilitators have no decisionmaking authority and cannot impose any solution, settlement, or agreement among any or all of the parties.

B. The facilitators will abide by the Ethical Standards of the Association of Conflict Resolution. In part, these standards require that: “The neutral must maintain impartiality toward all parties. Impartiality means freedom from favoritism or bias either by word or by action and a commitment to serve all parties as opposed to a single party.”

Managing Organic Waste in Southeastern Massachusetts
Working Group
Work Plan
May 2021

Note: *For all webinars, a recording will be made and available on the Buzzards Bay Coalition website; for all meetings, on-line or in - person, a short meeting summary without attribution by name will be prepared*

#	Month	Form	Length (Hours)	Description	Who?
1	Late May 2021	Webinar	2.5	Initial Presentation on the project: 1) introduction to the project, the challenges and the process moving forward (Korrin and Pay); 2) scale of organic waste and composting facilities currently (DEP expert); 3) impacts on water quality(Korrin); 4) current DEP regulations (DEP); 3) current MDAR regulations (DAR).	All identified stakeholders.
1	Mid June 2021	Webinar/Onsite	2	Presentation of best practices, technical tools, and innovations by technical resource provider.	All identified stakeholders.
2	June – August 2021	Focus Groups		Focus group of 3 to 10 participants exploring: 1) what is working under current regulations; 2) what is not working; 3) what resources are needed to make improvements; 4) what local and state regulations need change, why, and how?	
2			2	Board of Health/Municipal Focus Group (Westport, Dartmouth, Middleboro, Carver, Rochester – Health Agents plus 1 each BOH)	BOH Agents and members
2			2	Producers of Waste Focus Group (Sid Wainer, Ocean Spray, Atlantic Crab, others, waste haulers.)	Producers and Haulers
2			2	Composters Focus Group (composters, local ag commissioners, Farm Bureau, technical experts)	Composters and Technical Experts
2			2	Agency (DEP and DAR)	State Agency Representatives

3	August 2021	Working Group		Select participants to form working group (WG) to assist in drafting regulations. Need at least one participant from each focus group. Target 4 individuals.	Korrin, Chris and Pat Field to Select
3	August – October	Coalition Work		Coalition produces first draft based on feedback from focus groups and works with WG.	Korrin
4	October 2021	Session	2.5	Coalition produces draft "regulations" in August and September for deliberation ahead of meeting. Meeting for all members to discuss these ideas, produce new ideas, and generally discuss options.	WG
5	November	Session	2.5	WG continues to discuss, hone, and refine propositions as in the February meeting (may be more than 1 session)	WG
6	December	Session	2.5	WG finalizes approach	WG
7	February 2022	Session	2.5	BBC shares draft final recommendations for final comment and advice; may be coupled with a public meeting	Presentation to all stakeholders.

WEBINAR

Composting of Food Waste and Water Quality

Thursday, June 10, 10AM to 11:30 AM

Register in advance for this meeting:
https://cbuilding.zoom.us/meeting/register/tJEoduuhpzkpGNCHqREjL3up2eYHVdYT-K__

9:55 **Sign-on & Tech Check**

10:00 **Brief Introduction to Zoom and Agenda**
- Patrick Field, Facilitator

10:05 **Welcome**
- Welcome by Project Partners

10:15 **Why we are here – the importance of composting and water quality.**
- *Korrin Petersen, Buzzards Bay Coalition*
- Presentation
- Questions

10:35 **Role, Rules and Considerations from DEP**
- *Thomas Adamcyzk, MA Department of Environmental Protection*
- Presentation
- Questions

11:00 **Role, Rules and Considerations from DAR**
- *Sean Bowen, MA Division of Agricultural Resources*
- Presentation
- Questions

11:25 **Next Steps in the Process**
- *Korrin Petersen, Buzzards Bay Coalition*
- Brief overview of process moving forward
- Questions

11:30 **Adjourn**

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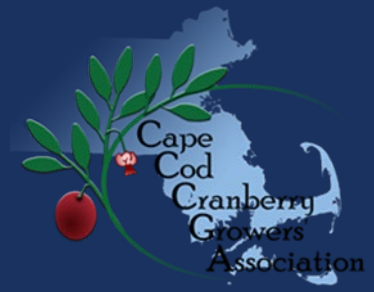
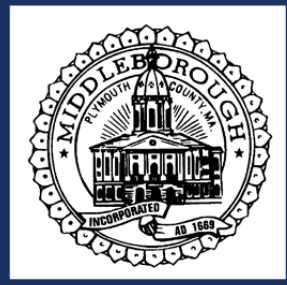
First Name	Last Name	Email	Registration Time	Approval Status	Organization	
Jamie	Jacquart	jjacquart@umassd.edu	2021-06-04 13:37:22	approved	UMass Dartmouth	
Thomas	Adamczyk	Thomas.Adamczyk@mass.gov	2021-06-08 12:16:34	approved	MassDEP	
Kayla	Davis	kdavis@middleborough.com	2021-06-01 12:13:51	approved	Middleborough Health Dept	
Brittany	Peats	brittany@mafoodsystem.org	2021-06-02 08:24:54	approved	MA Food System Collaborative	
Philip	Weinberg	philipmitchellw@gmail.com	2021-06-07 17:52:10	approved	Vice Chair- Westport Board of Health	
Coryanne	Mansell	coryanne.mansell@cetonline.o	2021-06-03 09:54:36	approved	Center for EcoTechnology	
Matt	Armendo	armendom@westport-ma.gov	2021-06-09 10:03:19	approved	Westport Board of Health	
Geoff	Kinder	geoffkinder@hotmail.com	2021-06-09 22:18:50	approved	Paradox Acres LLC	
Skylar	Cowley	Skylar.Cowley@mahouse.gov	2021-06-09 10:34:52	approved	Office of Paul Schmid	
Sean	Bowen	Sean.Bowen@mass.gov	2021-06-09 19:42:33	approved	MDAR	
Brian	Wick	bwick@cranberries.org	2021-05-28 11:21:15	approved	CCCGA	
Korrin	Petersen	Petersen@savebuzzardsbay.or	2021-05-28 09:13:40	approved	Buzzards Bay Coalition	
Katelyn	Parsons	Katelyn@mfbf.net	2021-05-28 11:05:55	approved	MA Farm Bureau	
Tanja	Ryden	tanja.ryden@gmail.com	2021-06-08 19:15:48	approved	Westport BOH	
Brad	Mitchell	brad@mfbf.net	2021-05-28 10:58:06	approved	MA Farm Bureau	
Brian	Dudley	brian.dudley@mass.gov	2021-06-01 06:27:16	approved	MassDEP	

COMPOSTING

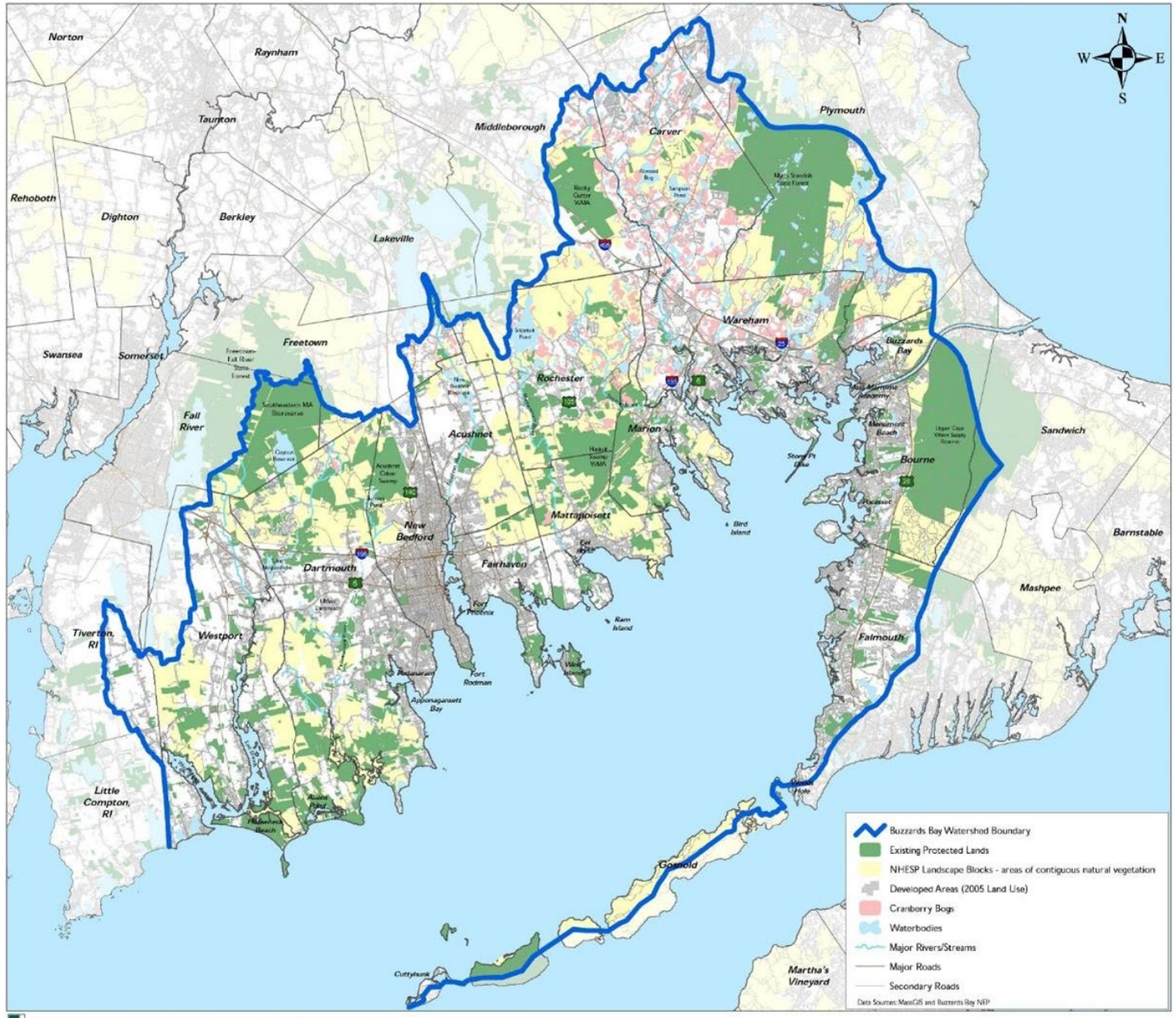
BUILDING STAKEHOLDER CONSENSUS TO PREVENT NUTRIENT POLLUTION FROM COMPOSTING FOOD WASTE



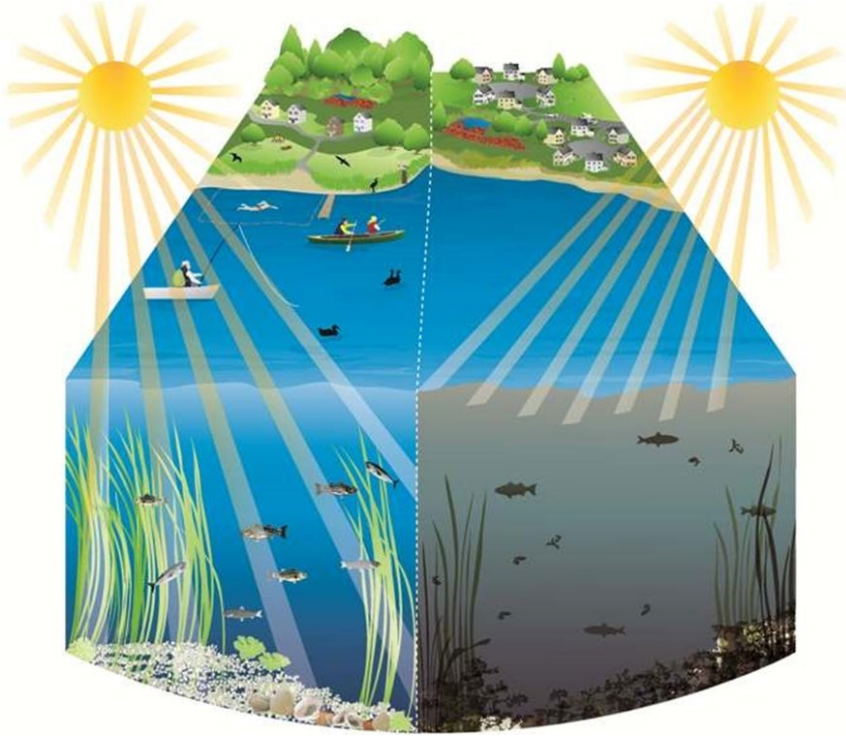


BUZZARDS BAY COALITION

- Nonprofit, membership organization founded in 1987.
- Supported by over 10,000 members.
- Dedicated to restoration, protection and sustainable use & enjoyment of the Bay and its watershed.
- Work to improve the Bay ecosystem's health through advocacy, research, conservation, and education.



- Nitrogen pollution is the greatest long term threat to the health of Buzzards Bay.
- Excessive nitrogen inputs to Buzzards Bay have resulted in impairments to water quality and living resources



EFFECTS OF NITROGEN POLLUTION IN BUZZARDS BAY

Rusty tide bloom in Wareham River

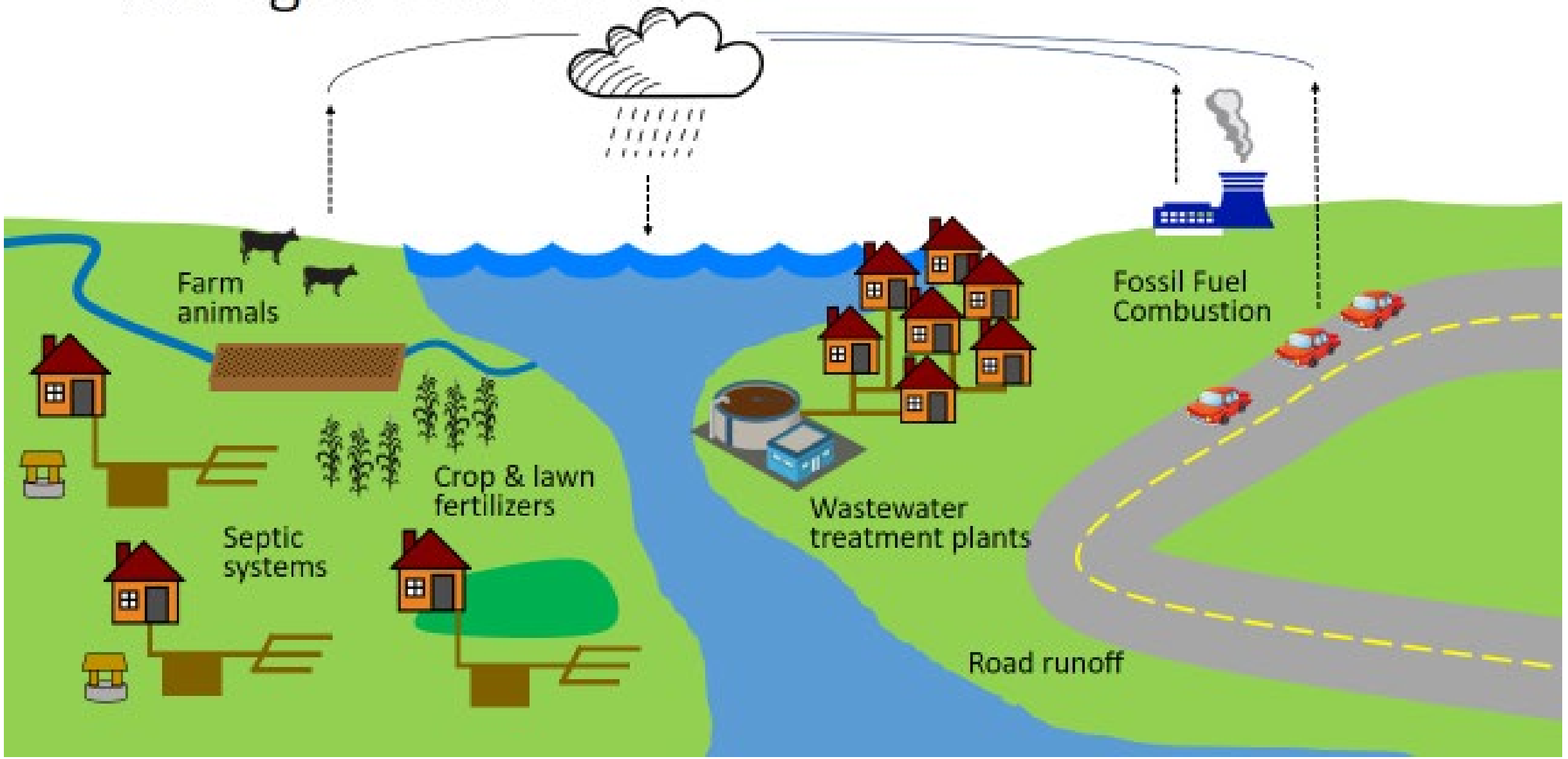
Rusty tide bloom in Apponagansett Bay

EFFECTS OF NITROGEN POLLUTION IN BUZZARDS BAY

Algae washing up in West Falmouth Harbor

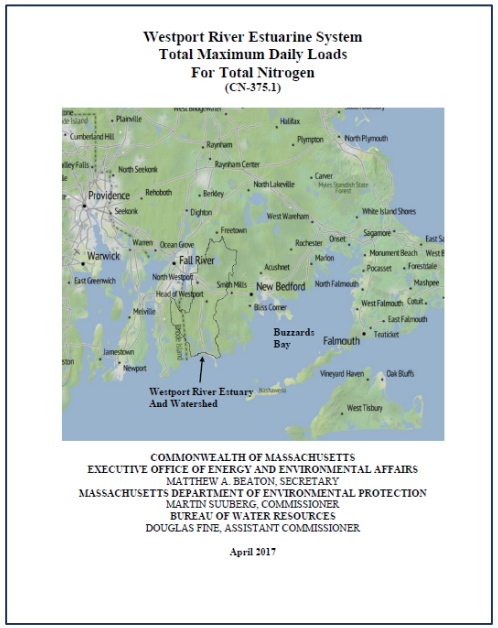
Fish kill in the Acushnet River

Nitrogen Sources



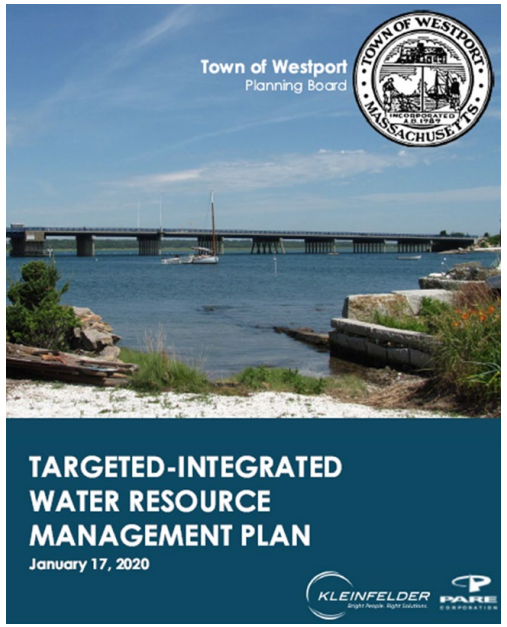
EXAMPLE – WESTPORT RIVERS TMDL

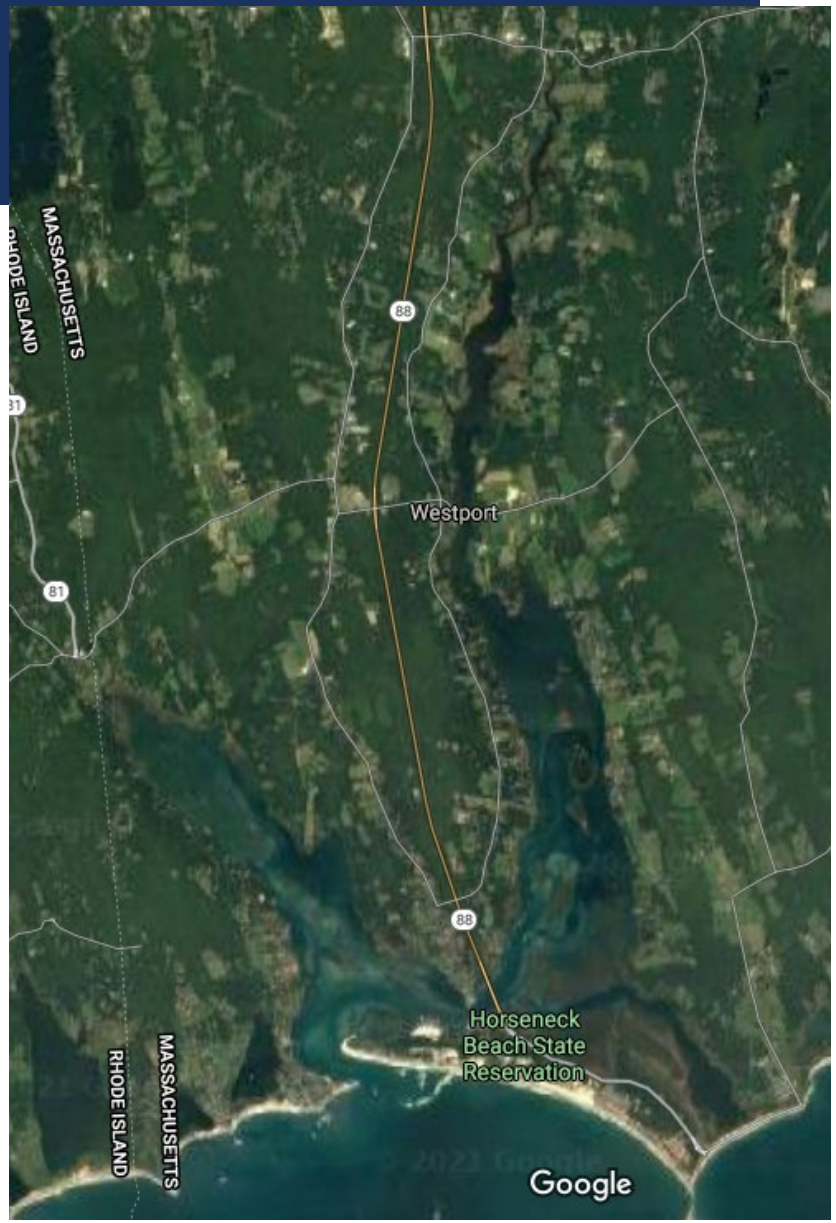
- TMDL for Westport Rivers requires a 71% decrease in existing septic systems.
- Town invests in Targeted-Integrated Water Resource Management Plan
- Passes new Board of Health regulations requiring new septic systems to reduce nitrogen.
- Contemplating sewers.


Westport River Estuarine System
Total Maximum Daily Loads
For Total Nitrogen
(CN-375.1)

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS
MATTHEW A. BEATON, SECRETARY
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARTIN SUUBERG, COMMISSIONER
BUREAU OF WATER RESOURCES
DOUGLAS FINE, ASSISTANT COMMISSIONER

April 2017





COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- In 2014, Massachusetts banned the disposal of organic waste in landfills – a clear environmental victory. Instead of shipping food waste to landfills, producers of organic waste are now required to find alternative disposal or reuse options.

- While **composting, as opposed to landfilling, has clear environmental benefits,** there are best management practices that must be followed in order to ensure that composting operations don't adversely impact water quality.

COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- The challenge this project seeks to address is to support composting while ensuring that the composting operation and siting are protective of our water resources.
  - What do food waste producers need?
  - What do composting operations need?
  - What regulations apply to which composting operations?
  - Are we protecting water quality?

- Received grant from Southeast New England Program Watershed Grants which are funded by the USEPA through a collaboration with Restore America's Estuaries.

BUZZARDS BAY COALITION

- Serve as a convener/facilitator for stakeholders from the industry.
- Develop regulatory understanding – what regulations apply when?
- Highlight technologies that support successful composting operations while protecting water quality.
- Listen to industry stakeholders.
- Develop and recommend state and local regulations which support composting and clean water.

QUESTIONS???

NEXT STEPS

- Technical Webinar – What tools are there for composters and what are the Best Available Technologies?
  - Center for EcoTechnology
- Focus Groups by Sector to discuss any challenges stakeholders are facing.
  - Proposed Groups
    - Local Boards of Health
    - Composters
    - Producers of Organic Waste
    - State Regulators
- Who are we missing?
- Contact – Korrin Petersen Petersen@savebuzzardsbay.org


MDAR
MASSACHUSETTS DEPARTMENT
OF AGRICULTURAL RESOURCES
Agricultural Composting
Massachusetts Department of Agricultural Resources
Sean Bowen, Agricultural Composting Coordinator

What is Compost?

Can be hard to define…

- Not a fertilizer, but adds nutrients…
- Not soil, (definitely NOT dirt) but makes soil better!
- Free of weed seeds (mostly…)
- Pathogen reduction (when done properly…)

Compost: The product resulting from the Composting process and a subsequent stabilization (curing) process.

Composting is a Managed Process!

Composting:

"The process of **accelerated** biodegradation of **Organic Materials** using microorganisms **under controlled conditions** in the presence of **oxygen** using turned windrows or piles, aerated static piles, or in-vessel systems."

MDAR Encourages Farms to Compost!

Farms have been composting for a LONG time!

Scots

Sumerians

Egyptians

George Washington

Thomas Jefferson

MDAR wants farms to KEEP composting!

MDAR Encourages Farms to Compost!

Nutrient management is integral in farming!

- **Animal farms produce nutrients**
- **Crop farms need nutrients**

Recycling Nutrients:

"When they took animals off the farm, they took a beautiful solution and created two problems…"

MDAR Encourages Farms to Compost!

Crop Farms:

Applying compost to agricultural land improves:

- Soil tilth (physical condition of the soil)
- Soil **water holding capacity**
  - More resistant to drought
  - Reduces runoff from rain events
    - Sediment
    - Nutrient
- Adds nutrients/micronutrients

MDAR Encourages Farms to Compost!

Animal Farms:

Composting as part of nutrient management:

- More stable than manure
- No odors
- Less leaching - reduces runoff
- Lighter – easier to handle and spread

Massachusetts Composting

Primary regulatory authority over composting is:

310 CMR 16.00: Site Assignment for Solid Waste Facilities

MassDEP Exemption

310 CMR 16.03 (2)(c)(1):

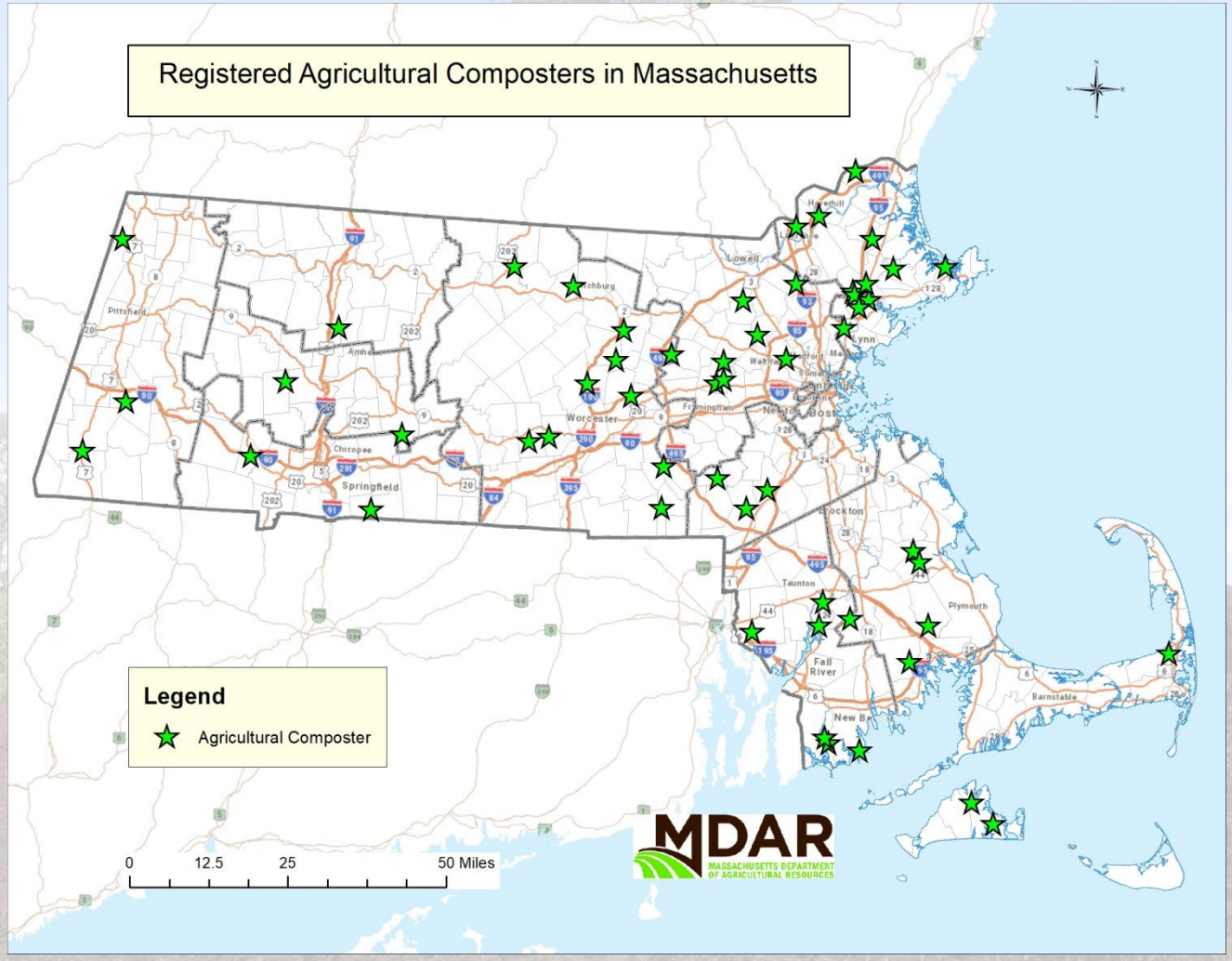
Activities Located at an Agricultural Unit

> Activities located at an agricultural unit…provided that the owner and operator comply with the regulations and guidelines of the Department of Agricultural Resources.

MDAR Agricultural Composting Program

- Program is within MDAR Division of Agricultural Conservation and Technical Assistance
- MDAR registration allows farms to accept organic material from offsite *for purpose of composting*.
- Registration only necessary if bringing material from off-site

MDAR Registered Composters



MDAR Agricultural Composting Program

- Can often register with *EITHER* MDAR or MassDEP
- Default is MassDEP, even if a Farm
- MassDEP General Permit Registration is no cost
- MDAR Costs $250 initial, $200 annual

Agricultural Composting or Solid Waste Management????

Farm First

- Located on an Agricultural Unit (MGL Ch 128 § 1A)
- Must not **prevent** the ability to maintain as an agricultural unit

MDAR Agricultural Composting Program

VOLUNTARY Program!

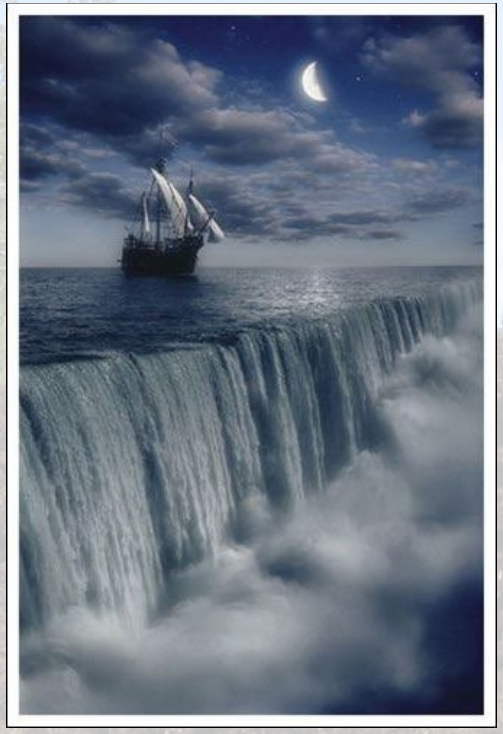
- ***Conditional Exemption*** from MassDEP regulation
- MDAR Registration is NOT a license to pollute!!
- MDAR Registered Composters must:
  - Incorporate Best Management Practices
  - Not create a public nuisance
- Comply with MDAR Regulation and Guidelines.

New MDAR Regulations

330 CMR 25.00: Agricultural Composting Program

Certain Restrictions and Operational Changes

In effect as of February 21, 2020…



Primary Changes to Regulation

Restrictions

Volume Restriction:

- 5,000 cubic yards per acre of compost site
- 15,000 cubic yards
- Max 75 Tons per week of Group 2 Material (high nitrogen)

Primary Changes to Regulation

Restrictions

Size Restriction:

- Composting operation located on area no more than 10% of Commercial Production Area
- Less Than 10 Acres

Setback Restriction:

- 250 feet from well
- 100 feet from property line

Primary Changes to Regulation

Operational Changes

- 25% Rule: 25% from or 25% applied to farm
- Mandatory Training – on hold for now…
- Odor Management Plan
- LBOH Notification

MDAR Agricultural Composting Program

If **MDAR** determines that the Composting Operation is no longer regulated by MDAR, then the owner and operator **shall be subject to 310 CMR 16.00**.

MDAR Agricultural Composting Program

VOLUNTARY Program!

- Comply with MDAR Regulation and Guidelines.
- Some farms **choose** not to register with MDAR…
  - Want to compost more than 15,000 cubic yards
  - Want to have more than 5,000 yards per acre
  - Composting operation outsized the farm operation
  - Don’t fit the 25% Rule
  - Don’t want to comply with MDAR regulations

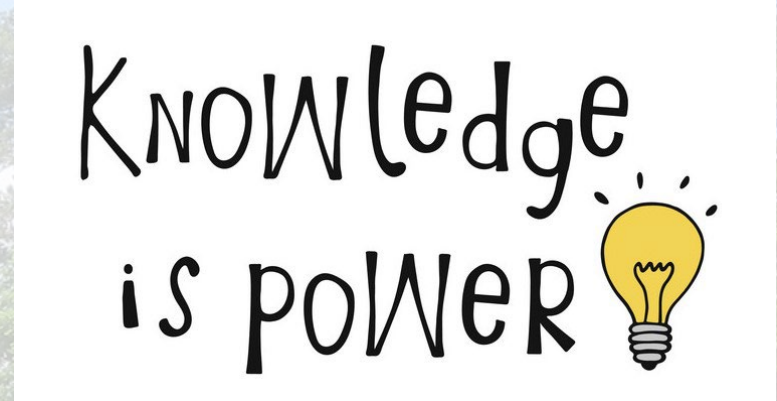
MDAR Agricultural Composting Program

MDAR conducts Technical Assistance site visits:

- By request of farm
- Prior to startup/registration
- Random/Routine
- Complaints

MDAR Agricultural Composting Program

Site visits are often education focused.



Many potential issues can be avoided/averted!

MDAR Agricultural Composting Program

MDAR conducts Technical Assistance site visits:

- Site selection, layout, and methods
- Recipe Development and Guidance
- Troubleshooting

MDAR Agricultural Composting Program

Composting problems like:

Odors
Leachate
Vectors

Can Be Avoided or Remedied by:

Recipe
Site Selection and Prep
Windrow size AND Shape
Monitoring and Managing

MDAR Agricultural Composting Program

Agricultural Composting Improvement Program

- Goal to help agricultural composters improve the overall management of their agricultural composting operations and facilitate on-farm compost use.
  - Screeners
  - Spreaders
  - Turners
  - Mixers
  - Windrow Covers
  - Compost Pads
  - Improved Technology Systems

Agricultural Composting Improvement Program

- MDAR Registered Composters and Exempt Farms
- **Not** open to operations with MassDEP registration
- Up to $75,000 with 25% match

- FY 2019: $140,000 Awarded to 5 farms
- FY 2020, $240,000 Awarded to 10 Farms
- FY 2021 $185,000 Awarded to 6 Farms
- FY 2022 Application period closed June 1

MDAR Agricultural Composting Program

www.mass.gov/agricultural-composting-program

Information

Application

Guide to Agricultural Composting

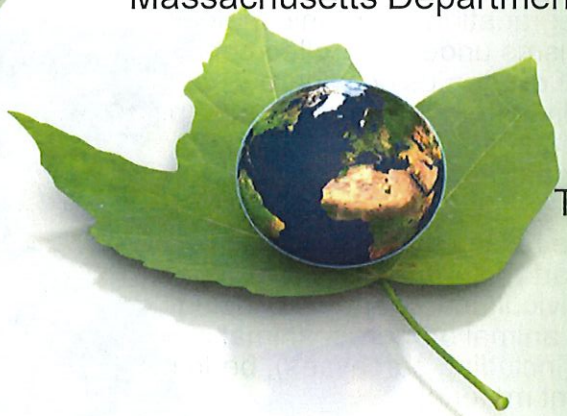
Agricultural Composting Program
Division of Agricultural Conservation and Technical Assistance
Massachusetts Department of Agricultural Resources
Sean.Bowen@mass.gov
617-626-1724

Review of Composting Regulations

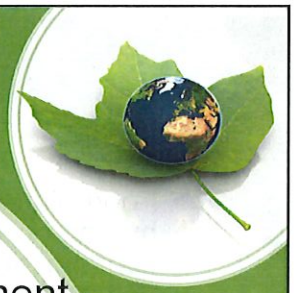
Massachusetts Department of Environmental Protection

June 2021

Thomas Adamczyk



Applicable Regulations



- 310 CMR 16.00 - Site Assignment Regulations for Solid Waste Facilities
  - 310 CMR 16.03 – Exemptions from S.A.
  - 310 CMR 16.04 – General Permits
  - 310 CMR 16.05 – RCC Permits

Definitions

- Composting or Composted means a process of accelerated biodegradation of organic materials using microorganisms under controlled conditions in the presence of oxygen using windrows or piles, including but not limited to, covered aerated piles or bays. For the purposes of 310 CMR 16.00, composting is not aerobic digestion or conversion.
- Agricultural Material means organic materials produced from the raising and processing of plants and animals as part of agronomic, horticultural, aquacultural or silvicultural operations, including, but not limited to, animal manures, animal products and by-products (including carcasses), bedding materials and plant materials.

Definitions

- Food Material means material produced from human or animal food production, preparation and consumption activities and which consists of, but is not limited to, fruits, vegetables, grains, and fish and animal products and byproducts.
- Organic Material means any of the following source-separated materials: vegetative material; food material; agricultural material; biodegradable products; biodegradable paper; clean wood; or yard waste. It does not include sanitary wastewater treatment facility residuals.
- Vegetative Material means plant material.
- Yard Waste means deciduous and coniferous seasonal deposition (e.g., leaves), grass clippings, weeds, hedge clippings, garden materials and brush.

310 CMR 16.03(2)(c)1. – Exemptions

- Activities located at an agricultural unit
  - Composting located at an agricultural unit as defined in 330 CMR 25.02, provided that the owner/operator comply with the regulations and guidelines of Dept. of Agricultural Resources (DAR).
  - If DAR determines the composting at a specific agricultural unit is no longer regulated by DAR then the composting activity is regulated by 310 CMR 16.00.

310 CMR 16.03(2)(c)2. – Exemptions

- Small composting operations not at a residence
  - Composting less than 20 cy or less than 10 tons per week of vegetative materials, food materials, or animal manures that are generated on-site and combined with bulking material (generated on or off-site)
  - 30 notification form to MassDEP & BOH

310 CMR 16.04 – General Permits - Composting

- Receives no more than 105 tons per week and no more than 30 tons per day of Group 2 organic materials.
- Contains no more than 5,000 cubic yards of organic material per acre.
- Has no more than 50,000 cubic yards total of organic material on site at one time.
- Is located at least 250 feet from any existing water supply well in use at the time the operation begins.

310 CMR 16.04 – General Permits

- Owner & Operators shall:
  - ensure the operation and its products do not result in an unpermitted discharge of pollutants to air, water or other natural resources, create a public nuisance, or present a significant threat to public health, safety or the environment;
  - ensure that the operation incorporates best management practices, including but not limited to:

Slide 8

1 Thomas Adamczyk, 3/13/2016

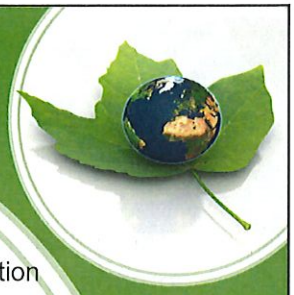
Best Management Practices General

- employ an appropriate number of properly trained personnel and use equipment for the size and type of the operation
- produce stabilized organic materials
- maintain proper thermal regulation and monitoring to prevent spontaneous combustion and destroy pathogens
- manage stormwater and leachate to prevent ponding and water pollution
- maintain access to water supply for fire control
- ensure that the type and quality of organic materials is sufficient for the operation and that the quality of the operation's products is sufficient for the products to be marketable

BMPs - Specific

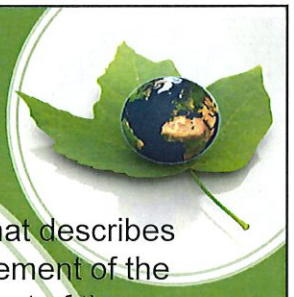
- implement a toxics control plan:
  - minimize entry of toxic materials into the operation
  - is appropriate for the organic materials to be managed at the operation
  - ensures that the final products resulting from the operation do not pose a significant threat to public health, safety or the environment
  - Should toxics be detected in the final products at levels that pose a significant threat to public health, safety or the environment for any likely use of the product, the plan shall also include a contingency plan that identifies steps to be taken to reduce toxics in incoming organic materials, describes corrective actions to be taken for management of the organic materials and products, and identifies how any contaminated products are to be used or disposed

BMPs - Specific



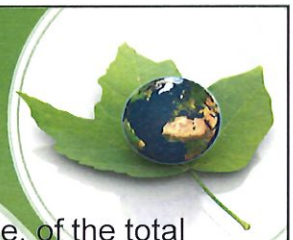
- implement an odor control plan:
  - appropriate for the size and type of the operation
  - minimize the production and migration of odorous compounds
  - identify specific actions that will be taken to address complaints if unacceptable odors occur beyond the property line of the operation
- implement a vector control plan
  - appropriate for the size and type of the operation
  - minimize the presence of vectors
  - identify specific actions that will be taken to address complaints if unacceptable vectors occur beyond the property line of the operation

BMPs - Specific



- develop/implement a contingency plan that describes corrective actions to be taken for management of the organic materials and products in the event of the following:
  - equipment breakdowns
  - delivery of unacceptable material
  - spills
  - fires
  - extreme weather conditions
  - other events, including but not limited to the failure of the odor or vector control plan

BMPs - Specific



- ensure that no more than 25%, by volume, of the total compost mixture shall be a Group 2 Organic Material listed at 310 CMR 16.04(3)(b): Table 1. Example of Organic Materials or other organic materials with a carbon to nitrogen ratio of 30:1or less
- ensure adequate & appropriate bulking material (Group 1 or other organic materials with a carbon to nitrogen ratio of greater than 30:1) is readily available on-site to mix with incoming Group 2 organic materials or other organic materials with a carbon to nitrogen ratio of 30:1 or less

BMPs - Specific

- ensure all Group 2 organic material or other organic materials with a carbon to nitrogen ratio of 30:1 or less is mixed into the compost windrows or piles to an extent that it is unrecognizable as a separate material as soon as possible but no later than the close of business each day, or transferred off-site by the close of business on the same day that it is received at the operation; and
- ensure timely and regular aeration of the compost to ensure proper aerobic, temperature, moisture and porosity conditions

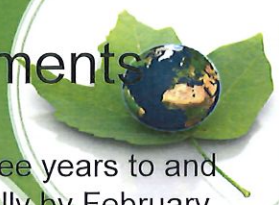
Table 1
Examples of Organic Materials

Group 1 Organic Materials		Group 2 Organic Materials	
Example Materials	C:N ratio	Example Materials	C:N ratio
Clean Wood	100-1300:1	Vegetables	11-19:1
Cardboard	560:1	Food material	14-16:1
Paper & paper products	125-850:1	Grass Clippings	17:1
Leaves	40-80:1	Green plant material	15-19:1
Straw	60-80:1	Fish waste	2-5:1
Corn stalks	60-75:1	Manure	6-14:1
Shrub trimmings	50:1	Solid & liquid digestate from aerobic & anaerobic processes	variable

BMPs - Specific

- ensure that the amount of residuals generated does not average more than 5% by weight of the materials received during any quarter
- ensure that all solid and liquid materials produced as a result of the operation are managed in accordance with all other applicable regulations and approvals, including but not limited to, a beneficial use determination

Administrative Requirements



- maintain accurate records for at least three years to and submit a report to the Department annually by February 15th on a form provided by the Department that shall include, but not be limited to, the amounts and types of organic materials received and composted and the amount of residuals managed during the previous calendar year
- submit a compliance certification
  - Initial certification – electronic submittal thru MassDEP website
  - Annual certification – electronic submittal thru MassDEP website

310 CMR 16.05 – RCC Permits

- The composting of organic materials that does not qualify for an exemption pursuant to 310 CMR 16.03 or a general permit pursuant to 310 CMR 16.04, shall apply for a recycling, composting or conversion (RCC) permit pursuant to 310 CMR 16.05.
- A RCC operation that has a RCC permit does not require a site assignment or a solid waste management facility permit pursuant to 310 CMR 19.000: Solid Waste Management provided the owner or operator complies with the permit.

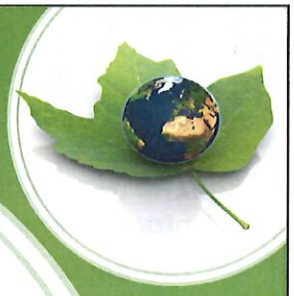
310 CMR 16.05 – RCC Permits

- The regulations at 310 CMR 16.05 are a permitting process which includes:
- Pre-application Meeting
  - the location; a description of the technology; type, quantity and quality of all materials received and products or residuals produced and identification of the potential public nuisances and adverse impacts from the operation and the proposed methods for controlling such public nuisances and impacts.
- Application submission
- MassDEP review with draft approval or denial
- Public review process of draft permit

310 CMR 16.05 – RCC Permits

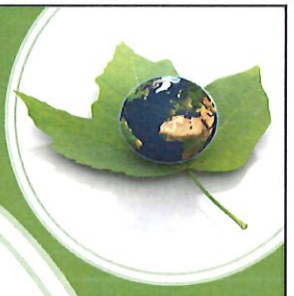
- Public review process of draft permit
  - Public notice
  - 30 day public comment period
  - Public hearing if requested or there is sufficient public interest
- MassDEP issues RCC permit decision after comment period or hearing

Contact Information



Thomas Adamczyk
Mass. Dept of Environmental Protection
One Winter St.
Boston, MA 02108
thomas.adamczyk@mass.gov

Resources



MassDEP:

310 CMR 16.00: Site Assignment Regulations

https://www.mass.gov/regulations/310-CMR-1600-site-assignment-for-solid-waste-facilities

WEBINAR

Composting of Food Waste and Water Quality
Technical Focus

Thursday, July 15th, 10AM to 11:45 AM

Zoom
https://cbuilding.zoom.us/w/94035793653?tk=vcWcxohgYfyJfY6wVLTxrgggcjkAZKlATo4WNDKL1lk.DQIAAAAV5PhW9RZ5U3JSVTVQTlRwNnl4MHcwWU1FQmtRAAAAAAAAAAAAAAAAAAAAAAAAAAAA

10:00 **Brief Introduction to Zoom and Agenda**
- Patrick Field, Facilitator

10:05 **Welcome**
- Welcome by Project Partners

Why we are here – Summary of Webinar 1 *Korrin Petersen, Buzzards Bay Coalition*
- Presentation
- Questions

10:15 **Assistance for Businesses & Institutions – Technical Support**
- *Coryanne Mansell, Recycling Works*
- Presentation
- Questions

10:35 **Composting – Leachate Best Management**
- *Andrew Carpenter, Northern Tilth, LLC*
- Presentation
- Questions

11:15 **Next Steps in the Process**
- *Korrin Petersen, Buzzards Bay Coalition*
- Brief overview of process moving forward
- Questions

11:30 **Adjourn**

COMPOSTING

BUILDING STAKEHOLDER CONSENSUS TO PREVENT NUTRIENT POLLUTION FROM COMPOSTING FOOD WASTE

COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- In 2014, Massachusetts banned the disposal of organic waste in landfills – a clear environmental victory. Instead of shipping food waste to landfills, producers of organic waste are now required to find alternative disposal or reuse options.

- While **composting, as opposed to landfilling, has clear environmental benefits,** there are best management practices that must be followed in order to ensure that composting operations don't adversely impact water quality.

COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- The challenge this project seeks to address is to support composting while ensuring that the composting operation and siting are protective of our water resources.
  - What do food waste producers need?
  - What do composting operations need?
  - What regulations apply to which composting operations?
  - Are we protecting water quality?

- Received grant from Southeast New England Program Watershed Grants which are funded by the USEPA through a collaboration with Restore America's Estuaries.

SUMMARY OF WEBINAR #1 – JUNE 10, 2021

- Water Quality Overview

- What regulations apply and when?
  - Thomas Adamcyzk – MassDEP
  - Sean Bowen - MDAR

- Webinar Recording – https://cbuilding.zoom.us/rec/share/rUyZ2U2oYd-p-skVBxbfSfMn2RphS28odlaDTI-rSz5iSyaTJD_oesHrHQ_1mvO5.otc3s_7jNDSWrdGt
  - Passcode: F2dj!W&$, if needed

WEBINAR #2 – JULY 15, 2021 – NEXT STEPS

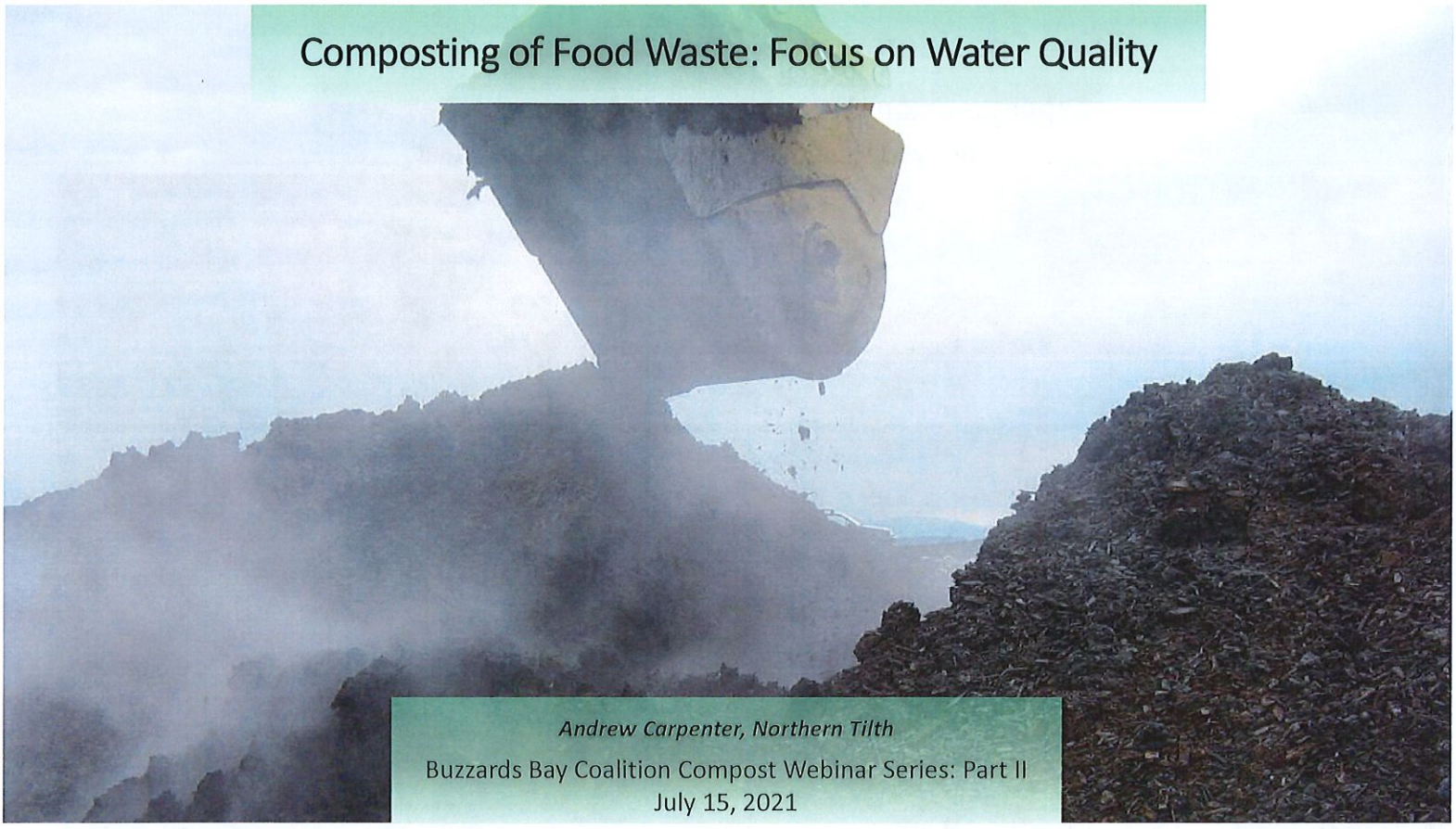
- Technical Resources
- Leachate Best Management Practices

- Next Steps –
  - Targeted Focus Groups – August 2021
    - Local Boards of Health
    - Composters
    - Producers of Organic Waste
    - State Regulators

- Contact – Korrin Petersen Petersen@savebuzzardsbay.org

QUESTIONS???

Composting of Food Waste: Focus on Water Quality



Andrew Carpenter, Northern Tilth

Buzzards Bay Coalition Compost Webinar Series: Part II

July 15, 2021

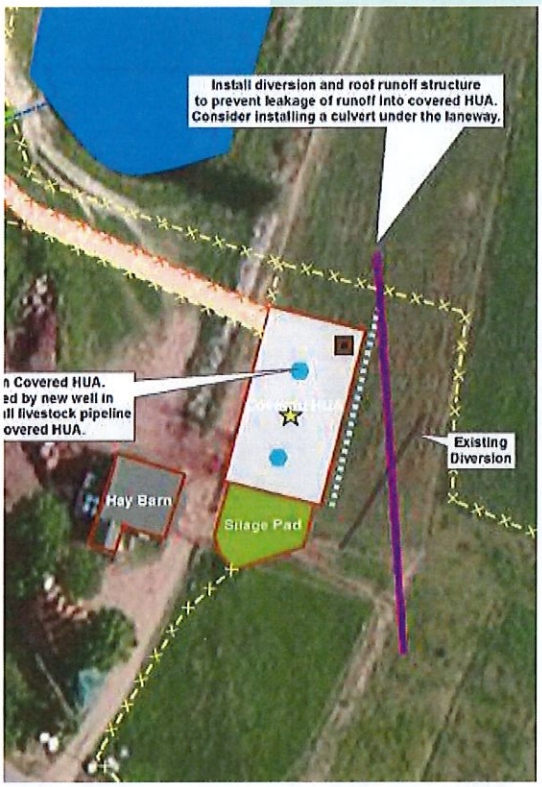
Siting Considerations – Environmental Protection

Separate Clean Water from Dirty Water

- Minimize the amount of water needing treatment

Siting Considerations – Environmental Protection

Minimize Run-on



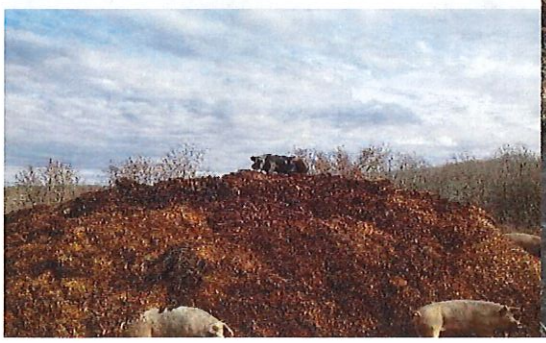
Siting Considerations – Environmental Protection

Minimize Run-off of Water that has come into contact with feedstocks and active compost piles

Siting Considerations – Environmental Protection

Landscape Considerations

- Height of the land
  - Or at least not in the low-lying areas of the landscape
- Ample distance from potential resource concerns
  - There is a lot that goes into determining this



Siting Considerations – Environmental Protection

Minimize the Footprint of the operation

- Shifting from windrows to aerated static piles, for example

Siting Considerations – Assessment of Water Quality Risks

- Size of Operation
- Compost Feedstock Quality
  - Fresh organic matter v. mature compost
  - C:N (high v. low)
  - Moisture content
- Proximity to resources
  - Neighbors
  - Wetlands and surface water
  - Groundwater
- Type of Operation
  - Bare ground
  - Impermeable pad with surface water collection or treatment
  - Covered operation

Levels of Surface Water/Leachate Management

- Bare ground
  - High in the landscape
  - Carbon-rich feedstocks
  - Smaller operation
  - Far from surface water
  - On soils without rapid infiltration

Levels of Surface Water/Leachate Management

- **Vegetated Filter Strip**
  - Larger operation
  - Impermeable pad
  - Space for adequate treatment

Levels of Surface Water/Leachate Management

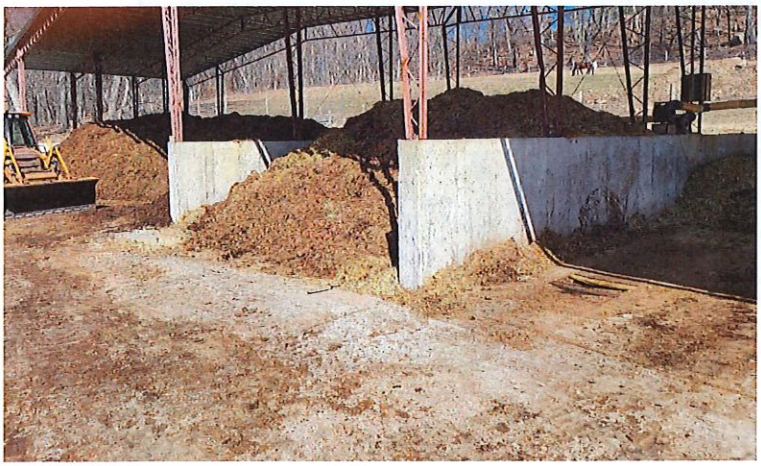
- **Collecting Run-off**
  - Detention basin
  - Minimizing the volume of run-off
  - Focusing on areas of fresh organic matter and actively composting piles
  - Reuse run-off if possible

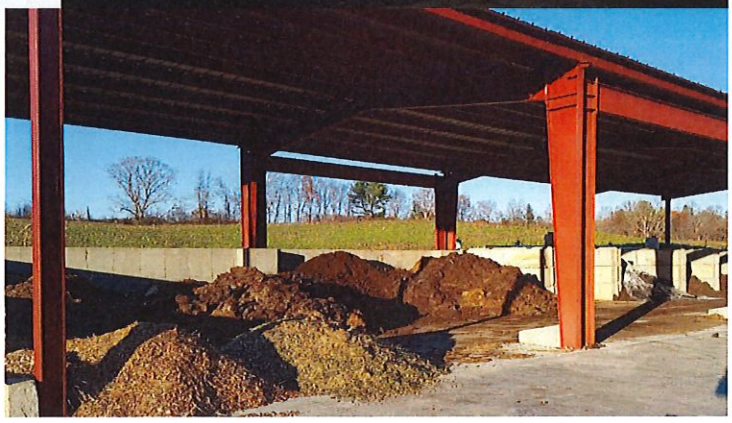
Dirt Hugger

111 E Rockland. Dallesport WA. 98617 | 541.946.3478 | www.dirthugger.com

Levels of Surface Water/Leachate Management

- **Covering the operation**
  - Very expensive and often requires adding water to keep the compost piles cooking efficiently

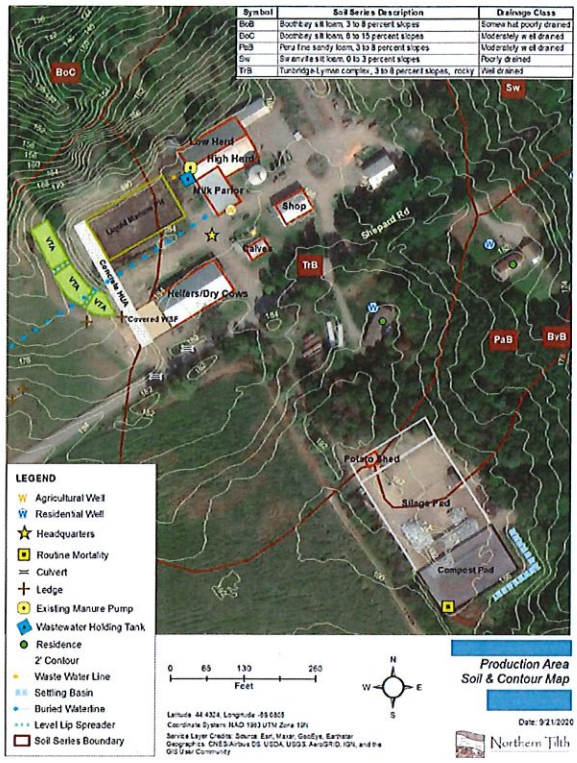


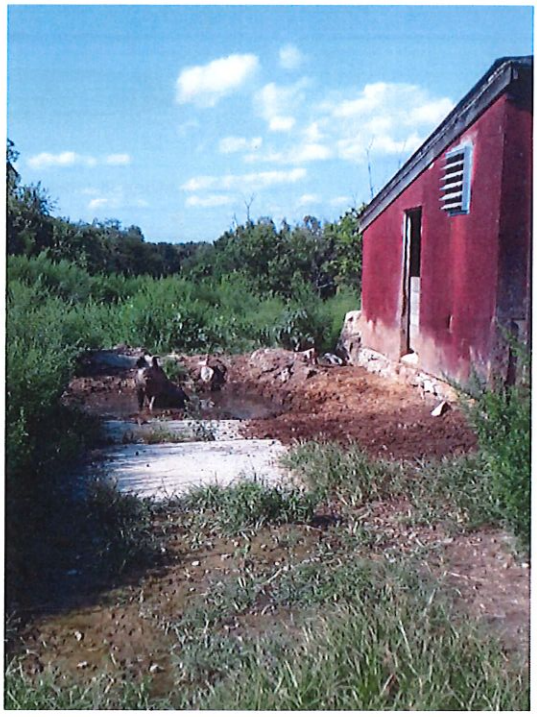


Siting Considerations – Minimize Equipment and Material Movement and use Site Topography to Your Advantage

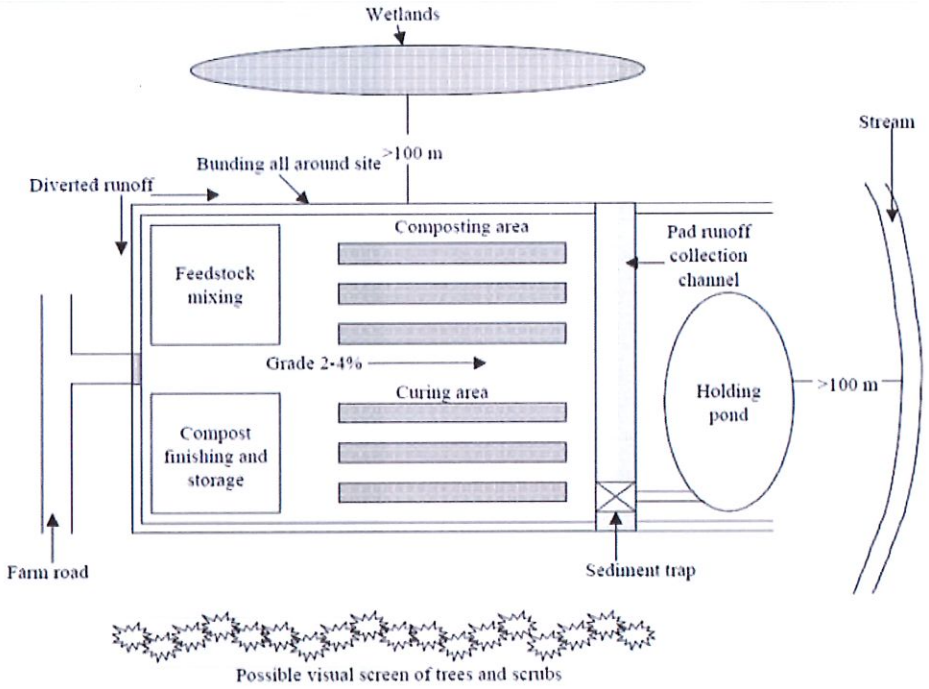
Push-off into waste receiving area

Siting Considerations – Proximity to other operations





Siting Considerations – Layout of Operations

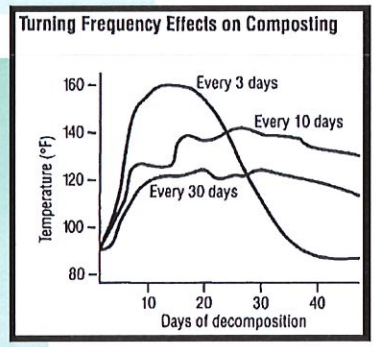


Siting Considerations – Odors/Neighbors

- The importance of minimizing nuisance odors and developing strong working relationships with neighbors can not be over emphasized!!!!
  - There are scores (likely hundreds) of examples of otherwise well-run composting operations being shut down due to odor concerns from neighbors
- In addition to siting operations that are not visual eyesores (people often smell with their eyes [they don't really, but you know what I mean]), it is important to take into account wind direction, and keeping your neighbors apprised of your operations
  - Invite them over to check it out
  - give them a little compost for their gardens
  - Compost their dead pets; whatever it takes!

Managing the Microbes – Moisture & Oxygen

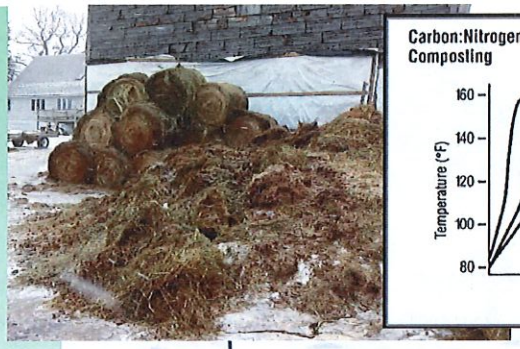
- Moisture
  - 50-60% is optimal moisture content for compost piles
  - Squeeze test
- Oxygen
  - 5-10% is optimal oxygen content of the pile (air is 20%)
    - Too little, microbes can't breathe. Too much air, the pile is too porous.
  - Particle size – a mix is best
  - Bulk density
  - Turning
  - Can tell if pile is getting enough oxygen based on temperature

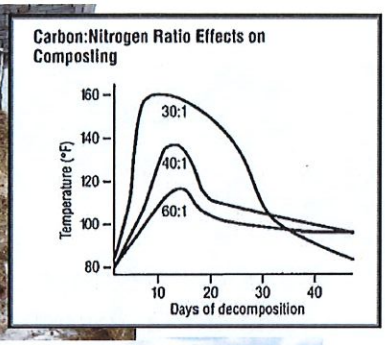


Managing the Microbes – Carbon & Nitrogen

Microbes need the correct balance of carbon & nitrogen in their diet

- Ratio of 20:1 to 30:1 is ideal
  - If too much carbon, the process will proceed very slowly
  - If too much nitrogen, ammonia will be lost in the process
- Correct ratio achieved by mixing feedstocks
  - High carbon examples: hay, sawdust, leaves
  - High nitrogen examples: manure, food waste, green grass





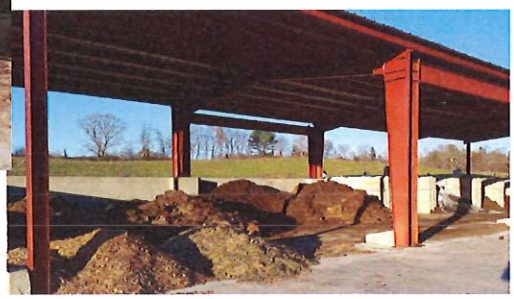
Compost Management

- Choose your feedstocks carefully and realistically
  - If you are composting horse manure, the need for additional feedstocks will likely be minimal
  - If you are composting chicken manure, seafood waste, food waste or other moist, nitrogen-rich materials, the need for additional carbon and/or structural aids (to improve porosity) will be considerable; do not underestimate this cost when planning your operation
    - Impacts both cost and volume estimates

Compost Management

- Build your piles and monitor
  - Blend feedstocks as homogenously as possible
  - Aerate
  - Monitor temperature
  - Monitor odor (qualitatively)
  - Refine recipe and management as necessary

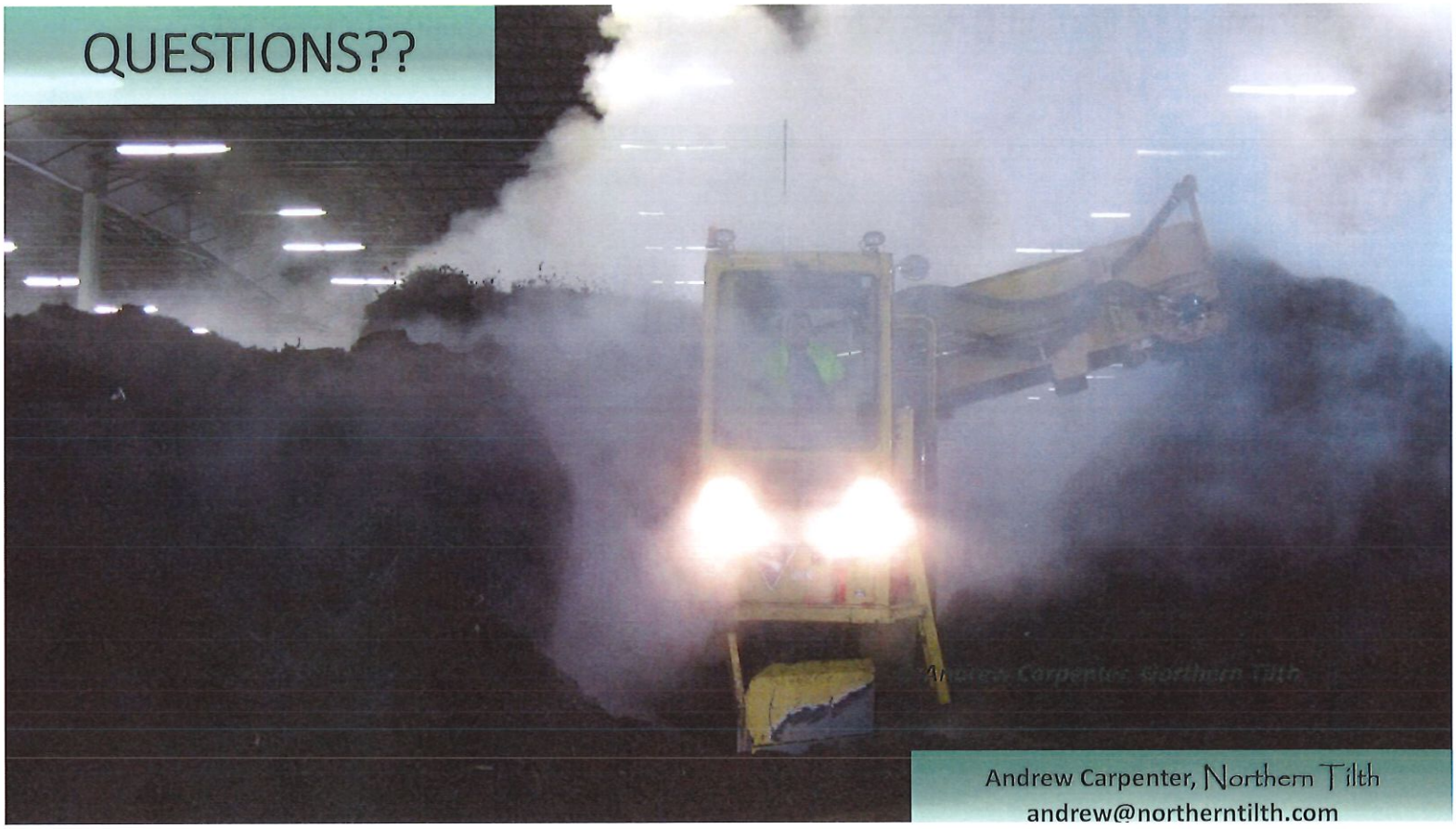
USDA NRCS Cost-Share and Engineering Assistance for Farms



Summary of Planning Items for Addressing Water Quality Concerns

- Separate clean water from dirty water
- Choose sites in the landscape that will minimize the potential for untreated water coming into contact with surface water
- Minimize the amount of water coming into contact with feedstocks and actively composting piles
- Provide some treatment for the dirty water
- Avoid direct conduits of dirty water to waterbodies and other sensitive resources
- Balance the nature and volume of your feedstocks and compost as efficiently as possible (that is, provide the best possible environment for allowing microbes to transform organic wastes into more mature organic matter)

QUESTIONS??



Andrew Carpenter, Northern Tilth
andrew@northerntilth.com

Buzzard Bays Coalition Two-Part Webinar Series: Agricultural Composting

July 2021

RECYCLINGWORKS
MASSACHUSETTS

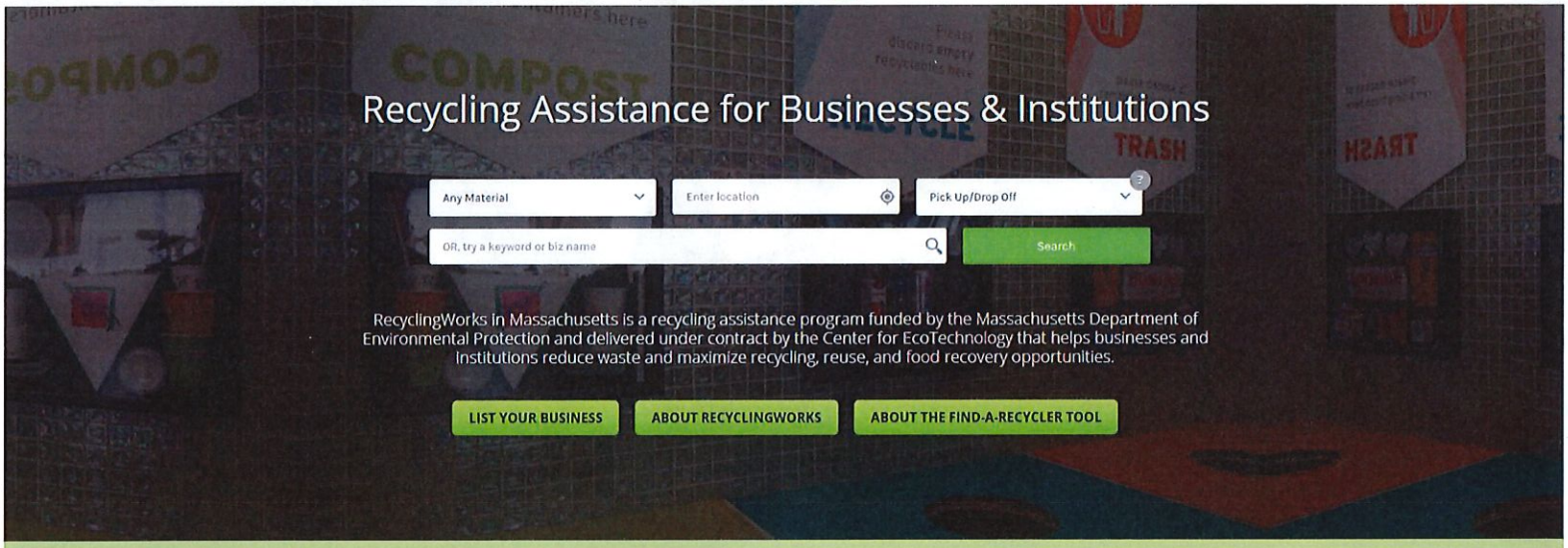
RECYCLINGWORKS
MASSACHUSETTS

FREE ASSISTANCE FOR BUSINESSES & INSTITUTIONS

RecyclingWorks MA is funded by MassDEP, delivered under contract by the Center for EcoTechnology

recyclingworksma.com

Find-A-Recycler Tool



recyclingworksma.com


How Can
RecyclingWorks Help?
Online Resources
Technical Assistance
Events and Workshops
Phone and Email Hotline:
888.254.5525
Info@RecyclingWorksMa.com


Compost Site Technical Assistance
Assist sites with composting food materials
Site layout and design
Operational best management practices
Pest and odor management
recyclingworksma.com/learn-more/compost-site-technical-assistance

COMPOSTING FOOD SCRAPS AT MUNICIPAL FACILITIES

COMMUNITY TOOLKIT:

Adding Food Waste to a Yard Trimmings Compost Facility

SECTIONS:

I. Why Do You Want to Compost Food Waste?
II. Is Your Yard Trimmings Composting Site Food Waste Ready?
III. Best Practices to Compost Food Waste
IV. Food Waste Collection & Hauling Considerations
V. Food Waste Composting Regulatory Requirements (State, Local)
VI. Types of Food Waste to be Composted
VII. Costs and Economic Considerations
VIII. Compost Markets
IX. Final Takeaways

CET CENTER FOR ECOTECHNOLOGY

wastedfood.cetonline.org/Community-Toolkit-Yard-Trimmings-Food-Scraps

BIOCYCLE

PRACTICE PHYSICAL SITE ASSESSMENT

Time to Assess if Your Site is Food Waste Ready!

1. Composting pad surface type?

[ ] Compacted dirt pad
[ ] Compacted gravel pad
[ ] Low permeability pad, e.g., concrete, asphalt
[ ] Other: _____
Minimum: Compacted gravel pad
Better: Low permeability pad, e.g., concrete, asphalt

2. Can site accommodate incoming truckloads (packer, dump truck, trailer) of food waste?

[ ] Yes [ ] No
Minimum: Yes, if only getting pick-up truck loads or self-hauled loads from households and small businesses
Better: Yes, able to accommodate truckloads

3. Does site have space for a dedicated food waste receiving area?

[ ] Yes [ ] No
Minimum: Able to create space as needed when receive loads of food waste
Better: Have a dedicated food waste receiving area

4. Storm water and leachate management, retention ponds

[ ] Collect and retain all storm water in pond
[ ] Vegetated buffers and treatment areas, vegetated filter strips to treat storm water as it runs off site
[ ] Sloped pad to capture leachate from active composting piles
[ ] Other
Minimum: Have buffers and treatment areas
Better: Have sloped pad to capture leachate

FOOD WASTE COMPOSTING GROUND RULES

1. Always have carbonaceous material (e.g., wood chips, ground brush, mulch, screened overs) available to mix with incoming food waste.

2. Never let a fresh load of food waste sit on the pad once unloaded. Immediately mix in carbon amendment (roughly 3 parts carbon to 1-part food waste). If you can't mix the food waste with the amendment within the first hour after receipt, cover the food waste with a 3- to 4-inch layer of compost or a 6- to 8-inch layer of wood chips to deter birds and other vectors.

3. Incorporate mixed feedstocks into an active composting pile as soon as possible. Once all incoming loads are processed and in the windrow, consider putting a layer of wood chips or finished compost on the surface to suppress odors.

4. At the end of the day — or even twice a day — scrape down the surface of the food waste receiving area to eliminate any fresh food waste remnants.

Funding Opportunities for Compost Sites

MassDEP Recycling Business Development Grant

MassDEP Recycling Loan Fund

MDAR Massachusetts Agriculture Composting Improvement Grant Program

USDA Rural Development Program

THANK YOU!

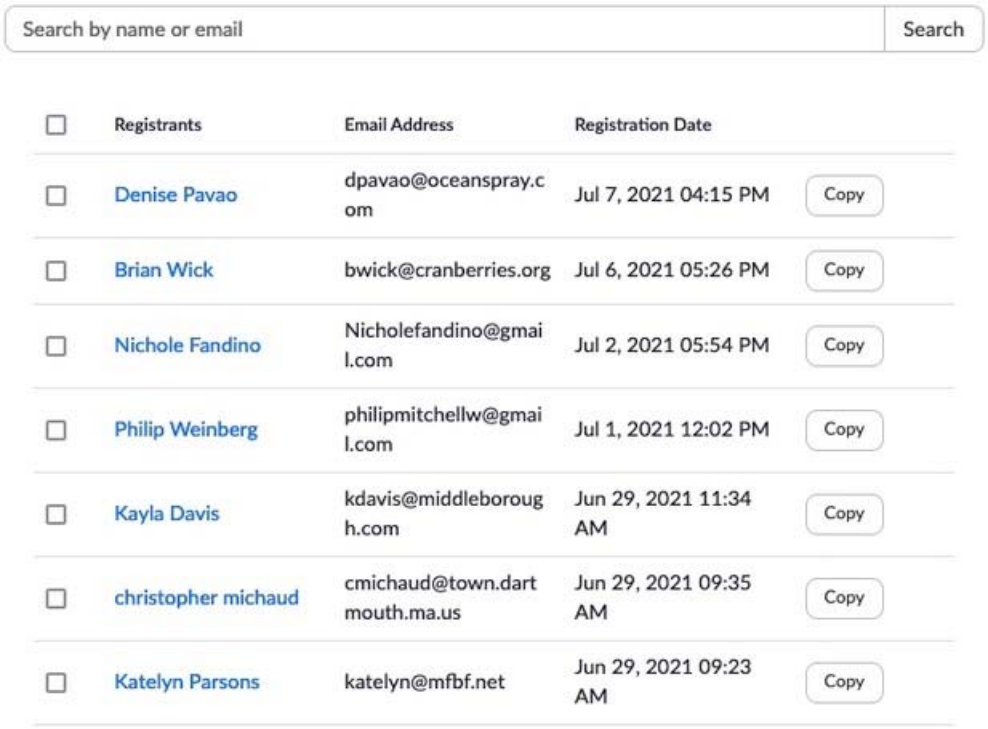
Contact Info

RecyclingWorks Hotline
(888) 254-5525
Info@RecyclingWorksMa.com
www.recyclingworksma.com

RECYCLINGWORKS
MASSACHUSETTS

Korrin Petersen

From: Patrick Field <pfield@cbi.org> on behalf of Patrick Field
Sent: Thursday, July 8, 2021 10:16 AM
To: Korrin Petersen
Subject: Registration



Light registration indeed so a reminder would be really good.

Patrick Field
Senior Mediator
Consensus Building Institute
(o) 617-844-1118
(c) 857-998-0481

LOCAL BOARD OF HEALTH FOCUS GROUP

Composting of Food Waste and Water Quality

Tuesday, August 10, 2021, 1:00PM-2:30PM

https://cbuilding.zoom.us/j/91630084272

1:00 **Brief Introductions and Grant Overview**
- Patrick Field, Facilitator

1:05 **State Regulation Overview**
- Korrin Petersen, Buzzards Bay Coalition

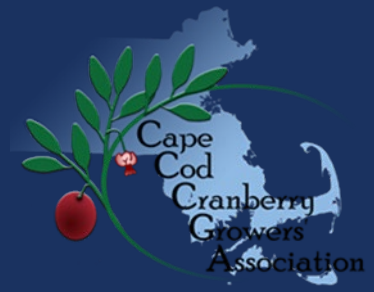
1:10 **Composting in Your Community**
- Discuss the extent of composting.
- What works?
- What doesn't work?
- What needs to be changed?

2:00 **Next Steps in the Process**
- Korrin Petersen, Buzzards Bay Coalition
- Brief overview of process moving forward
- Questions

Adjourn

COMPOSTING – BOH FOCUS GROUP

BUILDING STAKEHOLDER CONSENSUS TO PREVENT NUTRIENT POLLUTION FROM COMPOSTING FOOD WASTE



COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- In 2014, Massachusetts banned the disposal of organic waste in landfills – a clear environmental victory. Instead of shipping food waste to landfills, producers of organic waste are now required to find alternative disposal or reuse options.

- While **composting, as opposed to landfilling, has clear environmental benefits,** there are best management practices that must be followed in order to ensure that composting operations don't adversely impact water quality.

COMPOSTING AND WATER QUALITY – WHY WE ARE HERE

- The challenge this project seeks to address is to support composting while ensuring that the composting operation and siting are protective of our water resources.
  - What do food waste producers need?
  - What do composting operations need?
  - What regulations apply to which composting operations?
  - Are we protecting water quality?

- Received grant from Southeast New England Program Watershed Grants which are funded by the USEPA through a collaboration with Restore America's Estuaries.

REGULATION OVERVIEW - MASSDEP

- DEP Site Assignment Regulations for Solid Waste Facilities: 310 CMR 16.00
  - Exemptions
    - Activities located at an Agricultural Unit provided that comply with DAR guidelines and regulations.
    - Small composting operations. Composting less than 20cy or less than 10 tons per week. Notification form to MassDEP and BOH.
  - General Permits
    - No more than 105 tons/week and no more than 30 tons/day of Group 2 materials.
    - Contains no more than 5,000 cubic yards of organic material per acre.
    - No more than 50,000 cubic yards of organic material on site at one time.
    - Located at least 250 feet away from water supply well.
    - General and specific BMPs.
  - RCC

REGULATION OVERVIEW - MASSDAR

- MDAR Registration allows farms to accept organic material from offsite for the purpose of composting.
  - Must incorporate BMPs
  - Not create a public nuisance
  - Comply with MDAR Regulations and Guidelines:
    - 5,000 cy/acre of compost on site
    - 15,000 cy total volume restriction
    - 75 tons/week max of Group 2 materials
    - Composting operation no more than 10% of commercial production area with a max of 10 acres
    - 250 foot set back from well
    - 100 foot set back from property line
    - 25% Rule. 25% of material comes from farm or 25% of finished material applied to farm
    - Mandatory Training
    - Odor Management Plans
    - BOH Notification

ORGANIC MATERIALS

Table 1 Examples of Organic Materials			
Group 1 Organic Materials		Group 2 Organic Materials	
Example Materials	C:N ratio	Example Materials	C:N ratio
Clean Wood	100-1300:1	Vegetables	11-19:1
Cardboard	560:1	Food material	14-16:1
Paper & paper products	125-850:1	Grass Clippings	17:1
Leaves	40-80:1	Green plant material	15-19:1
Straw	60-80:1	Fish waste	2-5:1
Corn stalks	60-75:1	Manure	6-14:1
Shrub trimmings	50:1	Solid & liquid digestate from aerobic & anaerobic processes	variable

DISCUSSION

NEXT STEPS

- Focus Groups by Sector to discuss any challenges stakeholders are facing.
  - Proposed Groups
    - Local Boards of Health
    - Composters – Individual Meetings
    - Producers of Organic Waste – Individual Meetings
    - State Regulators
- Who are we missing?
- Contact – Korrin Petersen Petersen@savebuzzardsbay.org

Questions for Composters (Ag and non-ag):

Identify composters who are willing to discuss the issue.

Summary of the issue:

Information we need to know from the people actually doing the work to compost:

- Tell me a bit about your composting operation.
  - Why do you do composting?
  - What percentage of the material that you compost is sold?
  - What do you do with the compost?
  - What parts are most labor or cost intensive? Least?

- What are some of the challenges of composting food waste?

- Are you DAR and/or DEP registered?
  - In your opinion which one is better? Which agency is easier to work with? Is it easy to work with local BOH?

- What kind of guidance or technical assistance have you received?
  - From whom?
  - Do you need more or less? Either way, please describe.

- What is your sense of composting's impact on surface water quality? Groundwater quality?

- Here's some ideas that have been proposed to protect water quality. Tell me if you think they would have an impact on water quality and what impact they would have on your operations.
  - Required plot plans by a professional engineer required for siting of composting operations?
  - Concrete pad requirements?
  - Buffer requirements such as . . . . ?

Commented [PF1]: Folks will ask if these will be applied retroactively to existing or only for new or expansions. How to handle that?

KP or PF	Composter	DEP/DAR
PF	Clear Run Farms	DAR
PF	Decas Cranberry Products	DAR
PF	Double S Farms	DAR/DEP
PF	Faria Farm	DAR
PF	Hayward Farm	DAR
PF	Leonard Beef Co, Inc	DAR
PF	Morning Glory Farm	DAR
PF	Olde Dartmouth Farm	DAR/DEP
PF	Pine Hill Farm	DAR
PF	Sylvan Nursery, Inc	DAR
PF	Westport Rivers Winery	DAR
PF	Bunker Tree Farm	DEP
PF	CRMC Bioenergy Project	DEP
PF	Waste Options Bedminster	DEP

Location	Contact	Phone Num	Website
39 Miller Street Rehoboth, MA		5083362277	
4 Old Forge Drive Carver, MA		5088668506	
451 Highland Ave Dartmouth, MA		5083268894	
123 Perry Hill Road Acushnet		5083865328	
98 Ring Road Plympton, MA			http://www.hayward.bz/
105 Kingman Street Lakeville, MA			
100 Meshacket Road Edgatown		5086279003	On FB
264 Smith Neck Road Dartmouth, MA	Tom Kirby		
159 Plain Street Taunton		774 265 3042	pinehillfarm03@aol.com
1028 Horseneck Road Westport		5086364573	https://sylvannurseries.com/
417B Hixbridge Road Westport			https://www.westportrivers.
888 West Falmouth Highway Falmouth, MA	Mary Ryther	7743921440	http://www.bunkertreefarm
300 Samuel Barnet Boulevard New Bedford		5083393074	
188 Madaket Road Nantucket	Nathan Widell	2155954218	

Type of Farm	Notes
Beef Black Angus and Herefords	
Cranberry	Can see some composting from google maps
Horse Farm	Looks like a major composting operation. Listed on Recycling Works as accepting food waste. Need to talk to these folks.
Cows and Horses	
Cranberries, horse,	Looks like a major composting operation. Accepting horse manure from offsite. Right along Jones River Brook -
Cows	Looks like a septic business in addition to composting from google
Horse Farm	KP has talked to Tom in Dec 2021. Seems willing to talk about the issue.
Horse Farm	Looks like a big composting operation
Nursery	
com/	
Christmas Tree Farm	Can see wind rows from google earth
Anerobic Digester	
	Looks like the landfill/composting operation for the island

Southern Massachusetts Commercial Composter Perspectives on Water Quality Impacts and Composting Support Needs

Summary Report

Prepared by The Consensus Building Institute (CBI) in August of 2022

Background

In 2014, the Commonwealth of Massachusetts passed a state law banning the disposal of organic waste in landfills. This ban led to a host of operators stepping up to provide composting services, diverting vast amounts of food and food processing waste from the Commonwealth's already overburdened landfills while also providing nutrient-rich natural compost to grow local crops. While an environmental victory, the diversion of organic waste from traditional landfills and the expansion of large-scale composting has also led to water quality challenges.

To address these water quality challenges, in 2019 the Southeast New England Watershed Program provided a grant to the Buzzards Bay Coalition to convene a stakeholder process to explore and build consensus around model composting regulations that support and encourage composting while preventing nitrogen pollution in Massachusetts' iconic coastal estuaries. The Massachusetts Farm Bureau partnered in this endeavor to ensure that commercial organic waste landfill operators can be successful while protecting the environment.

This greater engagement effort was indefinitely put on hold due to the onset of the COVID-19 pandemic. As an alternative to a collective stakeholder process, the Buzzard's Bay Coalition contracted non-partisan facilitation group CBI to interview local large-scale composters and document their perspectives, unattributed for confidentiality, to inform the Buzzards Bay Coalition and its partners. This report reflects the perspectives expressed in those interviews. The outcomes of this report may inform future efforts to support and encourage composting while preventing nitrogen pollution in Massachusetts' coastal estuaries.

Process Design

CBI reached out by email and phone to fifteen contacts provided by the Farm Bureau and the Buzzards Bay Coalition and interviewed seven of these contacts. Of these seven, five are composters registered with the state of Massachusetts, one is not registered, and one is a supplier of organic waste to multiple composters. Composters interviewed included plant nurseries, vineyards, stock farms, small produce farms, and large-scale landfills. To maintain confidentiality of such a small group of participants, the names of the interviewees and their businesses are not included in this report.

CBI conducted interviews from May to July 2022, interviews ranged from 20 to 90 minutes, and participants responded to these core questions, modified as needed to suit the unique circumstances of each interviewee:

- Describe your composting operation.
    - Why do you compost?
    - What do you do with the compost?
    - What percentage of the material that you compost is sold?
    - What parts are most labor or cost intensive? Least?
- What are some of the challenges of composting food waste?
- Are you registered with Massachusetts Department of Agriculture (DAR) and/or Department of Environmental Protect (DEP)? In your opinion, which is better? Which agency is easier to work with?
- What kind of guidance or technical assistance have you received?
    - From whom?
    - Do you need more or less?
- What is your sense of composting's impact on surface water quality? Groundwater quality?
- What is your perspective on the viability of each of these proposed water quality protection measures?
    - Plot plans by a PE required for siting of composting operations
    - Concrete pad requirements
    - Buffer requirements
    - Other measures?

Interview Results

The results of the interviews are described below with a summary statement and specific bulleted points shared by interviewees. The points are paraphrased with similar comments combined into one bullet. Asterisks next to a bulleted point indicate the perspective was shared by multiple interviewees.

Challenges of composting food waste

The interviewed composters all described their operations as being low-effort and largely mechanized. The greatest composting challenges they identified related to regulations and registration fees for commercial composting and limited capacity to take in compost. Several of the interviewees do not compost much food waste, if any, but rather yard/farm clippings and trimmings, with some on-farm animal manure and cranberry pumice (a biproduct of cranberry juicing, produced by local cranberry farms and processed and distributed by Ocean Spray).

Composters provided the following comments about challenges to composting food waste on a large scale and under state permits:

Fees & Composting Capacity Challenges

- Yearly fees paid to DAR are a barrier to commercial composting. *
- The State approached this farm to help get rid of organic waste, but now the farm has to pay a registration fee for providing this public service; that's not right.
- The annual composting license renewal fees may not be worth paying for going forward because some years the farm does not take in any external food waste.
- We like to compost but if the regulations or fees increase, we will have to stop.
- Limited capacity for compost is a challenge – many composters are small mom and pop shops.
- The farm has too much compost and there's not a market to sell it.

Policy & Legal Challenges

- There are few incentives and many policy and financial disincentives for composting and farming in general.
- New state concerns with perfluorooctane sulfonic acid (PFoS) have halted commercial distribution of compost and it is taking time for the state to develop regulations to allow distribution again.
- This farm cannot legally become a certified commercial composter because restrictions in its land easement prevent it from having a commercial scale and collecting tipping fees.
- The fact that the DAR composting permit gives the agency the right to inspect at any time discourages some farmers from registering as commercial composters.
- The state is imposing more rules and regulations that make it difficult to farm effectively.
- A farm composting only onsite vegetable, fruit, and landscaping waste for onsite use and free distribution to neighbors should not have to follow the same guidelines as operations composting meat and selling the product.
- Composting farmers should collaborate with agencies and feel safe about it, but many farmers fear being shut down or having their land taken for not abiding by exacting regulations.

Physical Challenges

- Composting requires minimal labor; most of the operations are automated. ***
- Managing what others throw in with food waste to be composted is challenging but can be addressed with clear standards and communication. *
- Screening and placing the compost into windrows is the most labor-intensive aspect.
- Seagulls attracted to the compost can be a nuisance.

Why compost

Most interviewees had been composting on their agricultural land long before the 2014 ban on organic waste in landfills. They provided the following comments about why they compost:

- It's the most efficient way to dispose of organic waste, it's the obvious choice for anyone with some property. **

- Compost helps build soil and nutrients for farm operations, it's a good alternative to reduce use of synthetic fertilizers.
- The nursery uses the compost product to fill holes where trees are dug out; it's not used in nursery operations because of the high weed seed content.

State registration and relationship with agencies

Composters provided feedback on their impressions of the Massachusetts Department of Agricultural Resources (DAR), Department of Environmental Protection (DEP), and any other regulating agencies they work with. A minority of the interviewees had only a vague knowledge or understanding of these entities and their roles and reported to have not interacted with them in many years. There was a general sense from those familiar with the state agencies that, as one farmer put it, "DAR is a supporter of agriculture and DEP is an enforcer of laws."

Impressions of DAR

- DAR has always been helpful and is not difficult to work with.
- Because DAR has just one person that handles composting, it's easier to build relationships.
- DAR is easier to work with; DAR is seen as a farmer's helper, it's in the name.

Impressions of DEP

- There seems to be a lot of grey area in how DEP implements its regulations.
- Many people see DEP as solely enforcement.
- DEP seems to have a more powerful regulatory arsenal than DAR.
- The DEP director seems passionate about his job.

General Comments on Relationships with Regulators

- Composting farmers should collaborate with agencies and feel safe about it, but many farmers fear being shut down or having their land taken.
- When regulators are under pressure from the public, they tend to rush to make regulatory decisions.
- Massachusetts is one of the more sophisticated states and while they may pass stringent regulations at first, they do quite a bit of background research to inform their final policy decisions.
- The landfill is highly regulated to maintain a beneficial use determination; operation as a landfill requires about 40 different permits for not following regulations precisely.

Lack of Impression of State Agencies

- No opinion on whether DAR or DEP is better
- We haven't had any complaints, so the state agencies don't bother us. They haven't come by in 20 years.
- Years ago, we would implement whatever the state inspector would tell us to so that they wouldn't bother us anymore, and they haven't.

Guidance or technical assistance

Nearly all of the composters indicated they received some guidance when they were starting up, and that a new operation might benefit from such guidance. However, as well-established composters, most felt they did not need additional support. While some interviewees expressed that they had not received support, through further conversation nearly all the composters were able to name some guidance or technical assistance received.

Positive Sources of Support

- DAR staff quickly respond to questions or requests for further support. *
- DAR has a good website with links to valuable resources.
- DAR provides a 6-page guide to composting.
- Resources from DAR and DEP are sufficient.
- DEP's guidance has helped us to develop a better compost product.
- DEP composting workshops have been helpful.
- NRCS likes to solve problems and has provided grants for cement pads.
- NRCS engineered our composting site.
- Our composting recipe came from Cornell University.
- When neighbors complained about the strong smell of cranberry waste, Ocean Spray provided a recipe for a mix that reduced the odor.
- The landfill utilizes technical assistance support: a professional engineer (PE) that provides an enormous amount of technical data, an assortment of consultants that ensure compliance with permits, support from the Northeast Biosolids & Residuals Association (NEBRA), and heavy investment in research and development for best industrial-scale composting practices.

Suggestions for Support or Guidance

- The State should provide free water quality monitoring to composters.
- DEP recommended a 4-day composting school in Maine, but the costs of the school, transportation, food, and lodging are all cost prohibitive. It would remove a barrier if the state could cover some or all the costs.
- DEP's recommended practices need to be revised to reflect the static nature of beneficial fungal populations in compost. Scientists, farmers, and agency representatives can collaborate on this.
- DEP's guidance is too fuel-intensive.
- DEP's guidance is for a more sterile compost than is ideal. NRCS seems to support more integrative, less "sterile" composting and land management practices.
- We fear that DEP guidance will contradict NRCS guidance.
- A composting digester that creates electricity was proposed nearby; that would be great to have.

Lack of Need or Support

- We have not reached out for support; we have been composting for decades and have a solid operation. **

Commented [PF1]: Sophie may need to clarify this.

- We do not need more guidance. **
- DAR's staffing is minimal; I don't know what they can provide for guidance given their limited resources.
- We had relationships with some agency staff when the farm started but don't know anyone there now.

Composting's impact on water quality

Except for the landfill operator, interviewees expressed few insights and minimal knowledge about water quality issues beyond their own operations. The landfill staff expressed detailed understanding of different water quality concerns and a thorough system for protecting groundwater. At the time of the interview, the landfill's public distribution of compost was on hold due to concerns about the presence of PFOS in compost and potential for groundwater contamination from PFOS; many of the comments from the landfill operator addressed this issue.

Understanding of Water Quality Issues

- I don't have any understanding of water quality impacts; I haven't seen any data. *
- DAR has not talked to us about water quality impacts.
- The degree of risk for negative water quality impacts depends on the type of operation.
- Poor grading or too much compaction can lead to water quality issues.
- Cement pads can help prevent water quality impacts.

Individual Operations

- We water very sparingly, and our water quality testing has always been good.
- We don't have an issue because our composting pad is well engineered.
- Our water comes from local ponds, we don't have streams nearby to impact.
- We drink from the well on our property and the water always tastes good.

Observations of Other Operations

- Because of regulations, many New England farmers bury their organic waste to hide it, which puts dangerous amounts of nutrients in the ground.
- Bristol County Conservation District had an issue with manure storage impacting water quality.

Perspective on proposed water quality protection measures

Interviewees were asked their perspective on the viability of three proposed water quality protection measures: plot plans by a PE, concrete pad requirements, and buffer requirements. Close to half of interviewees were open to the idea of any of the water quality protection measures, if they were paid for or subsidized by regulators. Most composters were highly critical of regulators applying any "one size fits all" approach to individual operations, and particularly wary of outsiders directing their farm operations. The following comments broadly describe interviewees impressions of composting requirements for water quality protection measures, and reactions to the specific proposed ideas are detailed below:

- We can talk about recycling all day long, but if it costs too much money people won't do it.
- The state should relax requirements to encourage more composters to come to the table; many people are already composting and should be welcomed. Don't keep scaring them away.
- The landfill is highly regulated. Applying the same water quality protection requirements for landfills to smaller scale composters would be overly burdensome.

Plot plans by a PE required for siting of composting operations

Composters generally felt that a professionally engineered plot plan would be overly expensive. Most expressed a willingness to work with someone knowledgeable about engineering to design such a plan but were clear that a farmer's knowledge of their own operation should not be overruled by an outsider, no matter the outsider's formal qualifications. These operators expressed distrust that a professional engineering certificate would provide an advantage over a farmer's decades of understanding of their own property.

Interviewees provided the following comments about a requirement for PEs to plan plots for commercial composting operations:

- The people that work the land should have as much or more say in a plan than an engineer. *
- Required plot plans seem excessive and would not be a good use of time and money. *
- This sounds very expensive. *
- Plans are always good, but plans need to be flexible and allow for adaptive management.
- This is already required for landfills with a stormwater management system.

Concrete pad requirements

Half of the interviewed composters expressed an openness to installing concrete pads, but only with financial support. Most were opposed to the idea of concrete pads as a requirement, noting that they may not be necessary for all operations, and may even be less beneficial to water quality than natural soil filtration. Composters provided the following comments about a proposed concrete pad requirement:

<u>Cost Considerations</u>

- We would do this if there was financial support from DAR or DEP. Subsidizing concrete pads would serve the common good. *
- Concrete pads are obviously a huge expense.
- This would be cost prohibitive for many farmers; we need to make commercial composting more accessible, not less.

<u>Support & Benefits</u>

- Pads can allow collection of runoff, which can then be recirculated or treated. *

- Concrete pads would be hugely beneficial and make it easier to turn piles.

Efficacy Doubts

- The runoff from a concrete pad would decrease water quality compared to filtering through the ground. *
- This requirement could be a deterrent for composters who already have their operations set up in a way that works for them.
- A pad is good if you need it, but our operation doesn't need it.
- Concrete pads would not be beneficial.

Buffer requirements

Interviewees wanted more information about what kinds of buffer requirements would be proposed, and for what specific purposes. Most seemed to take for granted that there need to be buffers between water bodies and composting operations, and they assumed buffer requirements were already in place. They provided the following comments about buffer requirements:

- We would need more clarity on what kind of buffers before providing feedback. ***
- If the buffer is specifically to protect wetlands that's good, but if it's for visual and smell aesthetics, that seems like prioritizing wealthy sensibilities over farming needs. If people move into a farming community, they need to understand that sights and smells of a farm are an integral part of what they are moving into. *
- Buffer needs would depend on the topography of an individual farm; a one size fits all approach does not work for buffers.
- Buffer requirements need to be reasonable. A compost facility can't operate within wetlands or be built 10-20 feet from a neighbor, but it's not realistic to require a composting site to be 50 miles away from any residences.
- The permeability of the ground under the compost operation is more important than the surrounding environment.
- There is already a minimum distance requirement from water sources for siting composting operations.

Additional supportive practices

Interviewees provided additional examples of regulations and practices that encourage, or could encourage, composting and minimize negative water quality impacts from composting:

- To mitigate manure leachate from cow sheds, NRCS engineers recommended a clay liner to stop infiltration and allow brown water to run down a trench into a vegetated treatment area.
- Nantucket has regulations on nitrogen and phosphorous loads to local water bodies. Based on minimal required testing, they determine how much manure a farmer can apply per acre.
- A filtration system like granular activated carbon helps to filter out granular PFOS.

- Before the landfill could legally distribute compost, it conducted multiple rounds of testing with certified labs to determine concentrations of lead, chromium, mercury, or volatiles.
- Regulating the final composting product is certainly important, but PFOS, for example, comes into compost from the waste stream. That is where regulation needs to take place; if a material cannot be safely disposed of, it should not be allowed into production.
- Sugar from Ocean Spray's cranberry waste helps speed up the composting process and helps break down other products faster.
- The farm's original composting permit required a contingency plan for flooding. The plan is to put hay bales on the edge of the property.
- Protecting water quality is simple; try to contain any brown water and let mother nature break down the compost and filter out any leachate.

Next Steps

The Buzzard's Bay Coalition will develop suggested guidance on new composting regulations based on the input from composters in this summary as well as information from the Department of Public Health. After developing the draft proposed regulations, the Coalition will seek further input from composters, regulators, and the Boards of Health before submittal to the Commonwealth of Massachusetts.