



# Commingled Recycling System Standard & Guidelines

---

Update for State SWAC: March 25, 2008

Shannon McClelland, Ecology



# Overview

---

- What is the problem we are trying to solve?
- Collection and Processing Standards & Guidelines
- Next Steps
- Questions

# What is the problem with the current commingled recycling system?

---

- Lost materials = Lost resources
- Problematic materials reduce efficiencies at MRFs & mills
- Collection does not equal recovery
- Current standards not working
- Confusion by residents

# Lost Resources



NORPAC Paper Mill  
Longview WA, Feb 2008



Blue Heron Paper Mill  
Portland, Oregon, Feb 2008

# King County MRF Study (Washington)

---

<b>Curbside Material</b>	<b>Sent to Proper Market</b>	<b>Cross-Contaminant or Residue</b>
<b>Newspaper, Mixed Paper</b>	98-99%	1-2% lost
<b>PET</b>	47%	53% lost
<b>HDPE</b>	72%	28% lost
<b>Aluminum</b>	64%	36% lost
<b>Tin</b>	77%	23% lost
<b>Glass</b>	90%	10% lost

# Metro 2004-05 MRF Contamination Study (Oregon)

---

<b>Curbside Materials</b>	<b>Tons Collected</b>	<b>Tons Lost</b>	<b>Loss Rate</b>
<b>Newspaper</b>	66,936	694	1%
<b>Cardboard</b>	15,914	4,153	26% lost
<b>Metal</b>	4,062	583	14% lost
<b>Plastic Bottles</b>	3,390	800	24% lost

# What about existing standards?

## ISRI #8: Special News, De-ink Quality (#8 ONP)

Prohibitive materials.....None Permitted

Total Outthrows may not exceed..... $\frac{1}{4}$  of 1%

Supplier	NORPAC Supply System	Sold As (ISRI)	% Outthrows	% Prohibitives	% Glass
2001 and Prior Average ALL Suppliers	100% Source Separated	#8	0.25 – 0.5	0.0	0.0
Sep 2006 – Dec 2006 Weighted Average ALL Suppliers	68% Co-mingled	#8, #7	15.0	3.4	0.33



# Collection Workgroup Goals

---

- **Guidelines** for collection systems
- **Measurable standard** for incoming materials to MRFs

# Collection Guidelines Draft

---

- **Collection Program Design/Redesign**
  - Use decision flowchart
- **Materials Specification**
  - Uniform list
  - Identify Prohibitives (sharps)
  - Ensure quality (dry, minimal flattening & breakage, material separation)
- **Customer education**

# Collected in a Single Stream Program

Yes	With Preparation	No	Questionable	
<p><b>Newspaper</b>  <b>Junk mail</b>  <b>Scrap paper</b>  <b>Cardboard</b>  <b>Magazines</b>  <b>Aseptics</b>  <b>Gable tops</b>  <b>Plastic bottles and tubes 6 oz. or larger*</b>  <b>Rigid plastic plant pots 4 inches or larger</b>  <b>Plastic buckets of 5 gallons or less</b>  <b>Aluminum</b>  <b>Scrap metal</b>  <b>Tin</b></p>	<p>Shredded paper in a paper or plastic bag depending on requirement of incoming MRF.</p> <p>Empty metal paint cans, small metal items in can</p>	<p>Glass            Batteries            Yard debris            Motor oil            Food contaminated paper            Loose metal less than 2 inches            Metal larger than 30 x 8 inches or more than 30 pounds            Loose shredded paper            Frozen food boxes</p> <p>Plastics:            Bags and film            Foam/expanded plastics            Large items (e.g., toys, lawn furniture, storage crates)            Lids and trays            Clamshells and bakery containers            Food contaminated            Biodegradable plastics            Cups, plates, silverware            Blister packaging            Any plastics with a capacity of less than 6 ounces.</p>	<p>Ream wrappers            Beer/soda paperboard carriers</p>	

# Decision Flowchart for Collection

---

- **Is the MRF which processes collected materials designed (and permitted, if applicable) to sort and capture the materials being considered for recycling purposes?**
  - If no, look at alternative means of collection
  - If yes, next
- **Does the material considered routinely become a MRF residual, or outthrow or prohibitive in another commodity stream?**
  - If yes, set performance standards and measure performance. Policy decision
  - If no, next
- **Does the MRF routinely sort the material such that the level of prohibitives and outthrows meet end market standards?**
  - If no, set performance standards and measure performance. Policy decision
  - If yes, next



# Collection Standard

---

- **Annual audit** of materials collected at curb
- Less than **5% prohibitives**



# MRF Workgroup Goals

---

- **Identify obstacles** that increase cross contamination and reduce efficiency
- **Measurable standards** on outgoing materials from MRFs



# Barriers for the MRF

---

1. **Glass**
2. **Plastic bags**
3. Shredded paper
4. Flattened containers

**Dangerous:** Sharps and other biohazard waste

<b>Standards for MRFs</b>	<b>Current Status</b>	<b>Goal – 1<sup>st</sup> year Going to the proper market</b>
<b>Paper – Average of all - Brown Kraft</b>	<b>98% 75%</b>	<b>98% 80%</b>
<b>Plastic – All</b>	<b>70-75%</b>	<b>80%</b>
<b>Metal - All</b>		<b>80%</b>
<b>Glass (If part of commingled collection)</b>	<b>80%</b>	<b>80% to non-disposal market</b>  <b>Measure:</b> <ul style="list-style-type: none"> <li>○ % going to glass to glass</li> <li>○ % going to aggregate</li> <li>○ % in paper</li> </ul>
<b>Recyclables in Residual</b>	<b>Measured</b>	<b>Measured</b>
<b>Total Residual</b>		<b>Measured</b>
<b>Total Prohibitives</b>		<b>Measured incoming</b>

# Next Steps

---

- **Evaluation subgroup**

- Lead: Lee Barrett (Assoc. of OR Recyclers)
- Next mtg: April 2<sup>nd</sup>, 1:00-2:30

- **Marketing subgroup**

- Lead: Shannon McClelland (Ecology)
- Next mtg: April 2<sup>nd</sup>, 10:00-11:00

- **All Stakeholder mtg: June 4th**

## How Do You Get Involved?

---

- Join a workgroup
- Access online workspace

**Please contact EPA intern:**

**Melissa Winters**

**(206) 553-5180**

**[Winters.Melissa@epa.gov](mailto:Winters.Melissa@epa.gov)**