Contamination Quandary

Or How Two Rural Counties Attempt to Tackle Recycling Contamination on a Very Limited Budget

Laura Tucker, Environmental Health Specialist, Jefferson County Public Works
Meggan Uecker, Solid Waste Coordinator, Clallam County Public Works
Collections in the “Regional System”

- Contract with Waste Connections
- Waste Collection/Single Stream Recycling/Yard Waste
- Mandated in Cities; Optional in county
- Self-haul from Regional area and beyond
- 2 Transfer Stations with Recycling Drop Boxes + additional Glass Recycling Drop Boxes
“Small Town” Recycling

Happy recyclers until....

WHAT CAN BE RECYCLED!

- Aluminum Cans
- Cardboard
- Mixed Paper
- Tin Cans
- Plastic Bottles and Jugs
  (No Plastic Bags)
Contamination Quandary!

How much contamination is there really? And how do we measure our impact?

Contamination Assessment
- Drop Box Contamination Estimates by Volume
- User Surveys
- Traffic/Customer Counts
- Transects
- Materials Reclamation Facility (MRF) Sorts
Estimates and Observed Contaminants

Tin, Aluminum, Plastic (TAP)

Volume Start: 10-20%  Volume Finish: 95%
Contamination Average: 30%

Major Contaminants:
- Plastic Film/Bagged Recycling
- Pet food bags
- Incorrect Plastic
  - Caps/Straws
  - Clamshells
- Food contamination (not rinsed)

Observations:
- Used frequently as a free for all (lots of garbage in TAPS drop boxes)
- Frequent food contamination
- Bagged recycling or other plastic film common
- Contamination increased steadily throughout the day
Customer Surveys

Rate your recycling knowledge on what is/isn’t recyclable at the Transfer Station?
77% answered “good-excellent” despite visible contamination or watching them put in incorrect items

How would you rate the current signage?
68% answered “good-excellent” despite behavior and further interactions demonstrating that they still had questions the signage didn’t address.
Transect Samples
So what did we learn?

- Recycling is contaminated
- People are confused, wishful, and naughty
- Haulers care
- Visuals work wonders
- Partnerships!
“I just throw it in and figure it will be sorted somewhere else. They can figure it out.”
“Plastic bags are confusing, because I see everyone else throwing them in the bins, so I figured it was ok. Recycling is confusing.”
# MRF—The final frontier

<table>
<thead>
<tr>
<th>Material</th>
<th>JMK</th>
<th>PIONEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspapers</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Corrugated Cardboard</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Junk/Direct Mail</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Cereal, Shoe &amp; Food Boxes (Chipboard)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Office Paper, Paper Bags</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Magazines &amp; Catalogs</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Steel/Tin Cans</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Aluminum Cans</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>#1 PET Plastic-Soda/Water Bottles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#2 HDPE Plastic- Milk Jugs, Detergent &amp; Other Cleaning Product Bottles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#5 Plastic – Dairy Tubs</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Large, Hard Plastic- Buckets, Laundry baskets</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Pots &amp; Pans</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
A picture is worth a thousand words...
Partnerships

NOLS
NORTH OLYMPIC LIBRARY SYSTEM

MASTER COMPOSTER & RECYCLER
Rethink Prevent Inspire

WSU Clallam County Extension

Clallam County Environmental Health Services

Feiro Marine Life Center

Pollution Prevention Assistance

Washington CoastSavers
Olympic Disposal
Materials Reclamation Facility (MRF)
Have we solved the contamination quandary?
So what’s going on in neighboring Jefferson County?
Our trash goes a loooooong way ...
We’re a little ‘different’ … 

… in Jefferson County
Our solid waste management plan said that “our recycling would be handled in an environmentally and socially responsible way.”
Not the best signage ...
Then it got worse ...
What would work?
And the survey said ... 

PLASTIC & CANS

YES!
- metal cans *NO lids*
- plastic tubs: dairy, margarine, salsa, etc.
- clean aluminum cans, pans & foil
- buckets *limit of 3*
- plant pots *rigid plastic only 12” tall, max*
- bottles & jugs

NO!
- plastic lids & caps
- plastic bags, plastic wrap
- clam shells
- pill bottles
- crinkly plastic
- deli containers

PLEASE help prevent CONTAMINATION and WASTE

STOP! These are hazardous waste:
- automotive products
- motor oil
- antifreeze

Please dispose at these locations:
- HHW site at Boat Haven; Bldg. 19
- Jacob Miller Transfer Station
- Quilcene drop box facility: 295316 Hiway 101

Empty containers go in the TRASH
PAPER

YES!
- mail, catalogs, mixed paper
- office paper
- newspaper
- phone books
- paper bags
- paper towel & toilet paper rolls
- Containers: eggs, 6-packs, etc.
- Boxes: cereal, crackers, shoes, etc.

NO!
- magazines
- ‘To Go’ containers with shiny surfaces
- coffee cups - new and used
- pet food bags
- Food soiled paper
- milk cartons, Tetra-packs, juice boxes, etc.

STOP! These are not recyclable!
Please put them in the TRASH!

toilet paper
feminine products
diapers
GLASS

YES!  Bottles & Jars
- clear  • green  • brown
- NO lids or blue glass  • Labels OK

NO!
- Light bulbs
- Ceramics
- Window glass
- Mirror glass
- Blue glass
- Drinking glasses
- Pyrex glass
- Metal lids

ONE of these can send the whole bin to the TRASH!

STOP! Compact fluorescent bulbs and tubes are hazardous waste!

No charge to recycle at these locations:
- Jacob Miller Transfer Station
- Quilcene site: 295316 Hiway 101
- HHW site at Boat Haven; Bldg. 19
Cardboard

YES!

CORRUGATED CARDBOARD only!

Please flatten boxes!

assorted boxes
boxes with corrugated dividers

NO!

Boxes: cereal, shoes, toothpaste, crackers, etc.

6-pack containers

paper or plastic-filled padded envelopes
shredded paper
packing material
But we had this problem ...
So we added this ...

PLASTIC & CANS

YES!
- metal cans
- plastic tubes: dairy, margarine, salsa, etc.
- clean aluminum cans, pans & foil
- buckets (not of 3 gallons or more)
- plant pots
- bottles & jugs

NO!
- plastic bags, plastic wrap
- plastic lids & caps
- plastic cups
- crinkly plastic
- pill bottles
- deli containers

STOP! These are hazardous waste:
- automotive products
- motor oil
- antifreeze

Please dispose at these locations:
- HHW site at Boat Haven, Bldg. 19
- Jacob Miller Transfer Station
- Quicenco drop box facility: 295316 Hwy 101

Empty containers go in the TRASH

ALL recycling must be loose in the bins!
These go in the RECYCLING BINS!

**Mixed Paper**
- Newspaper
- Paper bags
- Paper roll cores
- Magazines
- Phone books
- Paper boxes from cereal, shoes, eggs, toothpaste...

**Plastic & Cans**
- Plastic tubs: dairy, margarine, salsa
- Buckets
  - Limit of 3
- Metal cans
  - No lids
- Plant pots
  - Rigid plastic only; 12" max

**Glass**
- Glass bottles & jars
  - No blue glass; no lids; labels OK
- Clean aluminum cans, pans & foil
- Bottles, jugs & jars

These go in the TRASH!

**Plastic lids & caps**
- Plastic tubs
- Clam shells
- Crinkly plastic
- Dell containers
- Miscellaneous paper & plastic:
  - Food-contaminated paper
  - Juice cartons
  - Milk cartons
  - Pet food bags
  - Used paper coffee cups
  - Tetra-paks
  - Waxed cardboard
  - Plastic silverware, cups and lids

**Unwaxed Cardboard**
- For all: flatten
- Curbside service: bundle & tie

**Place clean and empty recyclables loose in bins.**
Don't place bagged or boxed recyclables in bins.

RECYCLE clean & dry PLASTIC BAGS at QFC, Safeway & the Food Co-op
Next challenge ...

Our multiple events in Jefferson County wanted to collect separated recycling
TRASH

Sorry, these can’t be recycled here!

plastic cups, straws & lids

coffee cups and lids - new and used

‘To Go’ containers

milk cartons, Tetra-packs, juice boxes, etc.
deli containers

napkins and paper towels - new and used

plastic silverware

plastic bags, plastic wrap
Meanwhile, at our drop boxes ...
So we’re trying this ...
THESE are TRASH
Help keep recyclables marketable.

- Pyrex
- Ceramics
- Blue glass
- Window and mirror glass

TAKE ONE
We still see this ...
OOPS!

PLEASE LEAVE THESE ITEMS OUT!

- Do Not Bag Recyclables and no garbage
- No Plastic Bags (return to retail)
- No Food or Liquid (empty all containers)
- No Clothing or Linens (drop-off only)
- No Tanglers, (no hoses, wires, chains, or electronics)
- No Big items (wood, plastic, furniture, or metal)
Have we solved the contamination quandary?