

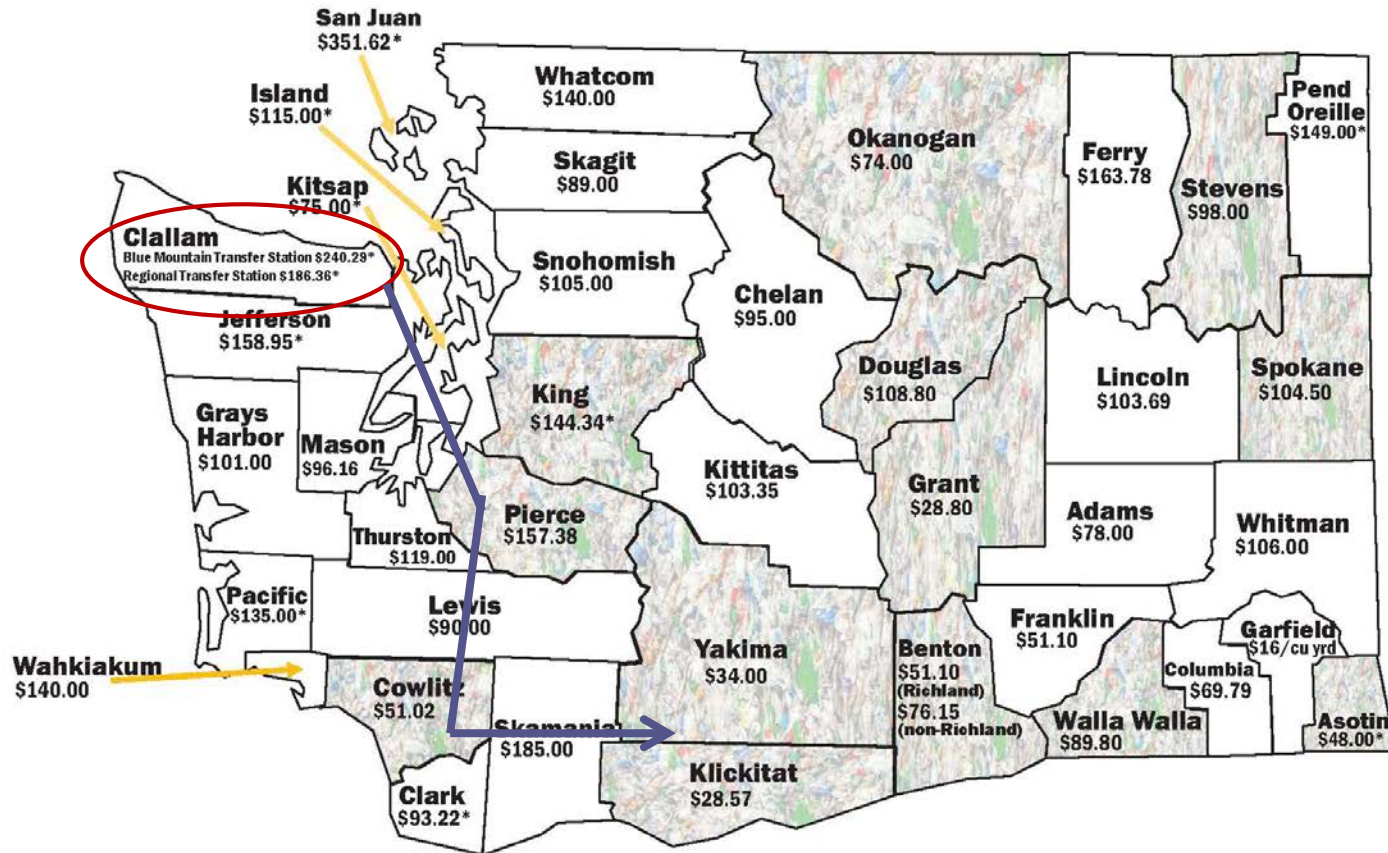
Contamination Quandary

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

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Clallam County

Municipal Solid Waste Tipping Fees (per ton) - 2018



Counties with an incinerator or MSW landfill
*3.6 Refuse Tax included



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)**



LIDS

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%

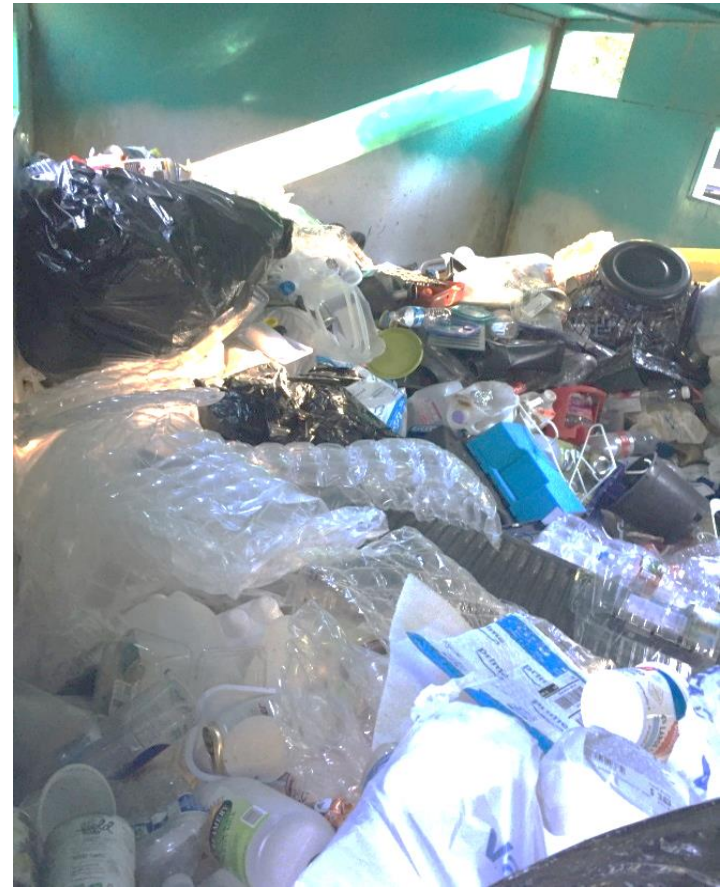
Contamination Average: 30%

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!



A photograph of a cluttered recycling bin. The bin is filled with various items, including a large black plastic bag, a pink plastic container, a white plastic container, several aluminum cans, and various food packages. The background is a plain, light-colored wall.

“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.”

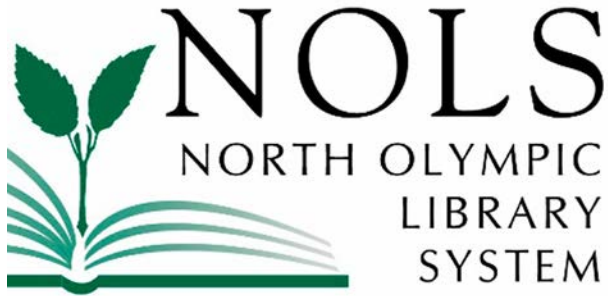
MRF—The final frontier

Material	JMK	PIONEER
Newspapers	X	X
Corrugated Cardboard	X	X
Junk/Direct Mail	X	X
Cereal, Shoe & Food Boxes (Chipboard)	X	X
Office Paper, Paper Bags	X	X
Magazines & Catalogs	X	X
Steel/Tin Cans	X	X
Aluminum Cans	X	X
#1 PET Plastic-Soda/Water Bottles #2 HDPE Plastic- Milk Jugs, Detergent & Other Cleaning Product Bottles	X	X
#5 Plastic – Dairy Tubs		X
Large, Hard Plastic- Buckets, Laundry baskets		X
Pots & Pans		X

A picture is worth a thousand words...



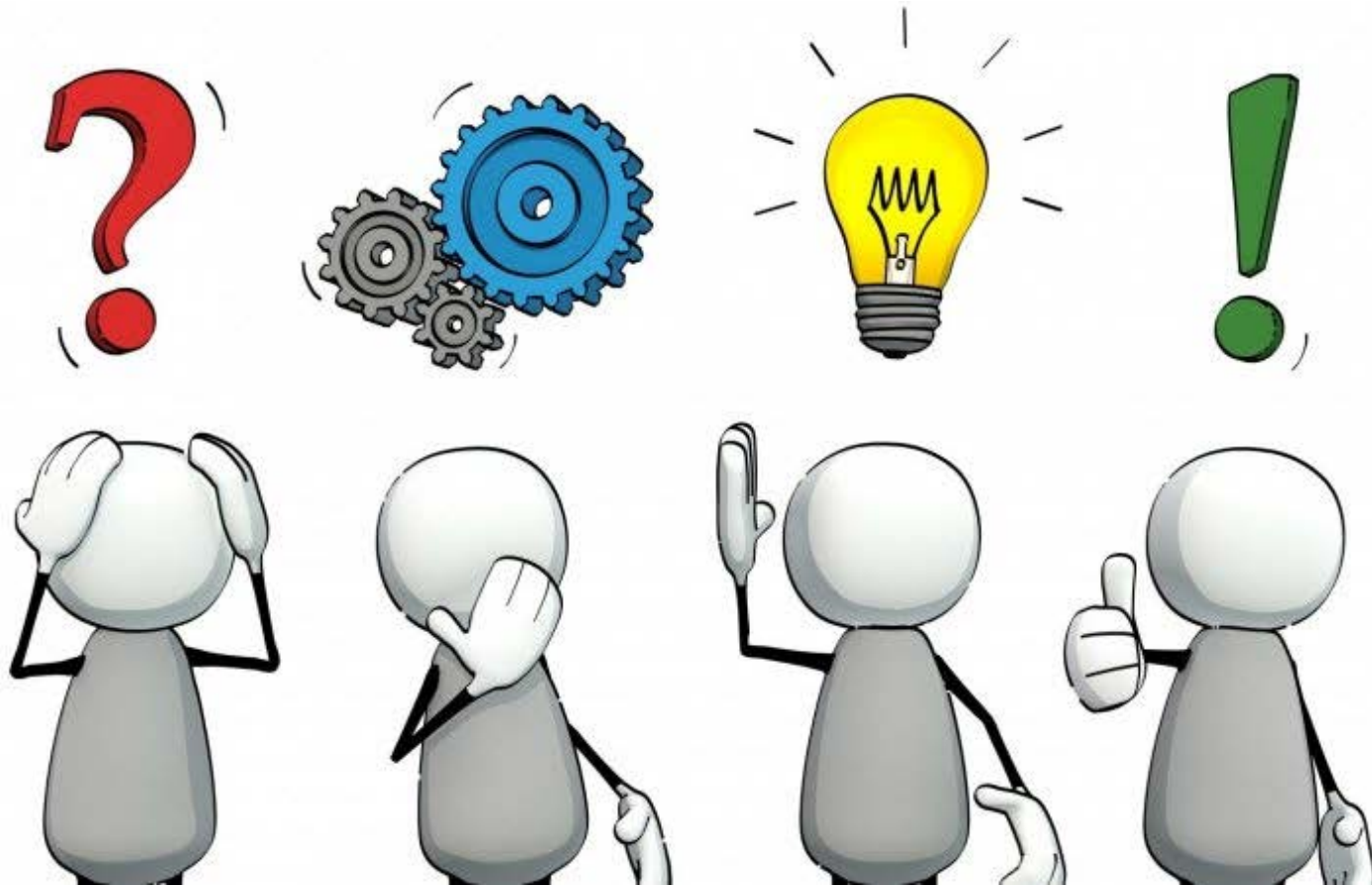
Partnerships



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!

NEW! metal cans
NO lids

NEW! plastic tubs: dairy, margarine, salsa, etc.

NEW! buckets
limit of 3

NEW! plant pots
rigid plastic only
12" tall, max

clean aluminum cans, pans & foil

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



magazines



newspaper



paper towel &
toilet paper rolls



phone books



Containers: eggs, 6-packs, etc.
Boxes: cereal, crackers, shoes, etc.



paper bags



NO!



'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!



Window glass



Mirror glass



Light bulbs



Ceramics



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
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
- crinkly plastic
- pill bottles
- 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 Hwy 101

Empty containers go in the **TRASH**

NO PLASTIC BAGS!

ALL recycling must be loose in the bins!



These go in the RECYCLING BINS!



Mixed Paper



CLEAN & EMPTY - When in doubt, throw it out.



NOW recycling plastic by type not number.

Plastic & Cans



Glass



Place **clean and empty** recyclables **loose** in bins.

Don't place bagged or boxed recyclables in bins.

Unwaxed Cardboard



For all: flatten
Curbside service: bundle & tie

These go in the TRASH!



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

ANY of these will contaminate **ALL** the recycled glass in the bin:



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





METAL
FORKS

Metal Forks here

Food Waste Here

ALL-COUNTY PIGNUTS ALL-COUNTY PIGNUTS



TRASH

plastic cups,
straws & lids



plastic
silverware



Sorry, these **can't** be recycled here!



'To Go' containers



deli containers



plastic bags,
plastic wrap

coffee cups and lids -
new and used



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

napkins and
paper towels -
new and used



Meanwhile, at our drop boxes ...



So we're trying this ...



THESE are **TRASH**
Help keep recyclables marketable.



Recycling is a win-win for everyone. These go in the RECYCLING BINS! PLEASE DON'T PUT THESE IN THE RECYCLING BINS! These do NOT go in the RECYCLING BINS! **TAKE ONE** PLEASE DON'T PUT THESE IN THE RECYCLING BINS!





PAPER
RIGHT
WRONG



A

CAUTION

533

GLASS



GLASS



THESE are TRASH
Help keep recyclables marketable.

Pyrex	Blue glass	Window and Mirrors
Ceramics		

TAKE ONE

WALKURE JOG
CHECK IT OUT

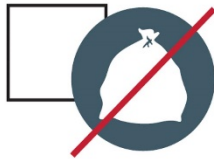
“When in doubt, throw it out!”

We still see this ...

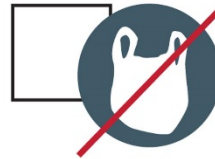




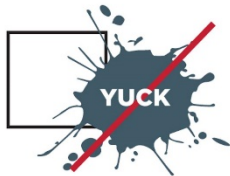
PLEASE LEAVE THESE ITEMS OUT!



Do Not Bag Recyclables
and no garbage



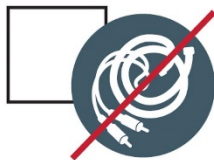
No Plastic Bags
(return to retail)



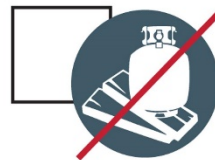
No Food or Liquid
(empty all containers)



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?

