

Northeast Recycling Council

***Single Stream – Best Practices
October 23rd***





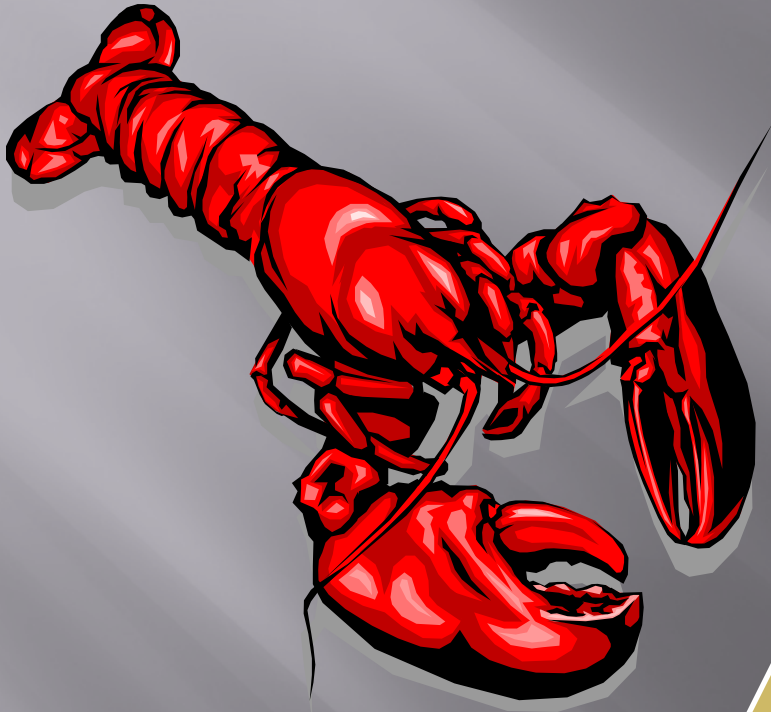
Tug a War... for waste materials??

How does Single-Sort fit in?

The Competition for Waste



Waste Hierarchy



MSW LANDFILL



Photo Credit: Rafael Macia/Photo Researchers, Inc.



ecomaine
is located in
Portland,
Maine



Who is ecomaine?

- **ecomaine** is a non-profit and quasi-municipal organization
- We have 46 member Communities
- Serve over 300,000 residents and businesses.



MISSION STATEMENT:

“ecomaine provides comprehensive long-term solid waste solutions in a safe, environmentally responsible, economically sound manner, and is a leader in raising public awareness of sustainable waste management strategies”

Our integrated strategy

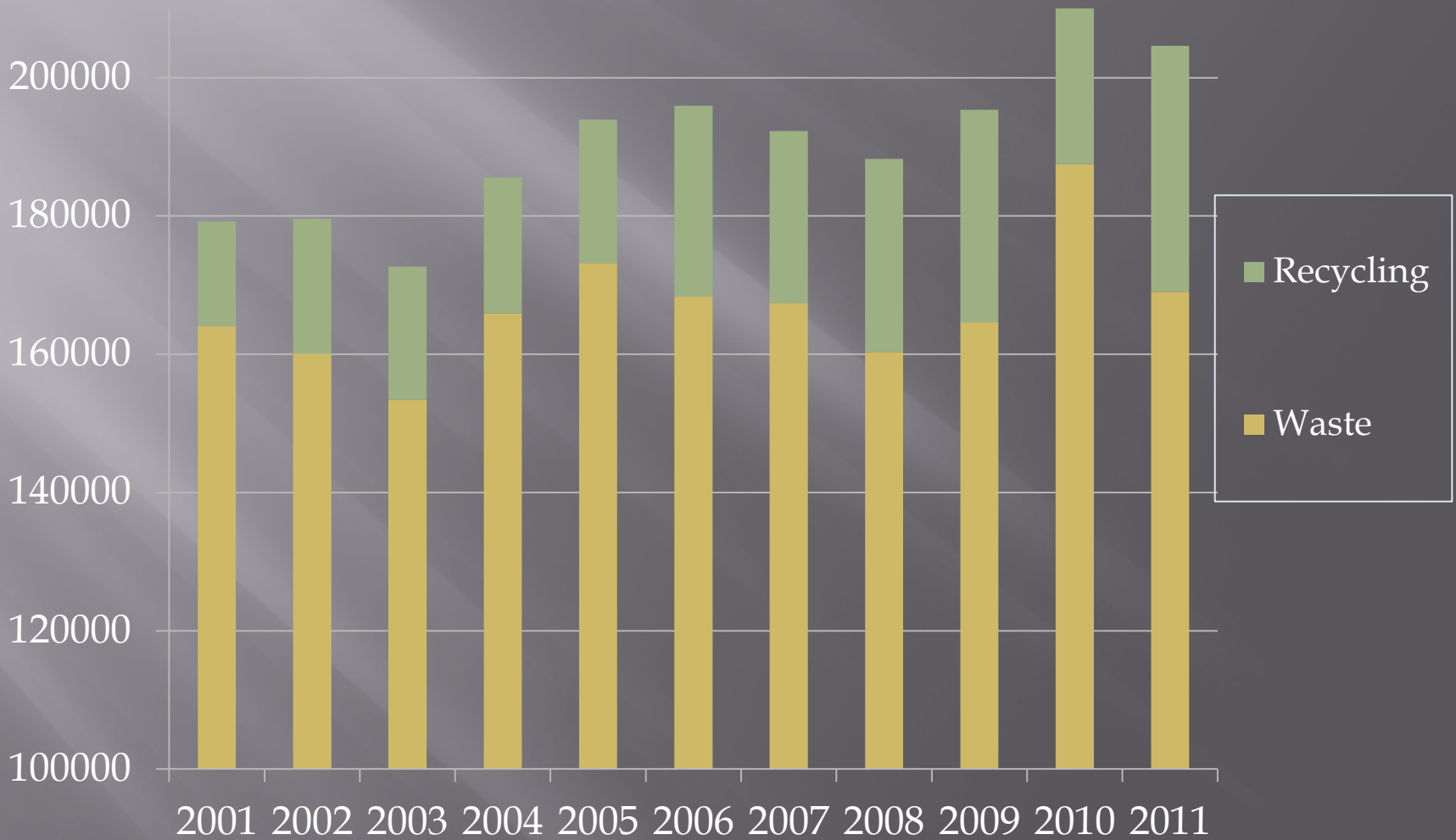
- ecomaine owns three facilities
 - Single Sort Recycling Facility
 - Waste to Energy
 - Landfill/Ashfill



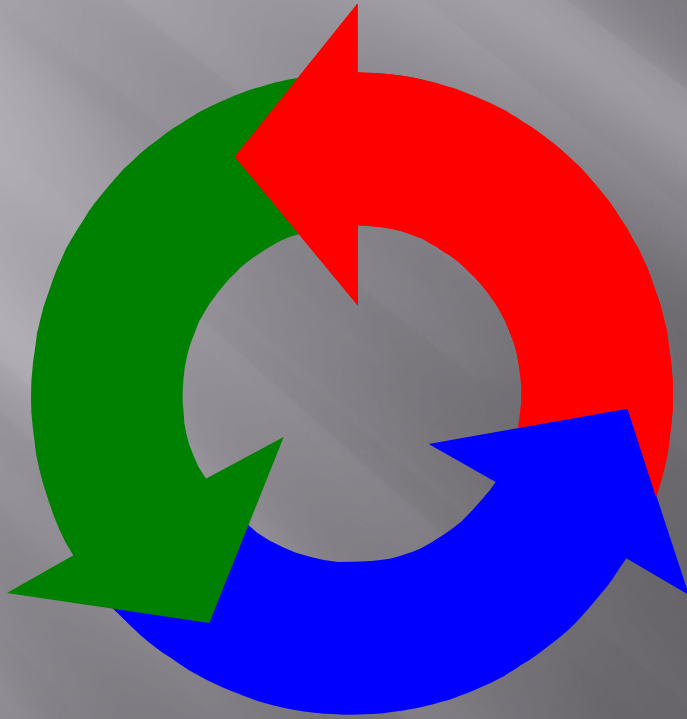
A Focus on Single Sort Recycling...



Tons Per Year of Waste and Recycling



The *Single Sort* Advantage...



- ▣ Resident
- ▣ Collection
- ▣ Processing

"Single Sort" and the Resident

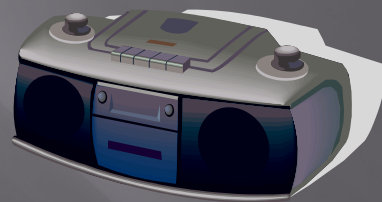
- ▣ Easier
- ▣ Increased participation.
- ▣ Increased recovery of more recyclables.
- ▣ Better containment of recyclables.
- ▣ Less storage space



Promoting Single-Sort Recycling



- ▣ Social Media & Website
- ▣ Events, Tours, & Shows
- ▣ Print
- ▣ Press Releases & Stories
- ▣ Television and Radio



Connecting with Community...



ecomaine's ISO 14001 Certificate Waste-to-Energy, Recycling & Landfill

ISO 14001

Certificate of Registration

conferred upon

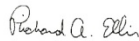
ecomaine

64 Blueberry Road, Portland, Maine, USA

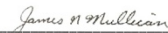
SCOPE OF REGISTRATION: WASTE-TO-ENERGY, RECYCLING AND LANDFILL

Having been examined in detail for conformance to the requirements of ISO 14001:2004, and having been determined by Advanced Waste Management Systems, Incorporated, the Registrar, to be in conformance with all provisions of this international standard, the Environmental Management System of the organization is hereby registered to ISO 14001 on March 10, 2011. The scope of this registration includes all operations and activities of the organization as specified above. The re-registration due date is March 11, 2014, providing the organization maintains its Environmental Management System in accordance with the specifications of ISO 14001 and the requirements of the Registrar. Advanced Waste Management Systems, P.O. Box 100, Hixson, TN 37343, is an "ANAB EMS Accredited Registrar."

In witness whereof this Certificate of Registration is granted and the Mark of Registration and our signatures are hereunto affixed.



Richard A. Ellis, Ph.D.
Arbiter of Registration



James N. Mullican, P.E.
President



® Registration Number 00123



Revision Date: 3/17/11

Single Sort collection...



...versus multi-sort

Single Sort allows for more collection efficiencies



Fully Automated



Semi Automated

The Pilot Study in Portland



Two - Stream	Single Stream
8 Trucks (4 recycle, 4 trash)	6 Trucks (3 recycle, 3 trash)
6.36 hours for average route time	5.04 hours average route time

Single Sort reduced the collection time by 23%

Multi-sort Recycling



Collection Savings – Summary

- ▣ Reduce set-out rate
- ▣ Fewer trips to MRF
- ▣ Less idling
- ▣ Fewer compartments
- ▣ Compaction option to increase density
- ▣ Automate collection
- ▣ Less papers blowing
- ▣ Option to add organics



Removing food waste from the waste stream



Three Sort System



- ▣ Recyclables
- ▣ Organic Waste
- ▣ General Trash

Curbside set out requirements

- *Single Family Homes*
- *Multi-Family Homes*
- *Apartments*
- *No Curb Environments*
- *Snow, Wind, Rain*



New Innovations – Equipment



- ❑ Drum Feeder
- ❑ Cardboard Screen
- ❑ Newspaper Screen
- ❑ Mixed Paper Screen
- ❑ Eddy Current
- ❑ T-Tech PET Optic Plastic Sorting System



Drum Feeder

- ▣ Pulls apart compacted material and lays it out in a even layer for sorting.

Properly sorting materials is most effective when they are spread out on the process line so that equipment or pickers can accurately identify and route the different materials to the correct stream. If, instead, the depth of materials is too great, many contaminants get through to the end product.

Single Stream Recycling Best Practices Implementation Guide by Susan Kinsella, Concervatree & Richard Gertman, Environmental Planning Consultants

SORTING SCREENS



Can Single Sort Maintain Quality Materials?

- Equipment is proven 95% effective.
- Variable controls.
- Sorting stations stations to ensure quality.



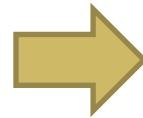
Markets

- ▣ ecomaine has had NO rejected loads since single sort started
- ▣ Bottom Line: Recycling Facilities have to meet quality requirements of the buyers
- ▣ Supply & Demand
- ▣ Revenues & Expenses need to be considered
- ▣ You can't compare Bottle Bill quality with Single Stream quality if you don't compare the handling costs of each
- ▣ Dealing with incoming contamination

Single Sort Recycling in Schools and Businesses



Plastic Metal Glass



Cardboard

Office Paper

Mail

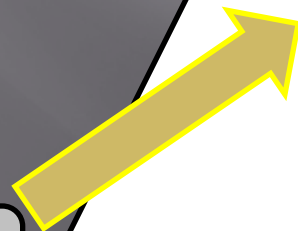
Newspapers

Magazines

Get Leadership on Your Side

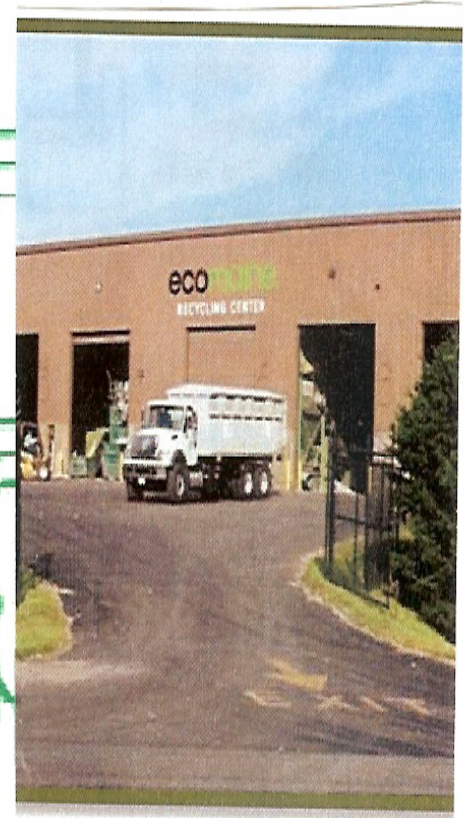
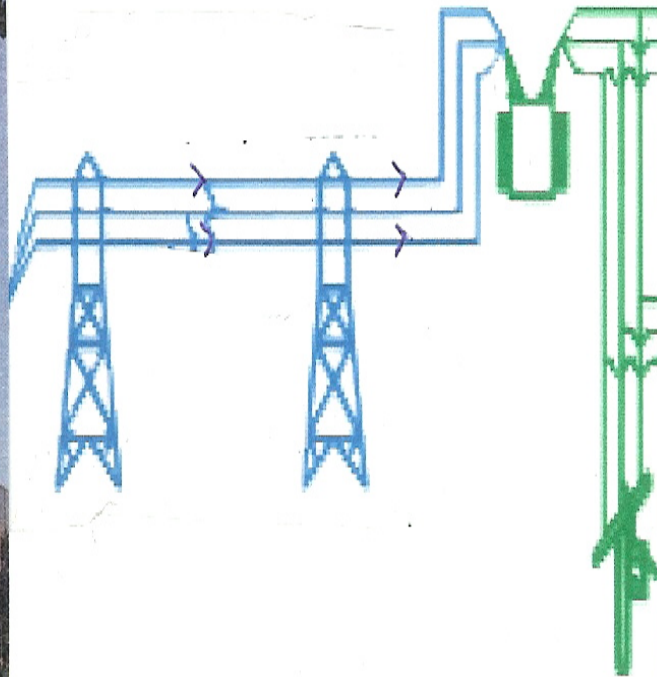


Recycle



- Reduce
- Reuse
- Compost
- Waste-To-Energy
- Landfill

Connecting Recycling & WTE





Avoid the Waste Tug a War...

... by promoting sound policies

Our integrated strategy

- ecomaine's facilities
 - Single Sort Recycling Facility
 - Waste to Energy
 - Landfill/Ashfill
 - Investigating Organics Recycling



Questions? Kevin Roche
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ecomaine

