EBC Solid Waste Management Program:
New England Regional Conference of State Solid Waste Directors
Welcome

David Murphy

Chair, EBC Solid Waste Management Committee

Vice President, Tighe & Bond
Welcome to the Massachusetts Division of Fisheries & Wildlife

Jon Regosin

Deputy Director
Program Purpose – What You Will Learn

Steve Wright

Program Chair

Vice President, Sanborn Head
Solid Waste Management Issues for Massachusetts

Greg Cooper

Director

Business Compliance & Recycling Division

Bureau of Air & Waste

Massachusetts DEP
5 PRESSING ISSUES
MASSACHUSETTS SOLID WASTE

GREG COOPER
MASSDEP DIRECTOR OF HAZARDOUS AND SOLID WASTE
June 12, 2019
1. Solid Waste Master Plan

- 10 year planning cycles starting in 1990
- Sets general tone and direction for solid waste management
- 2010-2020 – Reduce waste disposed by 30% - 2017 (13%)


MassDEP did not calculate disposal data for 2013.
2. Compliance with Waste Bans

- >40% of trash is waste ban materials
- Continued non-compliance in waste ban inspections
- Since 2013 - issued nearly 800 NONs and >30 penalties
3. Recycling Markets/Contamination

- Average Commodity Revenues are at all time lows
- Public wants to recycle
- Focusing on reducing contamination and improving markets
- Statewide education, targeted local efforts, market development investments

Municipal Recycling IQ Kit Grant

Recycling Business Development Grants
4. Management Infrastructure

- MassDEP Materials Management Study
  - Landfills/WTE operating at capacity
  - C&D and Organics Processing – excess capacity
  - Transfer capacity available
- Rail transfer projects
- Recycling capacity growth needed
- WTE Facility age
5. **Target Material Diversion**

- **C&D Diversion**
  - Increase performance of processors
  - More separation up front

- **Mattresses**
  - Cost to dispose is now less than to recycle
  - Grants have helped create viable infrastructure

- **Organics Recovery and Recycling**
  - 25% of MSW
  - Great success with <1 ton/week waste ban
  - Looking to go to next step
Solid Waste Management
Issues for Maine

Paula Clark

Director, Division of Materials Management
Bureau of Remediation & Waste Management
Maine DEP
Issues for Maine

- Changing Solid Waste Management Landscape
- 2019 Maine Materials Management Plan
- Product Stewardship
- Organics Management
- PFAS in Biosolids
Changing Solid Waste Management Landscape

- Maine landfills and incinerators: State, municipal, private
- Landfill expansions
- Startup of new MSW processing facility
- Digesters, composting sites and organics collection
2019 Maine Materials Management Plan

• 5-Year update presented to Legislature in January
• Goal: To support the development of a sustainable, economically viable system that directs the resources inherent in waste materials into a “circular economy” while protecting public health and the environment.
• Includes strategies and actions to support and encourage management of wastes further up the solid waste management hierarchy.
• Legislative action required to implement certain strategies.
Product Stewardship

• Annual product stewardship report to the Legislature: current programs and recommendations for new and revised
• Legislative consideration of: packaging, pharmaceuticals, mattresses, batteries, tobacco waste
• Bans on single use plastic bags and polystyrene containers
Organics Management

• Continuing priority in 2019 State Plan
• Focus on Food Recovery Hierarchy
• Food Scrap Composting Pilot Program
• Maine Solid Waste Diversion Grant Program
PFAS in Biosolids

• 3/22/19 directive to licensed facilities to sample/analyze for PFOA, PFOS, PFBS
• Initial sampling by 5/7/19
• Evaluation for exceedances of regulatory screening concentrations
• Governor’s Executive Order creating a task force “to study the threats of PFAS contamination to public health and the environment”
Overview

- CMMS Transformation Efforts (Comprehensive Materials Management Strategy)
- Capacity
- Contracts
- Conversion Technologies
- Compliance Assurance
Comprehensive Materials Management Strategy

The “CMMS”

- 2016 update to Solid Waste Management Plan
- 3 Pillars
  - Improve municipal performance
  - Develop/improve conversion technologies
  - EPR
- Track CMMS progress at CMMS webpage
What’s Still in Connecticut’s Trash?  (as of 2015)

Food Waste, Yard Waste, and Compostable Paper, 31.5%

Construction and Demolition, 14.1%

Plastic, 14.5%

Paper (not incl. Compostable Paper), 17.7%

Glass, 2.4%

Metals, 4.7%

Other Waste, 9.5%

Household Hazardous Waste, 0.6%

Electronics, 2.2%
Waste Transformation Priorities

• Increase recycling and diversion to recover the value from discards

• Ensure that non-recycled waste is managed sustainably including WtE over landfilling, to control environmental and energy costs
  – WtE remain a preferred option during transition to a modernized materials management infrastructure to reach higher diversion rates
Capacity & CT Infrastructure

• No municipal MSW landfills
• Manchester landfill, most diverse open landfill (C&D, soils, bulky waste)
• Few municipal only bulky waste landfills
• 5 remaining WtE/RRFs
  - 2 big, 2,000TPD Hartford/Bridgeport
  - 3 small <1,000TPD Bristol/Lisbon/Preston
  - 2 recently closed
    (Wallingford RRF/Sterling tire RRF)
• 1 Ash landfill, Wheelabrator/Putnam
  - 2019 expansion application filed = 30 yrs
• 1 Wood Fuel only facility, Plainfield
Public Act 14-94

(substantive *Recycling And Materials Management Reform*):

- Set a **60% diversion rate** by 2024
- Established **Materials Innovation and Recycling Authority (MIRA)** as a successor authority to CRRA
- Established **RecycleCT Foundation, Inc.** as an independent entity for state-wide education, financial development and grant allocation
- Required of an RFP to revamp current RDF technology at Mid-Conn WtE facility in Hartford
MIRA RFP

• **Resource Rediscovery webpage**
  - Publicly available info

• RFP schedule/scope
  - Nov.’15 – Dec.’17 proposal review
  - Sacyr Rooney Development Team selected
  - Refurbish RRF, add mechanical/biological process

• Status
  - Contract teams (MIRA/Sacyr) ongoing
  - MIRA town dialog on long term contracts

• Next Steps
  - Contract & construction - OR - rethink project

• MIRA full facility outage, winter 2018/19
  - nearly a waste crisis with 35,000 ton backlog
  - spot light on infrastructure weakness
Capacity & Few Transformation Strategies

- Municipal outreach to adopt unit-based pricing systems (EPA SMART model)

- Anaerobic Digestion is here, composting is expanding - recycling of organics

- **Product Stewardship** / Extended Producer Responsibility (EPR) approaches
CT Extended Producer Responsibility / Product Stewardship Programs

• EPR programs established in CT for:
  – Electronics (E-Waste)
  – Paint
  – Mattresses
  – Mercury Thermostats

• Ongoing regional EPR conversations on:
  – packaging, carpeting, batteries, tires, Pharmaceuticals, etc.
Contracts,
A Transformative Issue

• Where does everything go

• Consistency with CMMS

• Municipal Contracts, CGS 22a-213

• Private Contracts, CGS 22a-241/
Conversion Technologies
Anaerobic Digestion

• 4 Commercial **AD’s permitted** facilities (Bridgeport, 2 – Southington, North Haven)
• Supreme/Quantum Biopower Southington operating near capacity
• 3 other projects pending construction
• Many preapplication discussions
• 2 **Commercial Composting** facilities (Ellington, New Milford)
• **Interactive GIS Map** of large scale food residual generators and processing facilities
Organics Recycling Law Summary (CGS 22a-226e)

Applies to food wholesalers, distributors, manufacturers, processors, supermarkets, resorts & conference centers that:

- Generate 104 tons/yr of Source Separated Organic Material (SSOM), and are
- Within 20 miles of a processing facility
- Must source separate and recycling at any authorized facility with food scrap capacity
- Threshold drops to 52 TPY as of Jan 1, 2020
Conversion Technologies

- Glass
  - CGS 22a-208z
  - Urban Mining N.E.
  - HRRA pilot
- Metal
  - Ash residue recovery
- Soils/sediment
  - Tire Pond cover
  - Tipping Point Resources
- Biomedical Waste
  - Future Health Care Systems
Compliance Assurance

• DEEP’s Compliance Assurance Policy
  – Balanced assistance & enforcement
• COMPASS (Compliance Assistance)
• Recycling Enforcement
  - Inspections, 350+
  - NOVs, 75+
  - Formal actions, 1 penalty action
  - Common violations
    > no recycling program
    > deficient/cardboard only program
    > contract
    > good program but comingling
What Else?

• Contamination
  - China Sword
  - Is the glass half full or half empty?
  - No disposal waivers issued in

• PFAS
  - Internal workgroups
  - External workgroups
  - standards to be developed
  - much more on the horizon
Contacts & Assistance:

- ct.gov/deep

- COMPASS (Compliance Assistance Line)  
  (888) 424-4193

- SWAC / HWAC (Advisory Committees)

- RecycleCT

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Solid Waste Management Issues for New Hampshire

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Five Critical Solid Waste Management Challenges for New Hampshire

Presented by
Mike Wimsatt, Director, Waste Management Division
NH Department of Environmental Services

at
EBC Solid Waste Management Program
New England Regional Conference of State Solid Waste Directors
Westborough, Massachusetts
June 12, 2019
In this presentation:

1. Overview of NHDES’ Solid Waste Program
2. Five Challenges
3. Conclusion
RSA 149-M
NH Solid Waste Management Act

- RSA 149-M:2 establishes a 40% diversion goal
- RSA 149-M:3 Hierarchy of Waste Management
  1. Source reduction
  2. Recycling and reuse
  3. Composting
  4. Waste to energy
  5. Incineration w/o energy recovery
  6. Landfilling
- RSA 149-M:6 charges NHDES to regulate SW Facilities

NH State House, celebrating 200 years in service to the citizens of New Hampshire.
Solid Waste Facilities Regulated

- 270 +/- Operating SW Facilities
  - Transfer Stations / Recycling Centers
  - Processing / Treatment Facilities
  - Landfills

- 150 +/- Auto Salvage Yards

- 360 +/- Asbestos Disposal Sites

- 300 +/- Closed Landfills

- 1500 +/- Solid Waste Operators
NH Solid Waste Disposal Statistics

- Approx. 1.1 M tons of NH-generated waste landfilled in 2018

- Approx. 2.2 M tons total waste landfilled in 2018

- Permitted landfill capacity to 2034 (6 operating MSW landfills)

- Pending and anticipated applications for expansion and a new facility
Challenge No. 1
Incentivizing an Integrated SW Management System

- Negative progress in honoring waste management hierarchy
- Diversion measurement challenges
- Landfilling predominates
- Waste-to-Energy facing pressures
- Agency’s ability to influence is limited - how do we encourage development of waste management infrastructure that upholds the hierarchy?
Challenge No. 2

*Solid Waste Imports*

- Subject to interstate commerce law
- 6 operating landfills - contrasts with neighboring states
- Makes NH attractive for imports

**Consequences**
- Reduces capacity for in-state waste
- Potential impact on public acceptance
- Concerns public and elected officials
Challenge No. 3

**Perfluorochemicals & Other Emerging Contaminants**

- Presence of PFAS in waste streams
- PFAS in leachate and implications for leachate management
- Potential impacts to on-site and off-site groundwater
- Emerging contaminants likely to be ongoing issue in SW management
Challenge No. 4
Weathering the Recycling Markets

- Some municipalities abandoning or curtailing recycling programs due to economics
- NH does not have mandatory recycling
- Impacts on statewide disposal capacity
- Communication - Opportunities & Challenges

The “U.S.S. Recycle” in stormy weather
Challenge No. 5
Closed Landfill Management

- 300+ closed, unlined landfills - largely municipally owned
- Most facilities are at/approaching 30 years post-closure
- Challenges assuring consistent, ongoing long-term care
- General O&M
  - Cap maintenance
  - Landfill gas migration
  - Groundwater monitoring
- Emerging contaminant challenges highlight importance of post-closure care
Five Critical SW Management Challenges for New Hampshire

1. Incentivizing an Integrated SW Management System
2. Solid Waste Imports
3. Perfluorochemicals & Other Emerging Contaminants
4. Weathering the Recycling Markets
5. Closed Landfill Management
Thank you!

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Solid Waste Management Issues for Rhode Island

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5 most critical solid waste management issues in RI

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5 Solid Waste Issues in RI

- Solid Waste Regulatory Changes
- Landfill Capacity and Recycling Issues
- Food Waste
- Pyrolysis
- Additional Emphasis on Transfer Stations
Solid Waste Regulatory Changes Expected in 2019

- Monitoring for PFAS at Landfills
  - 2 Rounds of Groundwater Monitoring for all PFAS compounds
  - Subsequent rounds may be required based on results
  - Groundwater standard 70 ppt PFOA and PFOS
  - RIDOH has not adopted a standard as of yet.

- Streamline process for Solar Panels at Landfills?
  - Stormwater and wetlands simplified for panel on cap of landfill
  - Codification of requirements for construction and monitoring
Additional Solid Waste Rule Changes

- Clarification of status of “Construction and Demolition Debris Separation Facilities”.
  - Defined in the Refuse Disposal Act (R.I.G.L. 23-18.9)
  - Not currently defined in Regulations
  - Defined as a type of Solid Waste Management Facility.

- To include legislative changes that were made to R.I.G.L. 23-9 (Refuse Disposal Act) regarding siting of Construction and Demolition Debris Processing Facilities in accordance with local zoning.
Landfills

- RIRRC anticipated to close in 2032
  - Estimated using 700,000 tons/ year.
  - Now taking about 1,000,000 tons/year

- New Statewide Solid Waste Management Plan expected in 2020
  - Will phase 6 be final phase?
  - What other options (incineration, out of state landfilling)

- No new landfills are opening up in New England
Recycling is mandatory for businesses.
Recycling is required for 17 recyclable categories.
We emphasize that generators should focus on large volume recyclables that have value.
Traditional Recycling

- China “Green Sword” initiative
  - Waste Ban - March 1, 2019
  - Other Countries (Malaysia, India, Philippines followed suit).
  - 99.5% free of contamination
Recycling and Diversion of solid waste

Traditional Recyclables- bottles, cans, paper, plastic
Glass
Leaf and Yard Waste
Food Waste
E-waste
Construction and Demolition Debris
Contaminated Soil and Soil Like Materials
Pyrolysis
Glass

- Plummetting market for recycled glass in region due to shutdown
- RIRRC uses 9,000 tons/year as alternate daily cover (removal of legislative ban)
- New bottler open up in Massachusetts in the near future?
Transfer Stations
Enforcement

- Emphasis on Upgrading non-compliant Facilities
- Warnings followed by levels of enforcement
Lack of Stormwater Management
Lack of Containment of Operations
Poor Containment/Vector Issues
Non- Functioning Drainage Issues
Orbit Energy- Johnston RI

- Designed for 72 tons/day
- Currently not accepting Waste
- Undergoing major retrofit
- Issues with
  - Freezing pipes
  - Metric/specialized parts
  - Depackaging Equipment
Pyrolysis

- Thermal decomposition in Anoxic Environment
- Bill in Legislature to exempt recyclables from permitting
- Application for Pyrolysis of Medical Waste
- Possible interest in other waste streams
- Issues
  - New Technology to North America
  - Air leak in system= incinerator
Hazardous Waste Regulations
Anticipated adoption of 3 rules

- 2015 Generator Improvement Rule
- 2019 EPA Pharmaceutical Waste Rule
- 2018 E-manifest Rule
QUESTIONS/COMMENTS

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Solid Waste Management
Issues for Vermont

Cathy Jamieson

Solid Waste Program Manager
Vermont DEC
Vermont: 5 Critical Solid Waste Issues

EBC of NE
June 2019

Cathy Jamieson, Solid Waste Program Manager
VT ANR Waste Management & Prevention Division
5 Solid Waste Challenges

- PFAS and Emerging Contaminants
- Markets and Costs for Diverted Materials
- Contamination of Recyclables and Organics
- Disposal Capacity and Options
- Single Use Items
PFAS and Emerging Contaminants

- Evolving
- Epic
- Everywhere
PFAS and Emerging Contaminants

- Specific Sites Issues
  - Bennington, Pownal, Rutland

- Sampling Leachate and Closed Landfills (GW)

- Monitoring committed to with NEWSVT permit

- Recent Legislative Requirements
Markets and Cost: Striving for Circular Economy

- Recyclables
  - China Sword Impacts
  - Need to develop more domestic markets,
  - Need to address the increase costs (alternatives?)

- C&D Materials
  - Limited options, hard to make recycling more widespread

- Compost
  - Thin margins, challenges with marketing products
Contamination of Materials

- Single Stream Recycling
  - Wishful recycling
  - Glass
  - Need to meet specs for use as manufacturing inputs

- Organics
  - Inconsistency about containers, bags, plastic ware, etc.
  - Plastics, becoming more of an issue
  - Depackaging, question about non-compostable items getting through

- Statewide outreach:
  - Link to video
    https://www.youtube.com/watch?v=CLP8YUpmFM8&list=PLb5jIRj04Vi9K_60xb8nvmALZ74tEliHs&index=3
Disposal Capacity & Options

- VT has only 1 lined landfill, near northern border
- Public Concern
- S.113 – reporting requirement
Single Use Packaging

- Recyclable vs. Non-recyclable
  - Hard to manage materials

- Impacts when improperly disposed

- Public awareness
Single Use Packaging (S.113, Vermont)

- Bans plastic bags at checkout, plastic straws and stirrers, and polystyrene food and beverage containers

- Stakeholder group to evaluate options for all printed materials and single use packaging, including EPR
Strategies

- Set Goals & Policies, State Plans
- Monitoring and Setting Standards
- Legislation / Mandates
- Bans
- Outreach
- Product Stewardship/ EPR Programs
- Incentives (PAYT, Grants, Convenience)
- Partnerships
Stay Tuned!

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Moderated Discussion

Moderator: Steve Wright, Sanborn Head

Panelists:

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- Greg Cooper, Massachusetts DEP
- Mark Dennen, Rhode Island DEM
- Robert Isner, Connecticut DEEP
- Cathy Jamieson, Vermont DEC
- Michael Wimsatt, New Hampshire DES
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