



# Top Ten Solid Waste Issues

2008 MassDEP/MHOA Seminars

# Solid Waste Trends: 2004-2006

- ◆ Waste generated down by 4%
- ◆ Other trends flat:
  - ◆ Waste reduction unchanged at 60%
  - ◆ Recycling down slightly from 48% to 47%
  - ◆ In-State disposal held steady

- ◆ View data for 2006:

<http://www.mass.gov/dep/recycle/priorities/dswmpu01.htm>

# Solid Waste Goals: 2000

- ◆ Beyond 2000 Solid Waste Master Plan:
  - ◆ 70% waste diversion by 2010
  - ◆ Disposal only of what cannot be reduced, reused, recycled or composted
- ◆ Making progress, but falling short of goals

# Counting Down the Top Ten

## Diverting Wastes

10. C&D Disposal Ban
9. Pharmaceuticals & Cosmetics
8. Sharps

# 10. C&D Disposal Ban

The ban covers:

- ◆ ABC: Asphalt Pavement, Brick & Concrete
- ◆ Metal
- ◆ Wood

# C&D Exemptions

- ◆ Small loads (less than 5 cubic yards)
- ◆ Loads containing less than 20% ABC, metal & wood combined
- ◆ Combustion facilities may accept wood
- ◆ Transfer stations may divert consolidated C&D to recycling & reuse facilities

# C&D Markets

- ◆ ABC: on-site reuse & structural fill
- ◆ Metal: recycling
- ◆ Wood: alternative daily landfill cover, energy recovery, particleboard manufacturing
- ◆ Lots of interest from businesses in setting up new markets (e.g., clean gypsum)

# 9. Pharmaceuticals & Cosmetics

- ◆ 900+ endocrine disrupting compounds
- ◆ Affect reproduction, development & life functions
- ◆ Products found in drug stores & at home
  - ◆ Prescription & over-the-counter medicines
  - ◆ Lotions, makeup, perfumes & soaps
  - ◆ Insect repellants & sunscreens

# Pharmaceuticals & Cosmetics

- ◆ Often disposed in trash, drains, toilets
- ◆ Growing presence in environment & water supplies
- ◆ 2007 FDA/EPA issued new guidance on managing unwanted drugs:
  - ◆ Except for controlled substances, dispose in trash, don't flush
- ◆ Learn more:  
<http://www.mass.gov/dep/toxics/stypes/ppcpedc.htm>

## 8. Sharps

- ◆ DPH ban on disposal in trash expected to be effective July 2009
- ◆ Nearly 90 drop-off locations statewide now & DPH plans to deploy 37 more collection kiosks:
  - ◆ 10 at regional collection points
  - ◆ 27 in municipal offices, pharmacies, etc.
- ◆ MassDEP advised DPH on management of collected sharps

# Sharps

- ◆ DPH briefed Coalition for Local Health in January
- ◆ Sharps & medical waste issues will be discussed at DPH Community Sanitation Program/MHOA Regional Seminars in April



# Counting Down the Top Ten

## Sector Progress

- 7. Consumer Electronics
- 6. Supermarket Recycling

## 7. Consumer Electronics

- ◆ Fastest-growing waste stream in state:  
Nearly 1 million units discarded annually
- ◆ Disposal risks: lead & mercury
- ◆ Recycling value: precious metals & silicon chips

# Consumer Electronics

- ◆ Opportunities to donate working units to charities & schools
- ◆ Increase in voluntary manufacturer & retailer recycling programs
- ◆ State “Producer Responsibility” Legislation now under consideration

## 6. Supermarket Recycling

- ◆ Individual supermarkets voluntarily certify:
  - ◆ Recycling of organics, cardboard & wraps
  - ◆ Food donation programs
- ◆ Nearly 70 stores from six chains have certified
- ◆ Chain-wide certification if 80% of stores participate

# Supermarket Recycling

- ◆ Annual savings of up to \$20K per store in disposal costs
- ◆ Trash loads not subject to comprehensive waste ban inspections
- ◆ Stores viewed as good environmental neighbors

# Counting Down the Top Ten

## Municipalities Saving Money

5. Pay-As-You-Throw

4. Single-Stream Recycling

## 5. Pay-As-You-Throw

- ◆ Consumer pays per bag, container or sticker for disposal
- ◆ Recycling is free
- ◆ Statewide: 122 communities have switched to PAYT programs

# Attleboro

- ◆ Implemented PAYT in July 2005
- ◆ First barrel of trash & all recycling free
- ◆ City bags required for excess trash
- ◆ Disposal down & recycling up by 1/3
- ◆ Average annual savings: \$380K

# Marshfield

- ◆ Implemented PAYT in July 2007
- ◆ First barrel of trash & all recycling free
- ◆ Town bags required for excess trash
- ◆ Six months later: disposal down 35% & recycling up 31%

## 4. Single-Stream Recycling

- ◆ Consumer: one large container for all recyclables
- ◆ Recycling facility: new technology sorts & bales commodities for sale
- ◆ Statewide: 10 communities have switched to single-stream collection

# Boston

- ◆ Implemented single-stream pilots in 2 neighborhoods in May 2007
- ◆ Recycling up 76% & disposal down 20% in pilot areas since startup
- ◆ More than 3/4 of pilot households surveyed: recycling easier, streets cleaner

# Southbridge

- ◆ Implemented single-stream in October 2007
- ◆ One 95-gallon toter per household
- ◆ Three months later: recycling up 125%, disposal down 10%



# Counting Down the Top Ten

## In the Works

3. Mercury Products
2. Managing Disaster Debris
1. Asbestos in Soil

## 4. Mercury Products

- ◆ MassDEP December 2007 Phase I Regulations require:
  - ◆ Removal of mercury switches from end-of-life vehicles
  - ◆ Collection & recycling plans from manufacturers of products containing mercury
  - ◆ Public Education Plan on mercury lamp recycling from manufacturers

# Mercury Products

- ◆ MassDEP Phase II Regulations now being developed will include:
  - ◆ Ban on sale of specific items (and an exemption process)
  - ◆ Requirements for labeling mercury products
  - ◆ Disposal ban

# Mercury Products

- ◆ Theory:
  - ◆ First Massachusetts law to hold manufacturers responsible for end-of-life product management
- ◆ Practice:
  - ◆ Only manufacturers of certain items are responsible for collection & recycling
  - ◆ Many are exempt

# Mercury Products

- ◆ Why does this matter?
- ◆ Law includes broad ban on disposal of mercury products in trash
- ◆ Products not recycled by manufacturers will need to be recycled by:
  - ◆ End users
  - ◆ Municipalities

# Mercury Lamps

- ◆ Manufacturers of fluorescent & other mercury lamps:
  - ◆ NOT required to collect & recycle, BUT
  - ◆ ARE required to implement public education plan on lamp recycling
- ◆ If lamp recycling doesn't hit targets:
  - ◆ Manufacturers must pay into fund supporting municipal lamp recycling programs

# Mercury Lamps

- ◆ Current collection network:
  - ◆ 150 municipalities have mercury sheds for storing lamps until enough are collected for recycling
  - ◆ MassDEP is encouraging collection centers at retail outlets

# Mercury Lamps

- ◆ Energy conservation advocates encouraging switch to compact fluorescent lamps (CFLs):
  - ◆ Sales really taking off
  - ◆ CFLs contain mercury (not as much as 4' tubes)
  - ◆ These bulbs will begin burning out in 3-10 years
- ◆ Some people worry about mercury in bulbs

# Mercury Lamps

- ◆ No mercury exposure from intact bulbs
- ◆ If a CFL breaks, DON'T VACUUM:
  - ◆ Ventilate room for several hours
  - ◆ Use duct tape & damp paper towels to pick up glass & powder
  - ◆ Place all in container, then outside in trash can
  - ◆ Keep pregnant women & children away until cleanup is done

## 3. Managing Disaster Debris

- ◆ Usually the largest expense in recovering from a disaster
- ◆ Can overwhelm local government & disposal capacity
- ◆ Planning ahead pays off: lowers costs, better reimbursements & faster recovery

# Managing Disaster Debris

- ◆ Develop a plan for your community
  - ◆ Identify debris collection sites & select contractors in advance
  - ◆ Emphasize up-front separation & diversion over disposal
  - ◆ Tracking & monitoring system to ensure maximum & timely reimbursement
- ◆ MassDEP guidance:  
<http://www.mass.gov/dep/recycle/laws/policies.htm#sw>

# Managing Disaster Debris

- ◆ FEMA Public Assistance Pilot Program
  - ◆ Requires municipal plan & two contractors, pre-approved by FEMA & MEMA
  - ◆ Up to 80% federal reimbursement
- ◆ Learn more:  
<http://www.fema.gov/government/policy/papilot.shtm>

# 1. Asbestos in Soil

- ◆ Mostly a Legacy of C&D mismanagement
- ◆ Some from vehicle brake linings & manufacturing
- ◆ Naturally occurring in parts of the state

# Asbestos in Soil

- ◆ Current rules:
  - ◆ Soil containing any amount is “Special Waste”
  - ◆ Ship out of state for disposal
- ◆ New rules now being developed:
  - ◆ 21E will apply to significant releases
  - ◆ Will not affect abatement of asbestos in buildings

# Asbestos in Soil

- ◆ When regulated under 21E:
  - ◆ Can remain on site (e.g., buried under building, parking lot, landscaping, etc.)
  - ◆ Ship excess excavated soil off-site for disposal

# Asbestos in Soil

- ◆ Very low levels (150mg ACM/kg or less)  
Deregulated: handled as solid waste
- ◆ Higher levels still considered Special Waste, but may be used at landfills:
  - ◆ Up to 1,000mg ACM/kg as Alternative Daily Cover
  - ◆ Up to 8,000mg ACM/kg as Grading/Shaping Material



On the Horizon:

NEW Solid Waste Master Plan

# New Solid Waste Master Plan

- ◆ Planning ahead for 2010 & beyond
- ◆ Many priorities remain:
  - ◆ Reduce, reuse, recycle & compost to maximum extent possible
  - ◆ Safely dispose only of “irreducible minimum”
  - ◆ Reduce toxicity of waste stream
  - ◆ Lower costs by avoiding disposal

# New Solid Waste Master Plan

- ◆ New priorities & drivers:
  - ◆ Energy demands & climate change impacts
  - ◆ Better manage materials before they become wastes
  - ◆ Capture energy value when reduction, reuse, recycling or composting is not possible
  - ◆ Combine regulatory tools with economic incentives

# New Solid Waste Master Plan

- ◆ Looking at a broad array of strategies
- ◆ Other states Considering *Zero Waste* policy
  - ◆ Pragmatic & visionary goal
  - ◆ Reduce toxicity & volume of materials
  - ◆ Conserve & recover instead of bury & burn
  - ◆ All discarded materials are reusable resources

# New Solid Waste Master Plan

- ◆ Municipal & private sector ideas & suggestions will shape final plan
- ◆ MassDEP will schedule stakeholder meetings soon
- ◆ Tell us what you think!