

EPA Sustainable Materials Management Webinar

Residential Recycling Top Contaminates.

Casella Waste Systems

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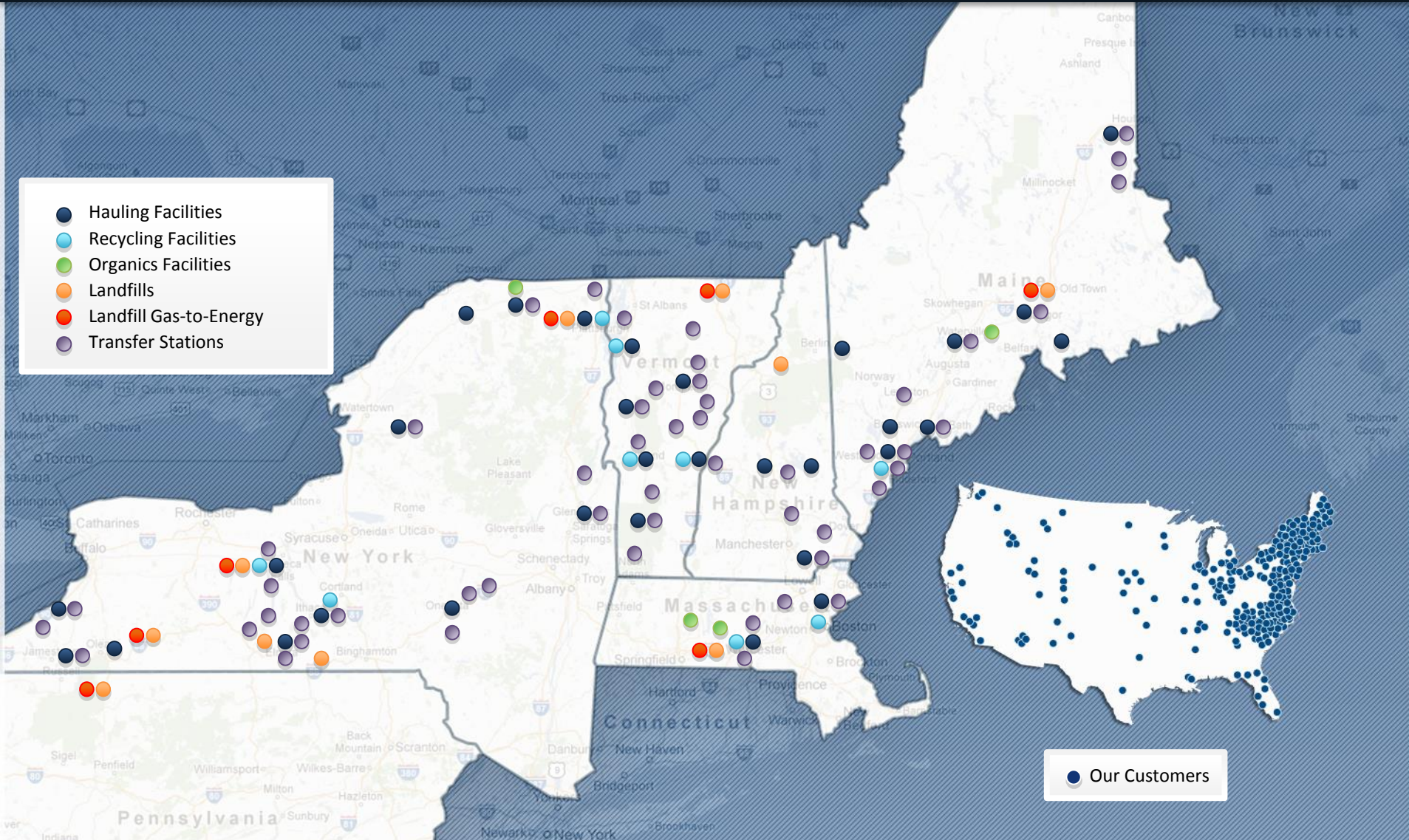


Casella Company Overview:

- Founded in 1975 with one truck
- 1,900 employees serving over 170,000 customers
- Traded on NASDAQ as CWST
- Over \$500M in annual revenue
- Operating in ME, MA, NH, NY, PA, and VT
- Vertically integrated collection, transfer, disposal and recycling operations
- Recovering over 600,000 tons of recycling and over 400,000 tons of organics for beneficial use each year
- Strategy to help our customers reduce waste utilizing our expertise, services, and assets



Casella Footprint





The Casella Recycling Arm

- **12 Recycling Operations**
- **6 Single Stream Recycling Operations**
- **Process and markets over 600,000 tons/yr**
- **Boston, MA MRF – 7th largest in the U.S. (210,000 tons processed in 2015)**





The Evolution of The Recycling Stream – Facts

Source Separated Recycling

- Sorted at the curb
- Very little contamination
- Only a baler needed
- 90% of the total stream = newspaper and cardboard
- But how do we capture more material and keep trucks off the street??





The Evolution of The Recycling Stream – Facts

Dual Stream Recycling

- Technology of processing equipment has evolved to align with ease of hauling
- Little bit more contamination but average still below 5% at the MRF
- MSW stream still contains 50% recycling material – how do we capture more??





The Evolution of The Recycling Stream – Facts

Single Stream Recycling

- Convenience for the consumer & larger container
- Evolving product mix
- MRF technology advancement
- Automated pickup
- Un-intended consequences
- Average residual rate at U.S MRF's = 15%





MRF Contamination - Film

- Wraps around separation equipment (Newspaper and OCC screens)
- Creates ineffectiveness of screens
- Must clean screens once per shift
- Safety issue during maintenance





MRF Contamination – Scrap Metal

- Causes damage to processing equipment
- Small scrap metal contaminates the finished glass stream for our end users
- Safety issue (propane, etc)





MRF Contamination - Textiles

- “Jams” Screens.
- “Blinds” Optical Sorters and Magnets
- Causes considerable downtime
- Downtime = increased operational costs





MRF Contamination – “Wrapping Items”

- Considerable damage to screens
- Lengthy maintenance items
- Safety issue





MRF Contamination – Food Waste

- **Odors**
- **Usually a “full load rejection”**





MRF Contamination – Weather

- Overall adjustments needed to process
- Ice damages equipment
- Impact to quality





How Contamination Impacts the Economics of Recycling

Example: Single Stream Material Mix

| <u>Material</u> | <u>Percentage</u> |
|-----------------|-------------------|
| ONP#8 | 33.0% |
| OCC | 16.00% |
| Mixed Paper | 19.0% |
| Glass | 23.00% |
| PET | 2.70% |
| HDPE-Natural | 0.60% |
| HDPE-Colored | 0.50% |
| Plastic- Mix | 0.40% |
| Plastic- Bulky | 0.70% |
| LDPE- B | 0.40% |
| Aluminum | 0.50% |
| Aluminum-Foil | 0.00% |
| Steel/Tin | 1.50% |
| Scrap Metal | 0.70% |
| Residue | 15.00% |
| Totals | 100.0% |



We Must Continue to Educate





We are in it together !!

Teamwork



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Questions?

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