



## Recycling Development Center Advisory Board Meeting

June 8, 2022 | 9am – 12pm (Pacific time)

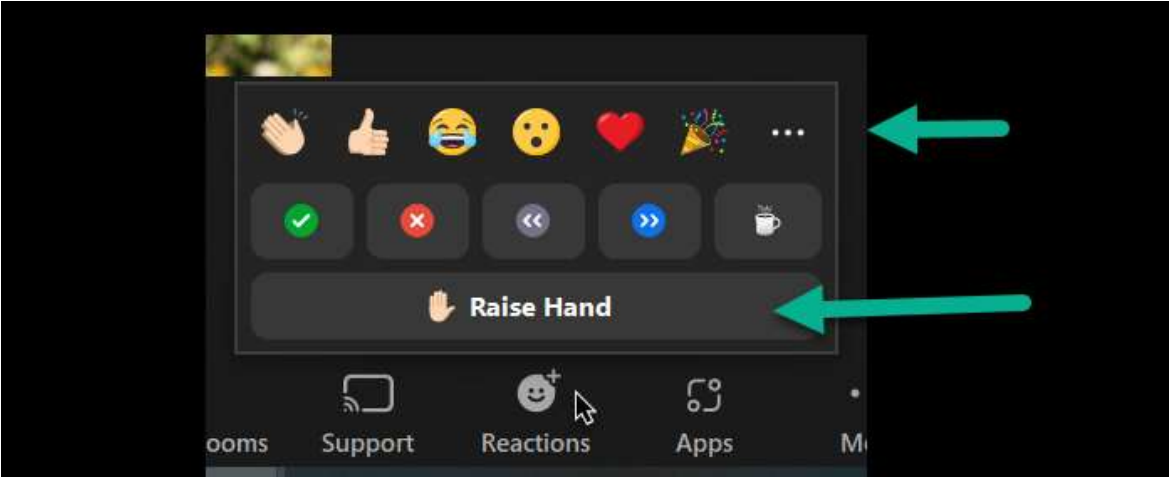
# Agenda

- |          |   |
|----------|---|
| 9:00 am  | Welcome & review meeting goals            |
| 9:15 am  | Updates                                   |
| 9:30 am  | Ecology's data on paper by Dan & Gretchen |
| 10:20 am | Bio Break                                 |
| 10:30 am | NORPAC presentation                       |
| 11:45 am | Wrap-up                                   |



# Participating in this meeting:

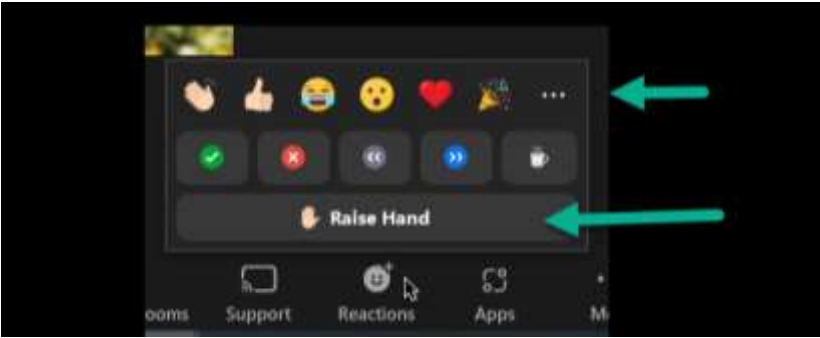
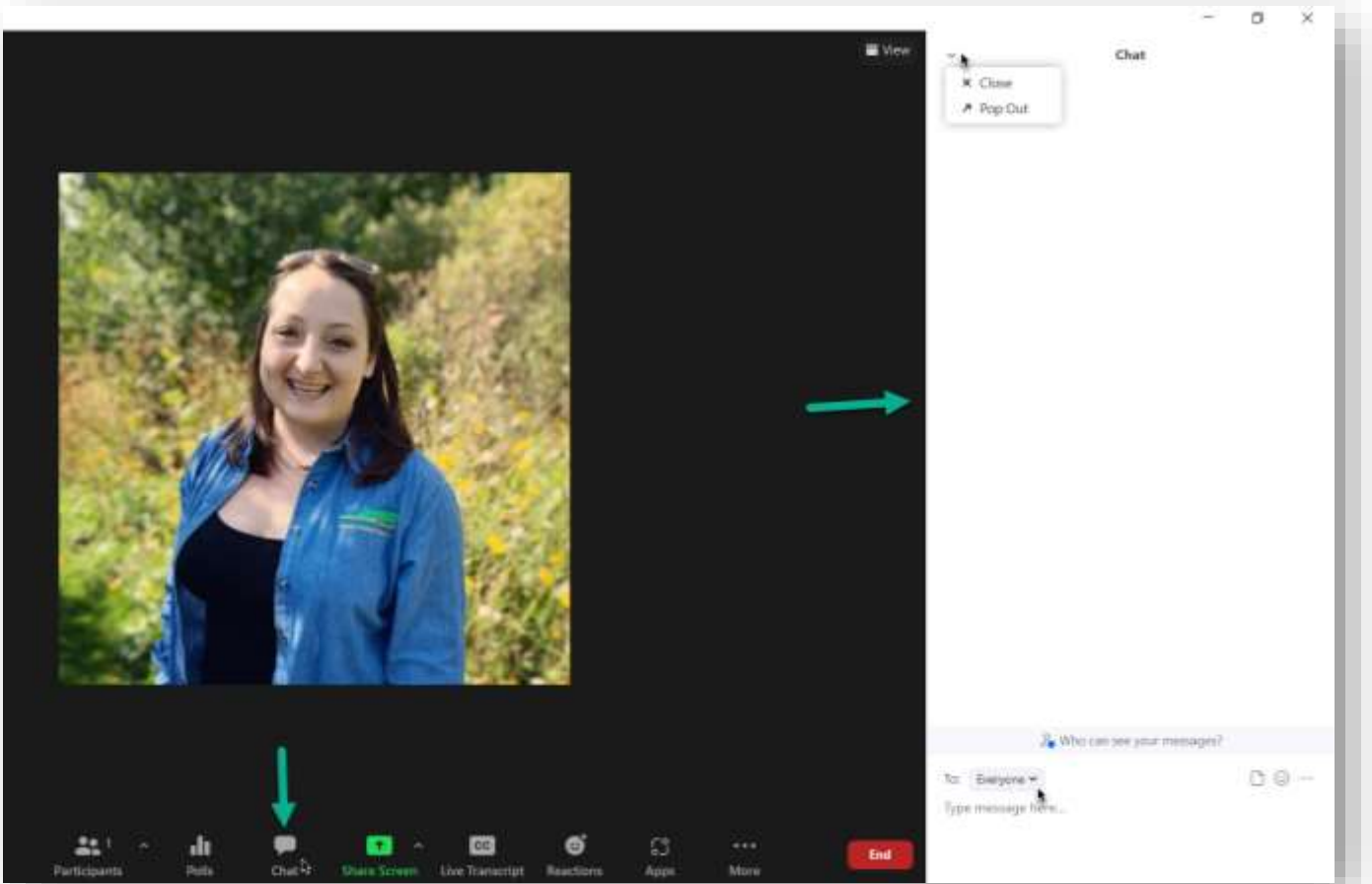
Board members and presenters may unmute themselves.



*Note: we are not recording this meeting, meeting notes will be posted on the Advisory Board website.*

# Participating in this meeting:

Participants may use reactions throughout.  
For questions, please raise your hand or type them in the chat box.



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# Center updates

Board member roundtable

Ecology update

Commerce update

Attendee comments



# Board roundtable:

Corinne Drennan



Scott Morgan



Karl Englund



Chris Piercy



Kyla Fisher



Mike Range



Nina Goodrich



Derek Ruckman



Allen Langdon



Tim Shestek



Kris Major



Jay Simmons



Heather Trim



# Agency Updates

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Kara Steward



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Rob Duff





# Center work plan for 2022-2024

NextCycle Washington

Materials marketplace

Advisory board

Legislative report

Outreach

Market research

## Recycling Development Center – Work Plan for 2022-2024



In 2019, the Washington State Recycling Development Center (Center) was created within the Department of Ecology (Ecology) in partnership with the Department of Commerce (Commerce) ([Chapter 70A.240](#) Revised Code of Washington (RCW)).

In July 2020, at the beginning of the pandemic, the Center [posted](#) its initial work plan. The advisory board's approved [charter](#) is available on its website. In July 2020, the advisory board approved a series of [goals and metrics](#) for the Center. In January 2021, the Center [published](#) its first biennial report to the legislature.

### Work Plan Overview

Ecology and Commerce provide staff and resources to conduct the work of the Center, including support to the advisory board. This work plan describes the following Center efforts:

### Washington data

State law requires the Center to develop a work plan that identifies *"actions and recommendations for developing markets for commodities comprising a significant percentage of the waste stream and having potential for use as an industrial or commercial feedstock, with initial focus on mixed waste paper and plastics."*

Our understanding of the materials in Washington's municipal solid waste (MSW) stream comes from two sources.

[https://www.ezview.wa.gov/Portals/\\_1962/Documents/rdcab/WorkPlan-July2022.docx](https://www.ezview.wa.gov/Portals/_1962/Documents/rdcab/WorkPlan-July2022.docx)

[www.nextcyclewashington.com](http://www.nextcyclewashington.com)



**NEXTCYCLE**  
WASHINGTON

**UPSTREAM** — Prevention  
Reuse  
Repair

Recycling  
Recovery  
End Use — **DOWNSTREAM**

Supporting businesses, community-based organizations and individuals working to expand the circular economy in Washington State.

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Tell us about your interest and your organization, and we'll help you find the best way to participate.

[GET INVOLVED →](#)

# Apply

You've attended the webinars, read the articles, reviewed the resources, and you're ready to participate – you're in the right place!

*Please reach out to [NextCycleWA@recycle.com](mailto:NextCycleWA@recycle.com) if you require interpretation or translation services. Full language support may not be available for the current program cycle, however, NextCycle is working to develop these services. Informing us of your needs will help us develop appropriate services.*

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## Paper presentations

Dan Weston – Ecology SWM Materials Management

Gretchen Newman – Ecology SWM Lead Data Analyst





# Paper presentation

Dan Weston – Local Recycling  
Program Survey





# Local Recycling Program Survey

Dan Weston

June 8, 2022

# What is the survey?

- Inventory of local recycling programs
  - Location and population
  - Services provided (curbside, multi-family, drop boxes etc.)
  - Curbside features (frequency, bin color)
  - Service arrangement (self-haul, contract, UTC)
  - Service providers (haulers, MRFs)
  - Program changes
  - Collection lists (“official” list vs advertised list)





# Why collect this information?

## State Level

- Legislation
  - Service equity
  - Labeling
- Market development

## Local Level

- CROPs
- Regional alignment
- Harmonized messaging



# Statewide stats

Recycling Service	# of Jurisdictions	Population
Yes	184	7,009,110
No	132	634,460
(blanks)	17	186,160

Collection Method	# of Jurisdictions	Population
Single-stream	153	5,972,150
Dual-stream	19	775,330
3-bin/source separated	10	249,180
N/A	132	634,460
(blanks)	19	431,590

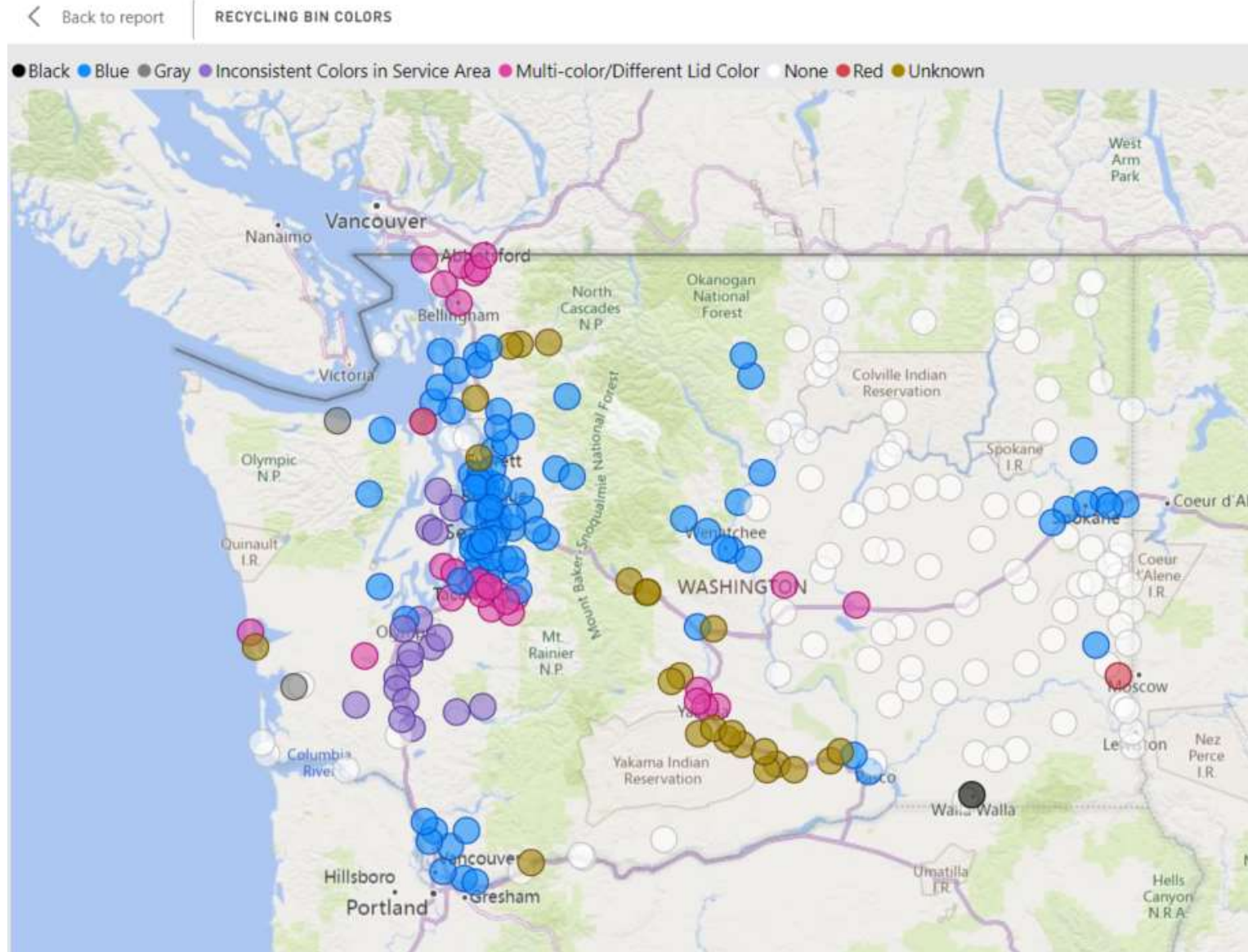
Recycling Frequency	# of Jurisdictions	Population
Weekly	27	1,197,460
Every Other Week	142	5,697,350
Monthly	5	21,175
N/A	132	634,460
(blanks)	27	279,285

Service Provider	# of Jurisdictions	Population
Contract	116	4,035,540
UTC	63	2,408,315
City Self-haul	8	560,860

Program Changes by Jurisdiction	Yes	No
Due to China Sword	178	73
During 2021	47	172

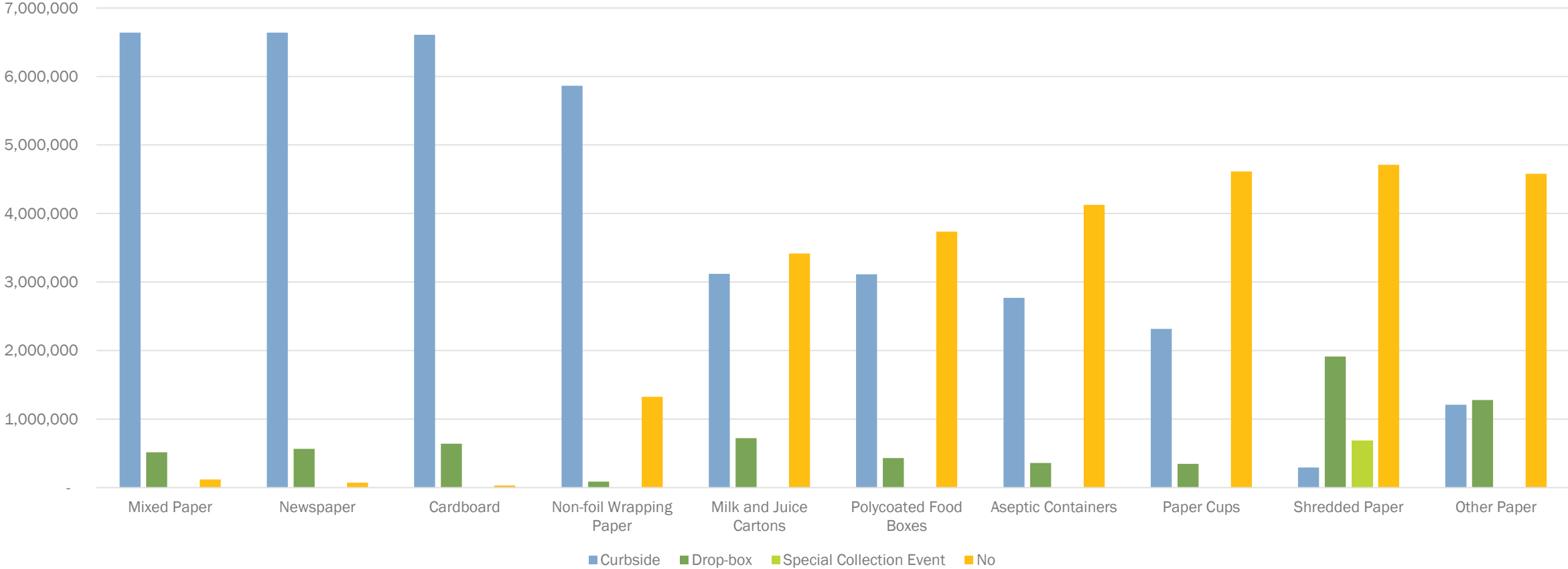
# Local Program Recycling Survey

Bin Color	# of Jurisdictions	Population
Blue	100	4,636,265
Black	1	33,680
Gray	2	436,885
Red	1	29,690
Inconsistent	19	564,665
Multi-color	44	816,385
N/A	138	1,035,505
(blanks)	28	276,655



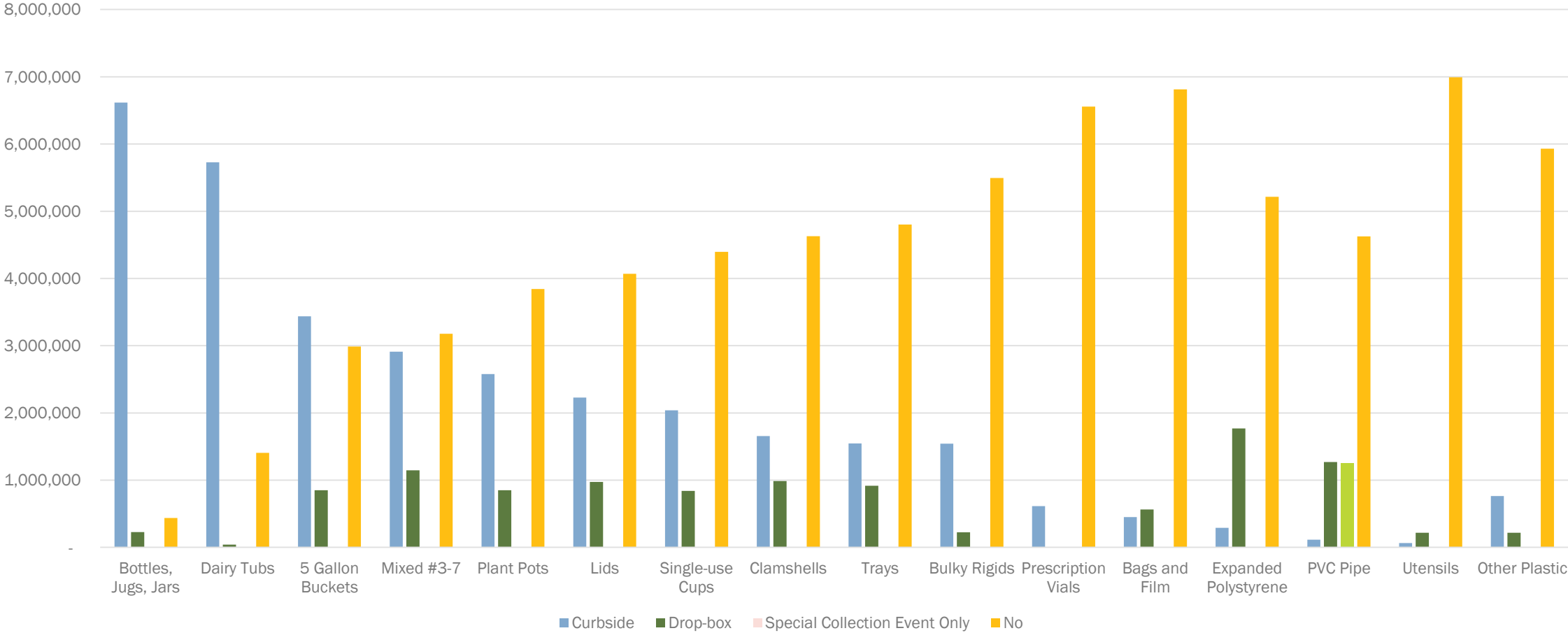
# Paper Collection

Population with Access to Paper Recycling



# Plastic Collection

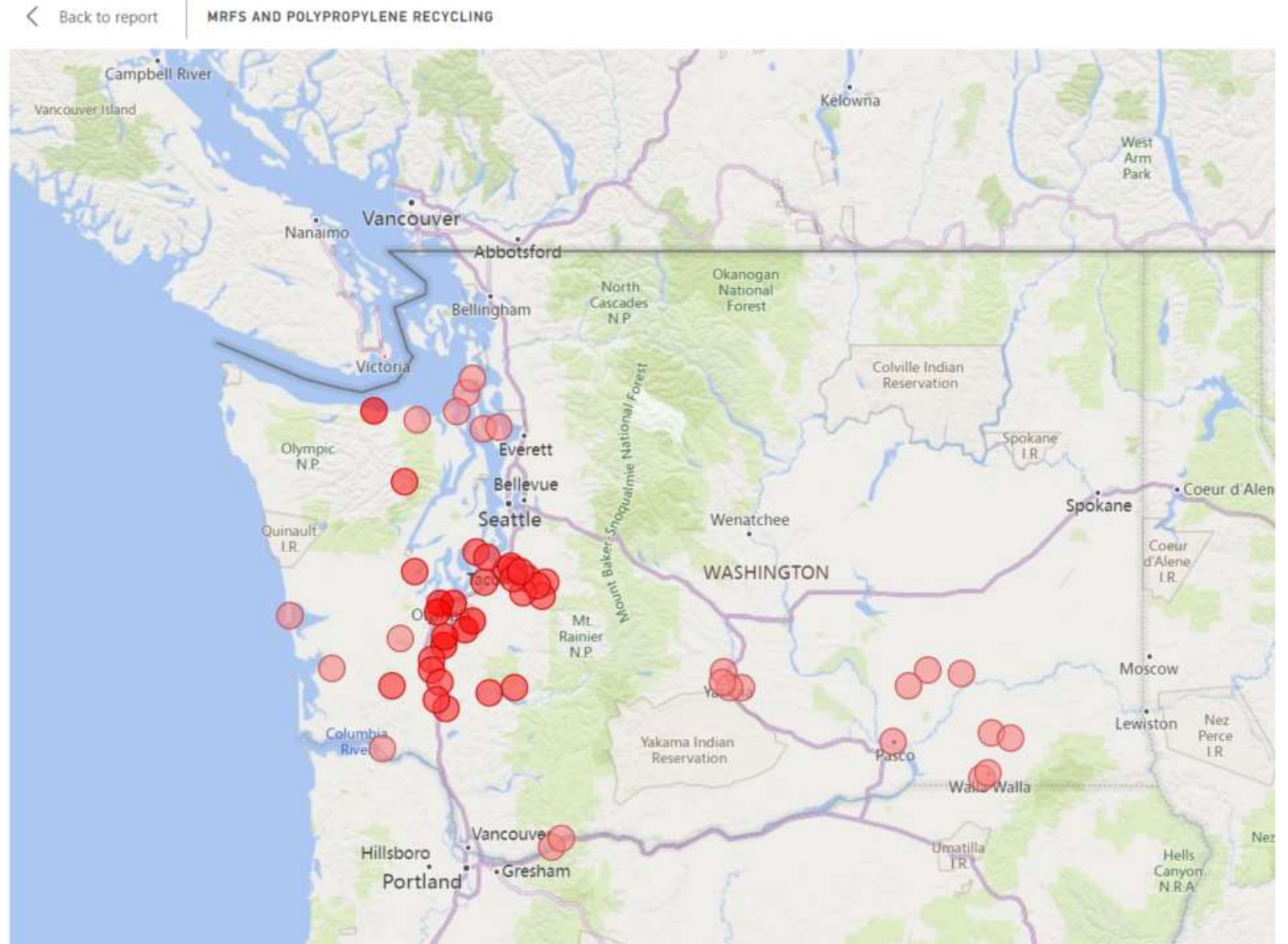
Population with Access to Plastic Recycling





# Local Program Recycling Survey

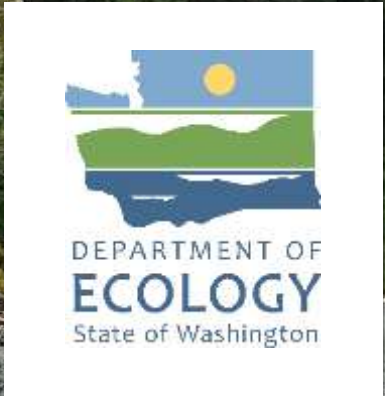
- Jurisdictions that accept #5 PP curbside
- Color represents MRF
- Opacity represents acceptance



# Next Steps

- Complete remaining jurisdictions
- Additional review and data cleaning
- Create summaries, maps, graphs, etc.
- Ongoing updates
- More data – garbage collection, organics, other?





# Questions?

Dan Weston

Statewide Recycling Coordinator

[Daniel.Weston@ecy.wa.gov](mailto:Daniel.Weston@ecy.wa.gov)



# Paper presentation

Gretchen Newman – 2020-2021  
Waste Characterization study





# PAPER IN DISPOSED WASTES

GRETCHEN  
NEWMAN

SOLID WASTE  
MANAGEMENT

RDC

JUNE 8, 2022

2020-2021 WASHINGTON STATEWIDE

## Waste Characterization Study

State of Washington Department of Ecology



# Purpose of the Study

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- State law directs Ecology to measure waste stream and provide data to locals (70A.205).
- Supports the State Solid and Hazardous Waste Plan.
- Helps Ecology and local governments guide future work.



# Study Elements: Sectors & Samples



SECTOR	NUMBER OF SAMPLES
Commercial	240
Residential	120
Self-hauled	160
<b>Total</b>	<b>520</b>

# Study Elements: Material Classes

MATERIAL CLASSES	NUMBER OF MATERIAL TYPES WITHIN CLASS
Paper Packaging	8
Paper Products	8
Plastic Packaging	17
Plastic Products	12
Glass	6
Metal	9
Organics	10
Wood Debris	9
Construction Materials	12
Consumer Products	18
Hazardous and Special Wastes	29
Residuals	5
<b>Total</b>	<b>143</b>

# Study Elements: Seasons

Season 1: August 10 – 21, 2020

Season 2: November 11 – 20; December 14 – 18, 2020

Season 3: February 8 – 12; February 22 – 26, 2021

Season 4: April 5 – 16, 2021



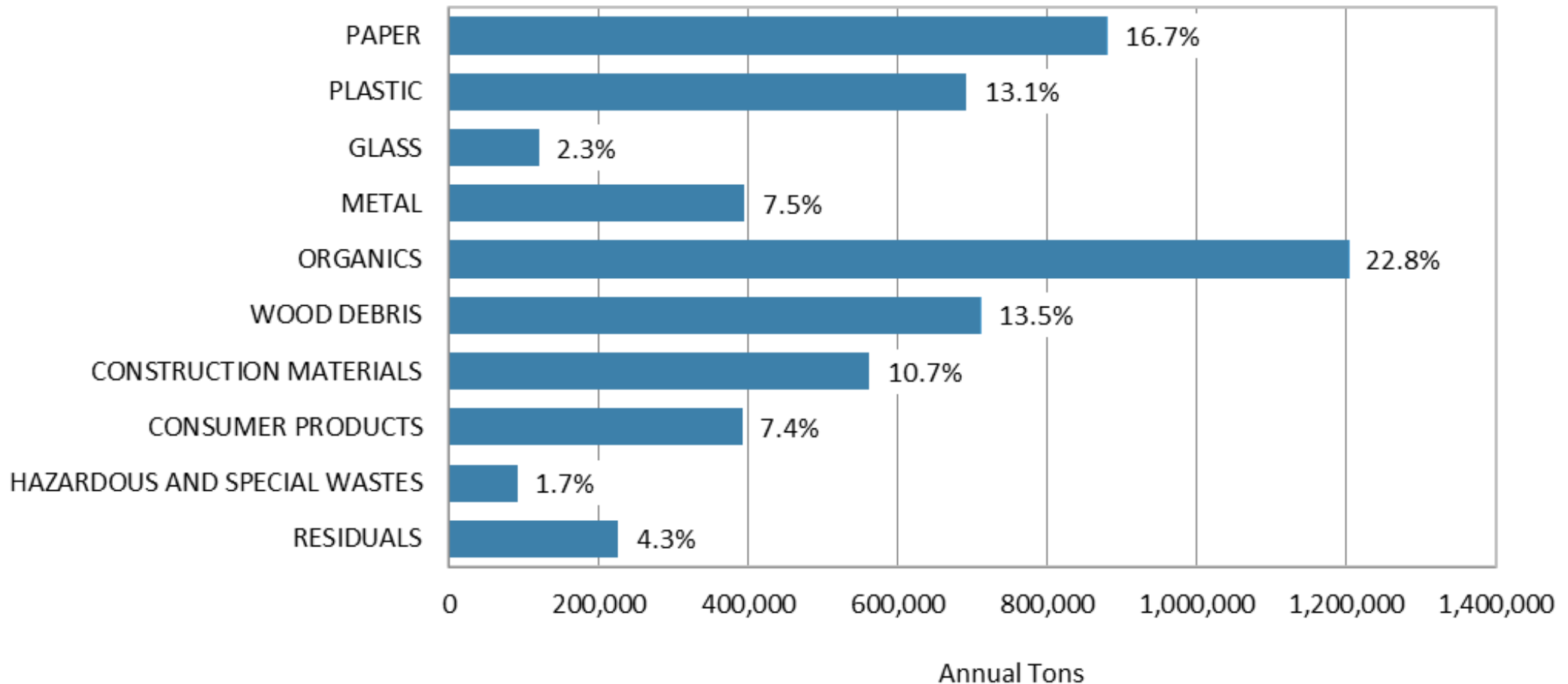
# What stands out statewide?

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- 17% of our overall garbage is paper
- More trashed paper and cardboard, >200,000 tons
- Residential garbage increased by 800,000 tons



# Overall Statewide Disposed Waste Stream Composition by Material Class, Combined Packaging and Products, 2020-21

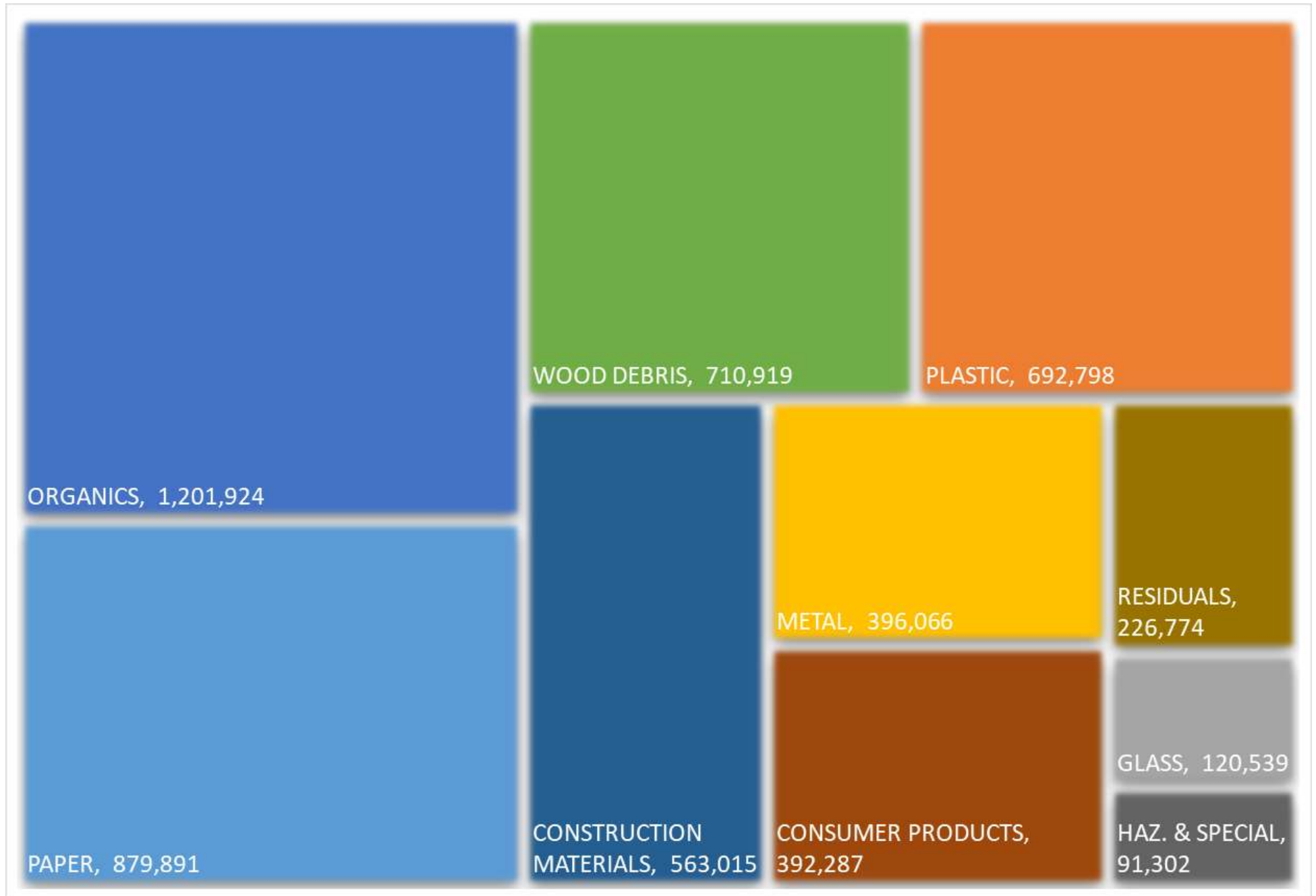


# Overall Statewide Disposed Waste Stream - 15 Most Prevalent Material Types, 2020-21

Material	Est. Percent	Est. Tons
Edible Food Waste- Vegetative	6.4%	336,564
Cardboard & Kraft Packaging	5.2%	276,196
Painted Wood	4.8%	253,958
Inedible Food Waste- Vegetative	4.8%	250,860
Animal Manure	4.8%	250,763
Compostable Paper Products	3.4%	180,366
Other Ferrous Metal	3.3%	174,364
Drywall	3.2%	167,785
R/C Metal	2.6%	139,654
Yard/Garden Waste- Leaves and Grass	2.5%	132,218
Packaging Film Plastic	2.4%	123,992
Engineered Wood	2.1%	112,899
Edible Food Waste- Meats/Fats/Oils	2.1%	109,571
Compostable Paper Packaging	2.0%	107,175
Bulky Rigid Plastic Products	1.9%	98,194
<b>Total for Top Materials</b>	<b>51.5%</b>	<b>2,714,561</b>

*Percentages for material types may not total 100% due to rounding.*

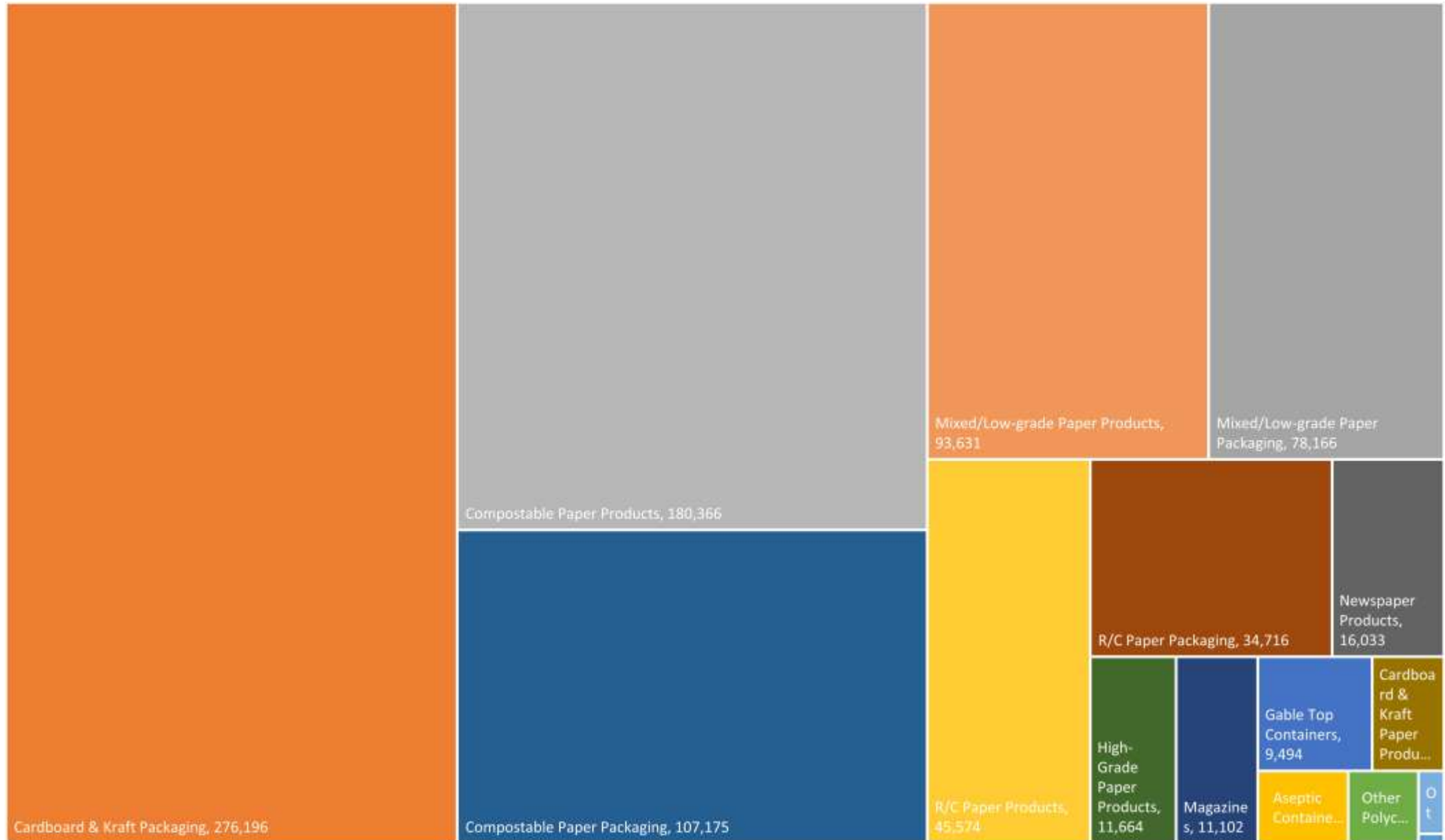
# Overall Statewide Disposed Waste Stream Composi- tion



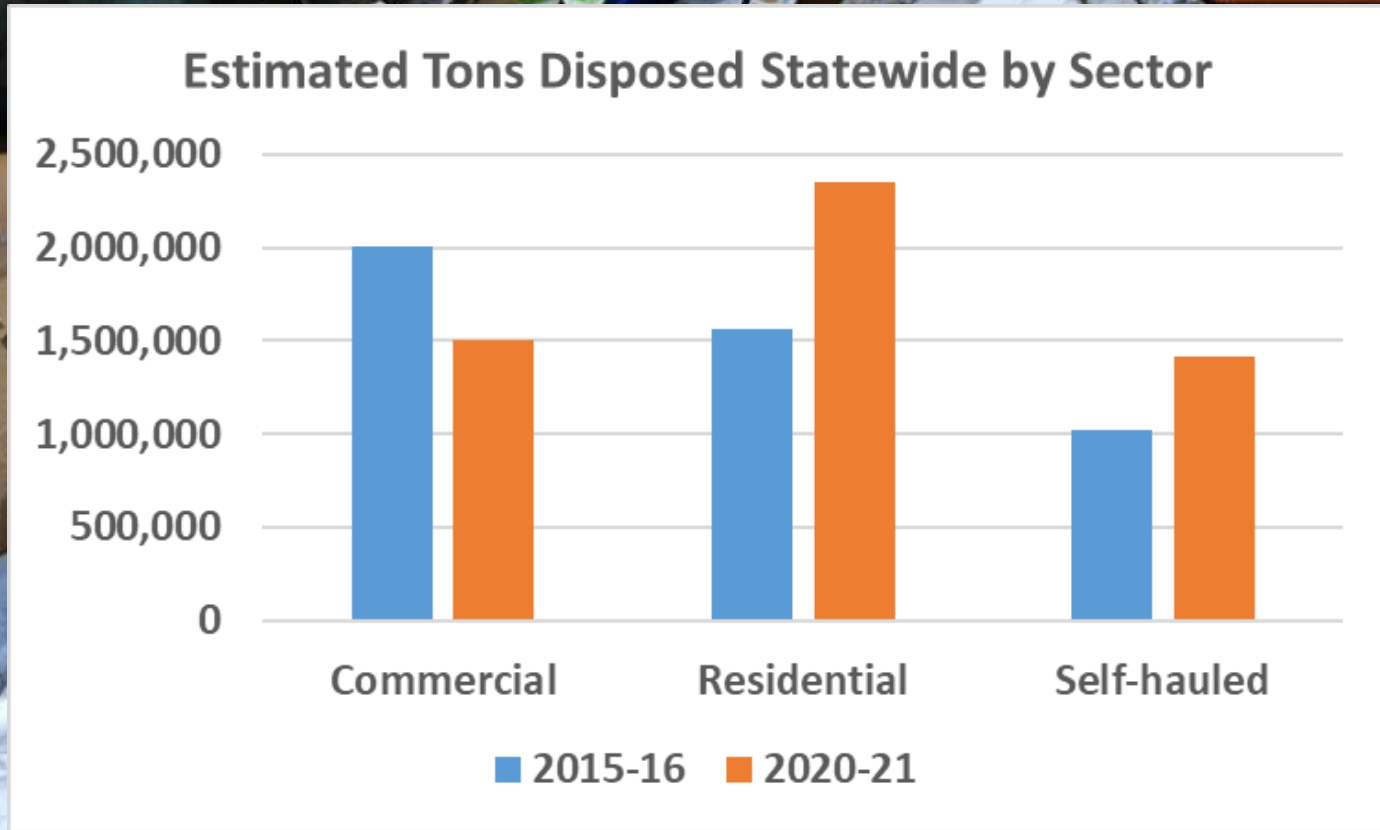
# Materials from Washington Solid Waste Characterization Study

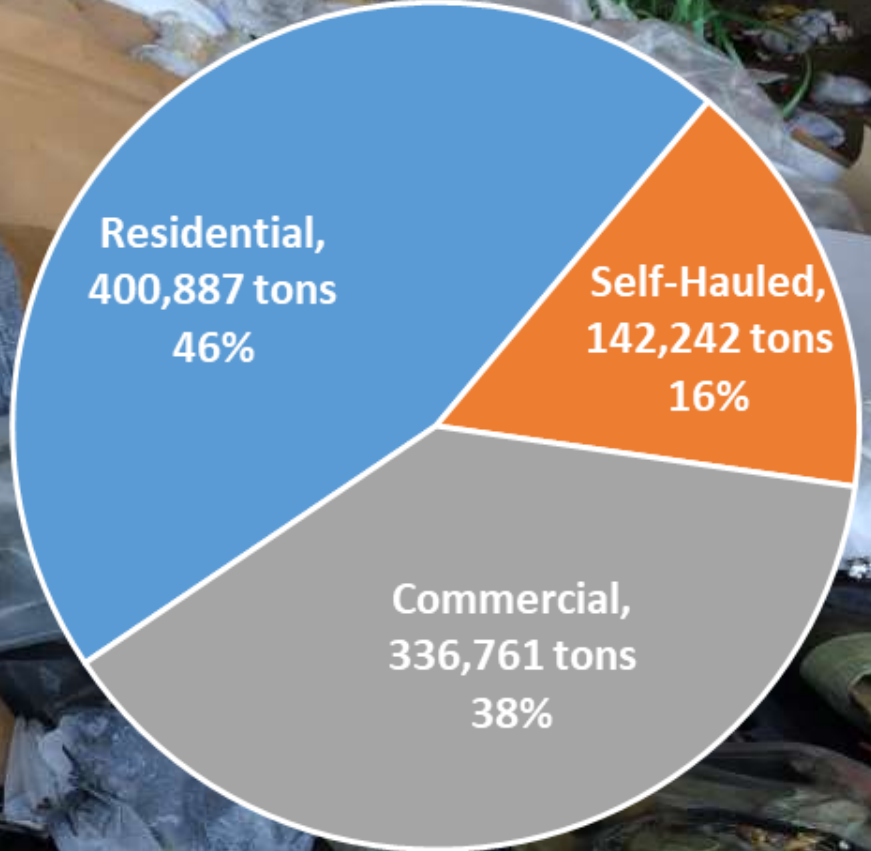
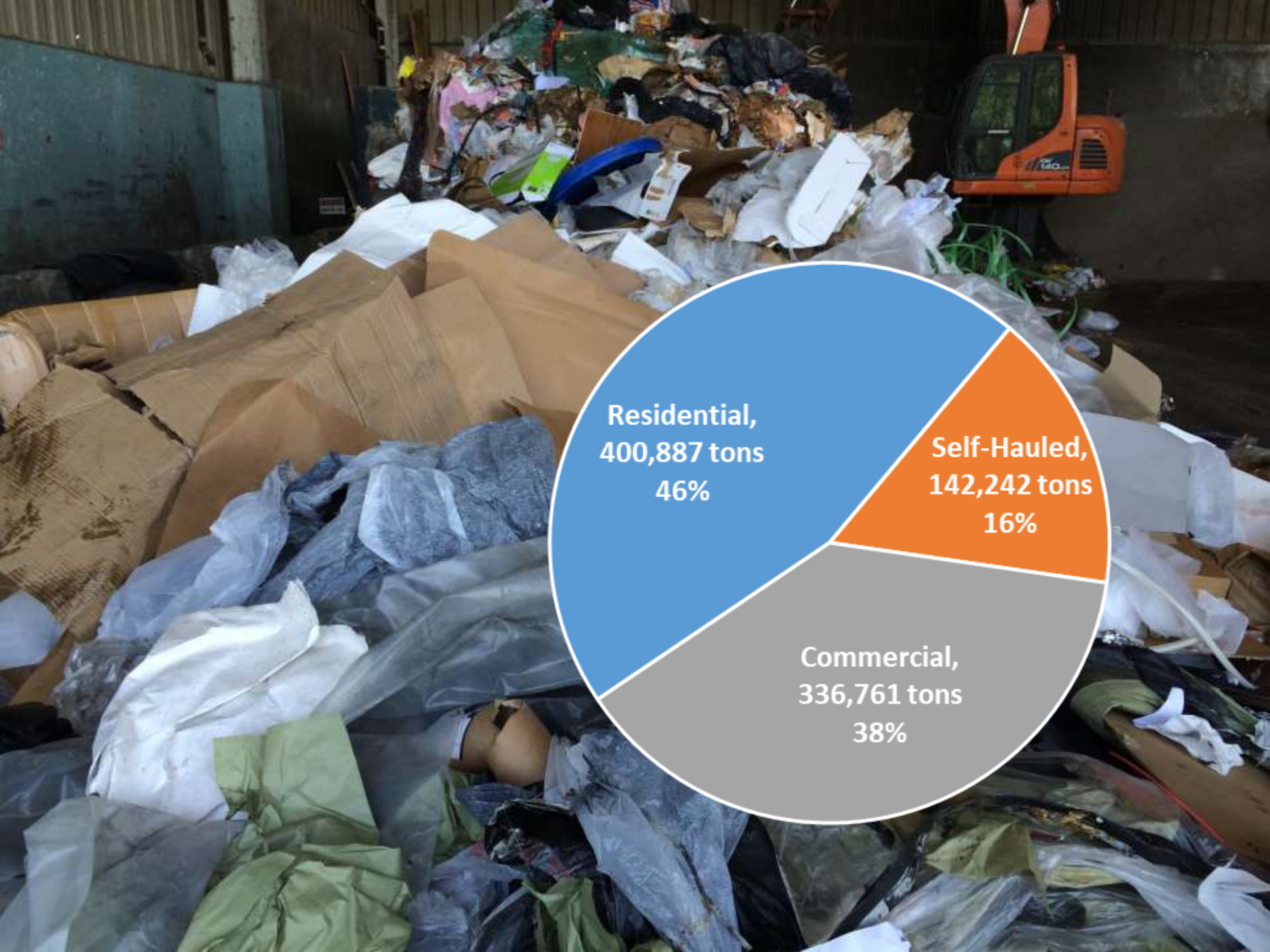


# Paper Packaging & Products in Disposed Wastes



# Estimated Tons of Disposed Waste by Sector

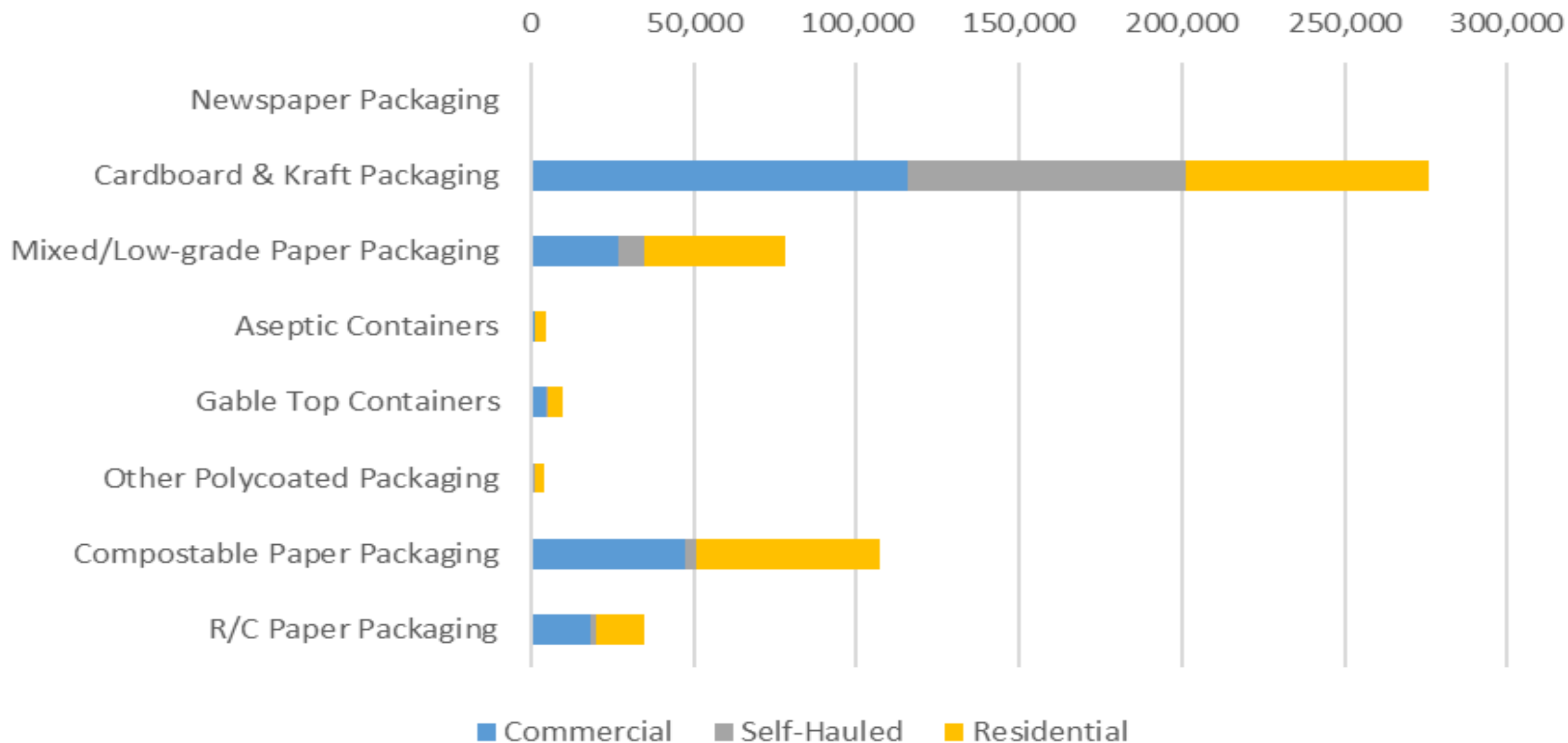




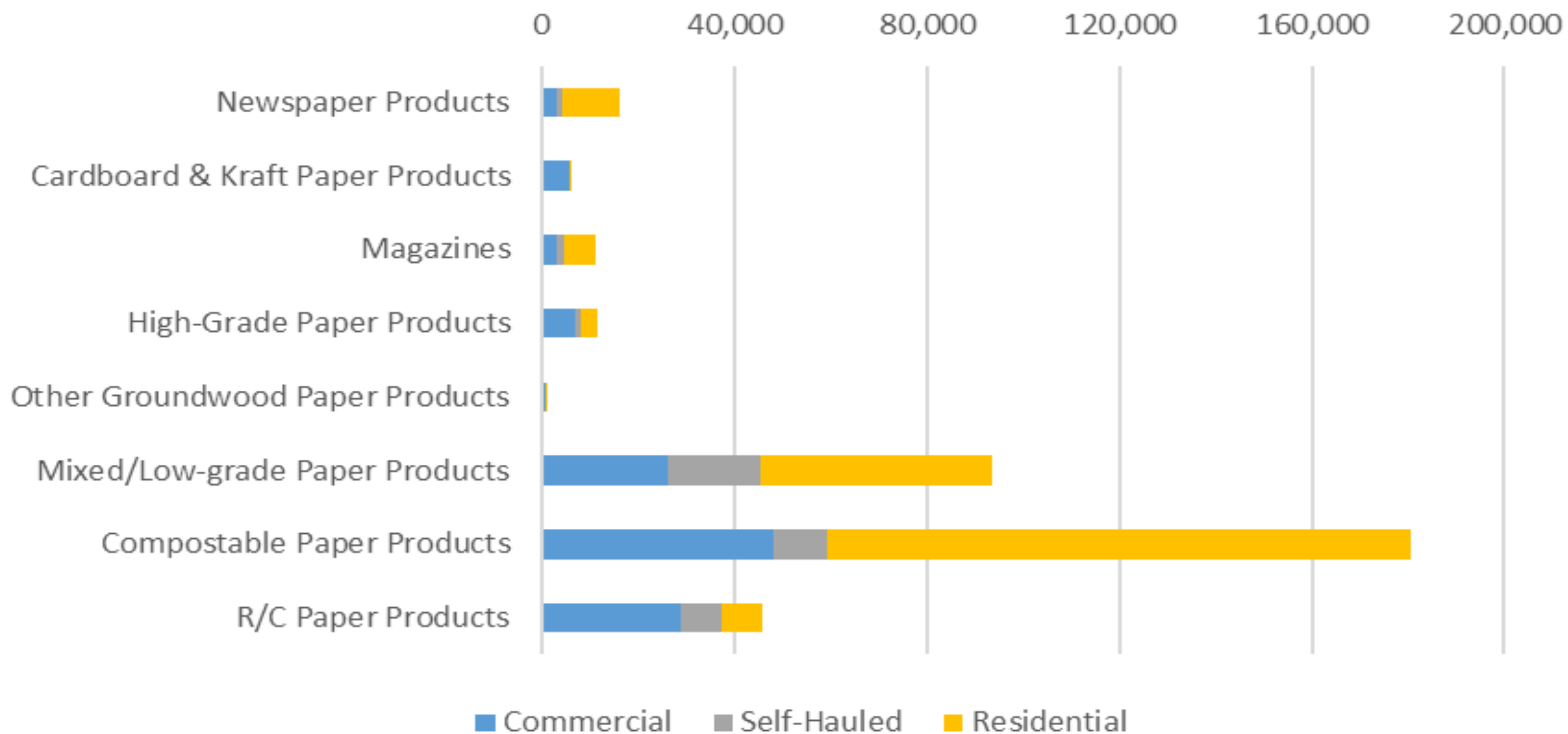
Paper  
Disposed  
by  
Sector,  
2020-21



## Paper Packaging Disposed by Sector (tons)



## Paper Products Disposed by Sector (tons)

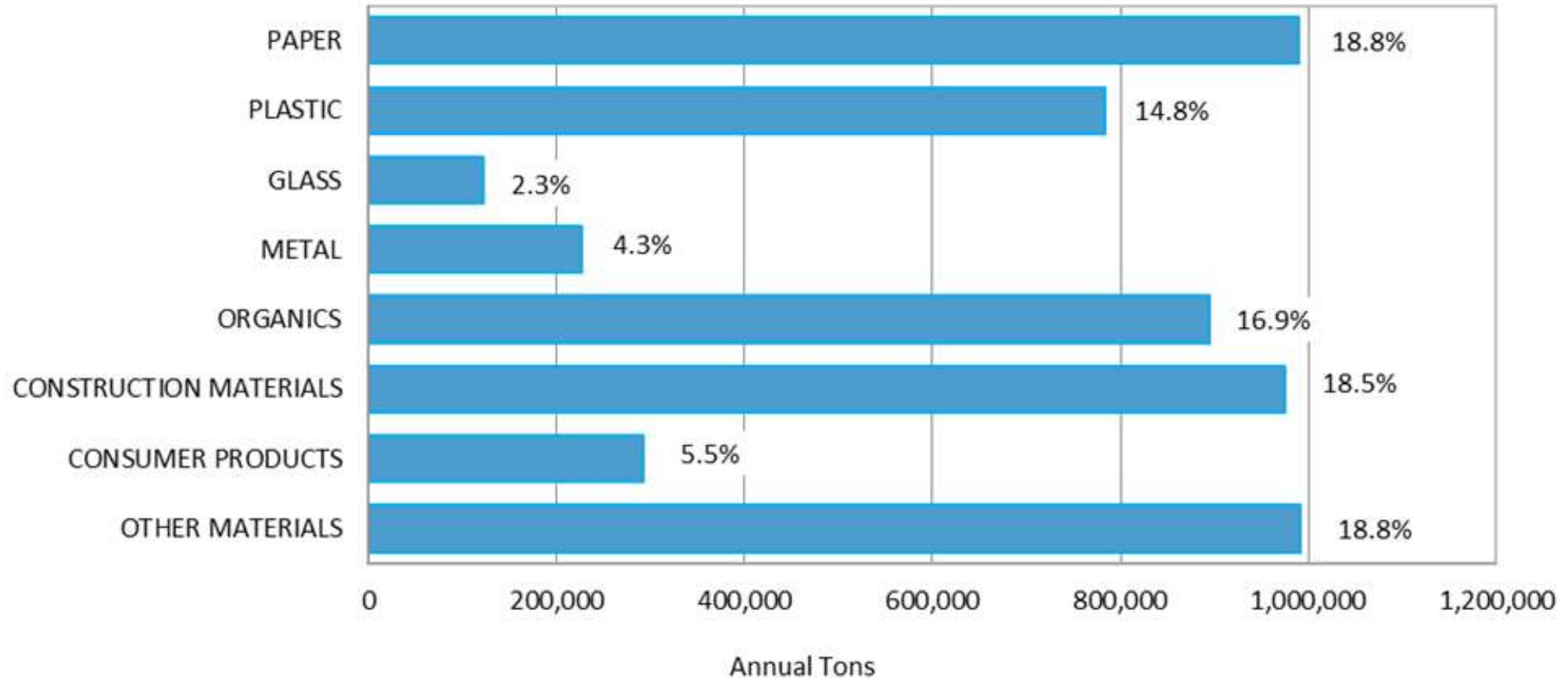




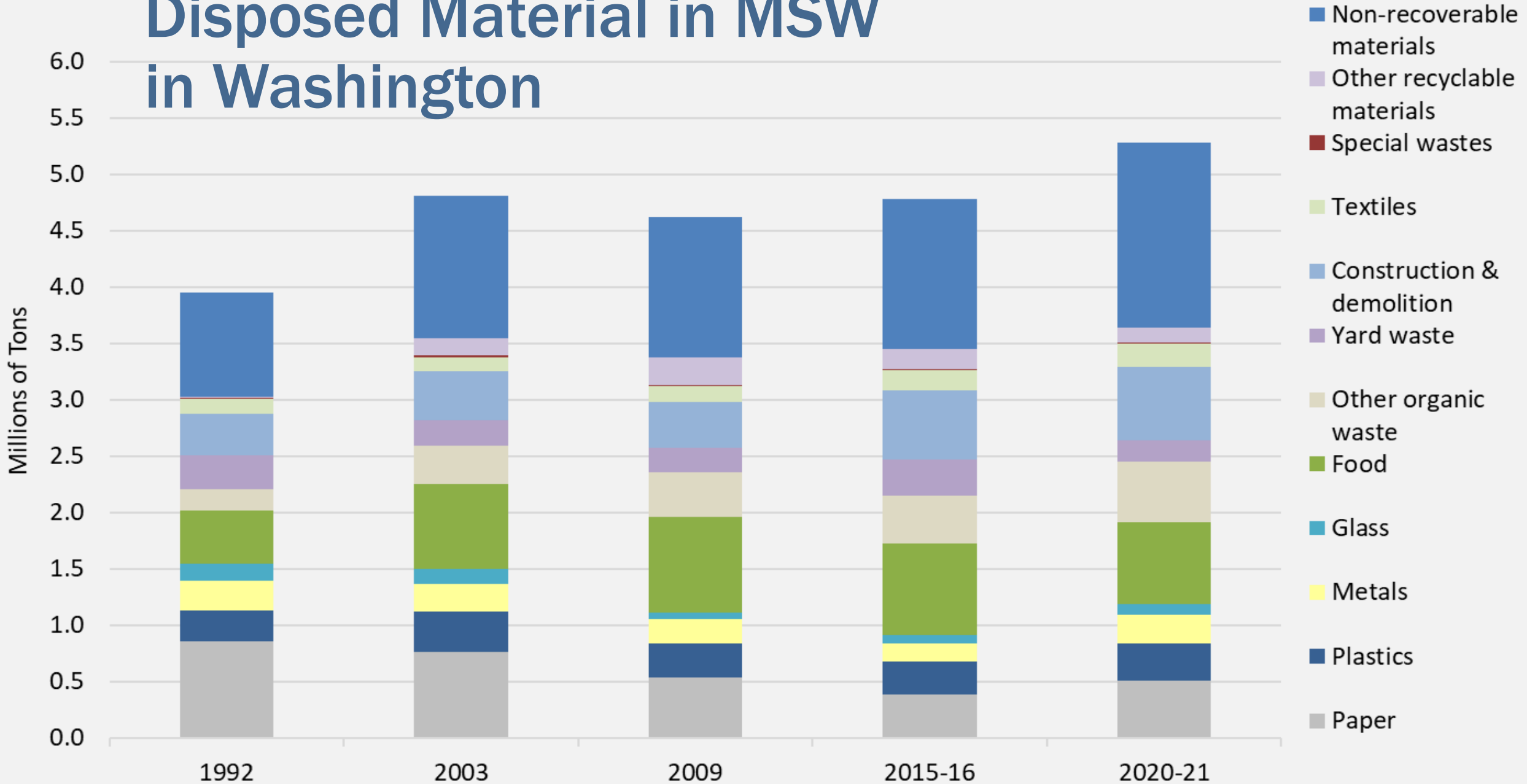
# Annual Disposed Tonnage by Waste Generation Area, 2017

WASTE GENERATION AREAS	ANNUAL DISPOSED TONNAGE
Central WGA	590,822
East WGA	844,896
Northwest WGA	334,760
Puget Sound WGA	2,818,338
Southwest WGA	500,073
West WGA	186,626
<b>Total</b>	<b>5,275,515</b>

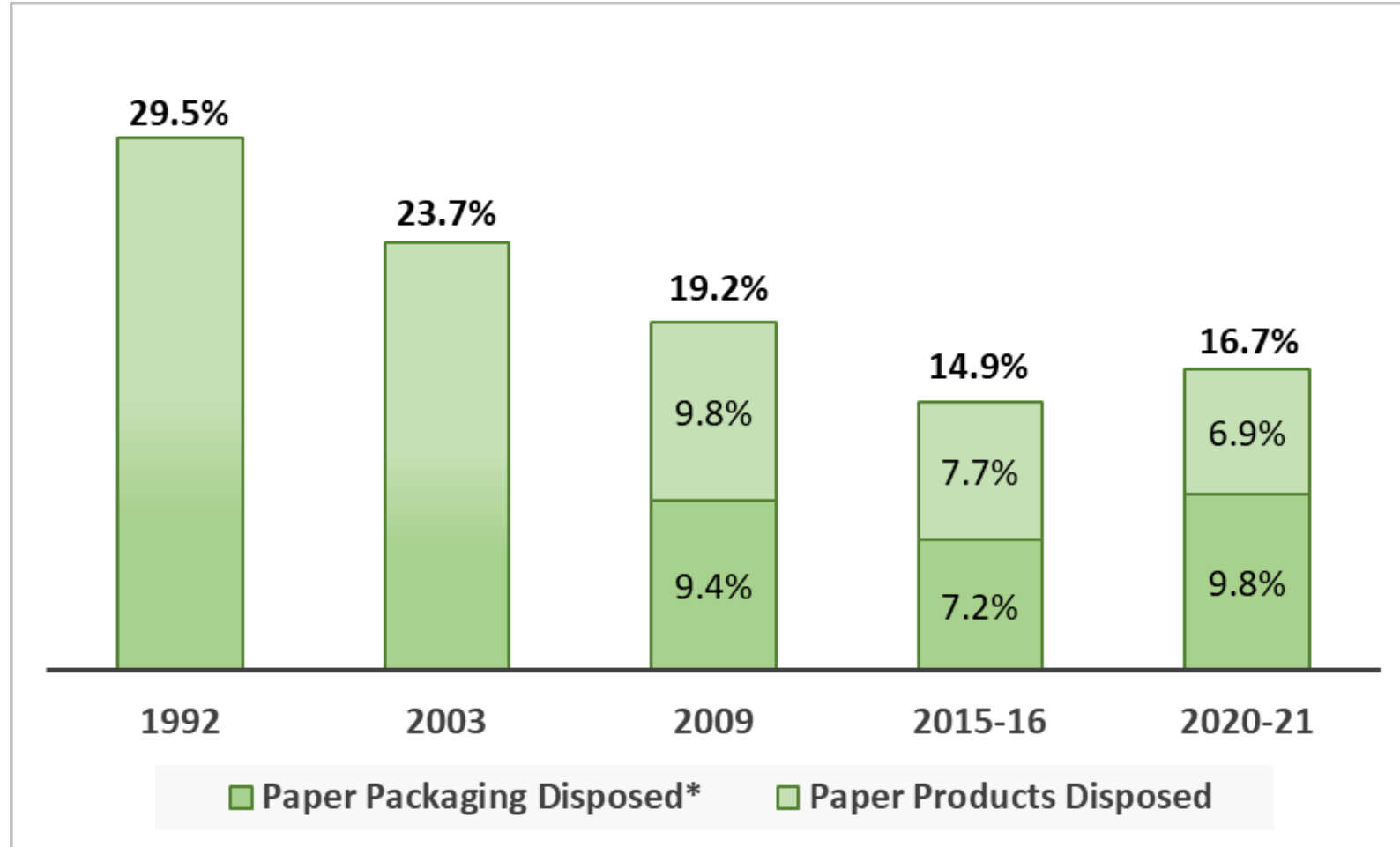
# Supplemental Statewide Results – Overall Statewide Disposed Waste Stream Composition by Material Class, 2020-21



# Disposed Material in MSW in Washington

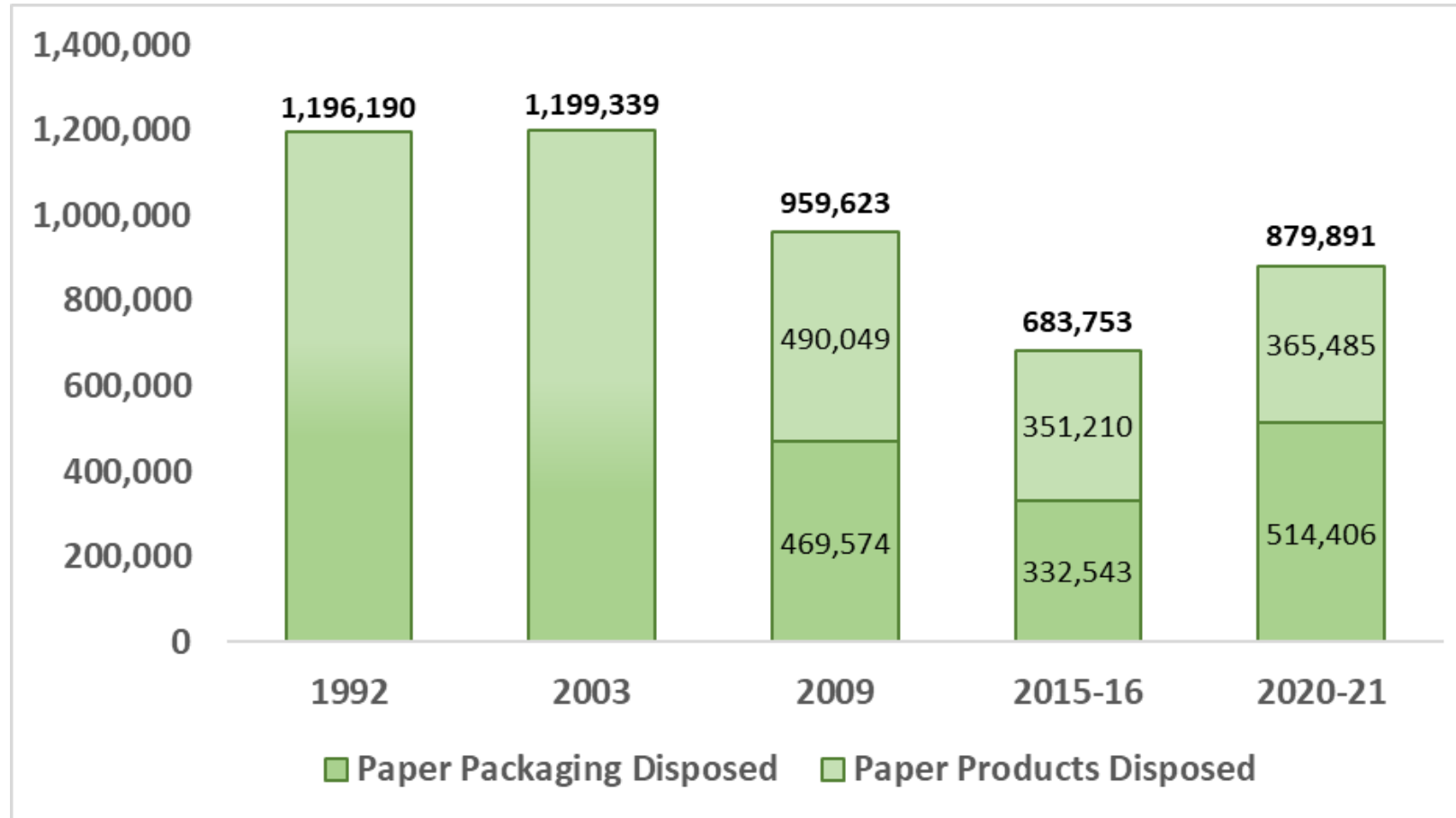


# Paper Packaging & Products Disposed, %



\*Paper packaging and products are combined in 1992 and 2003.

# Paper Packaging & Products Disposed, Tons



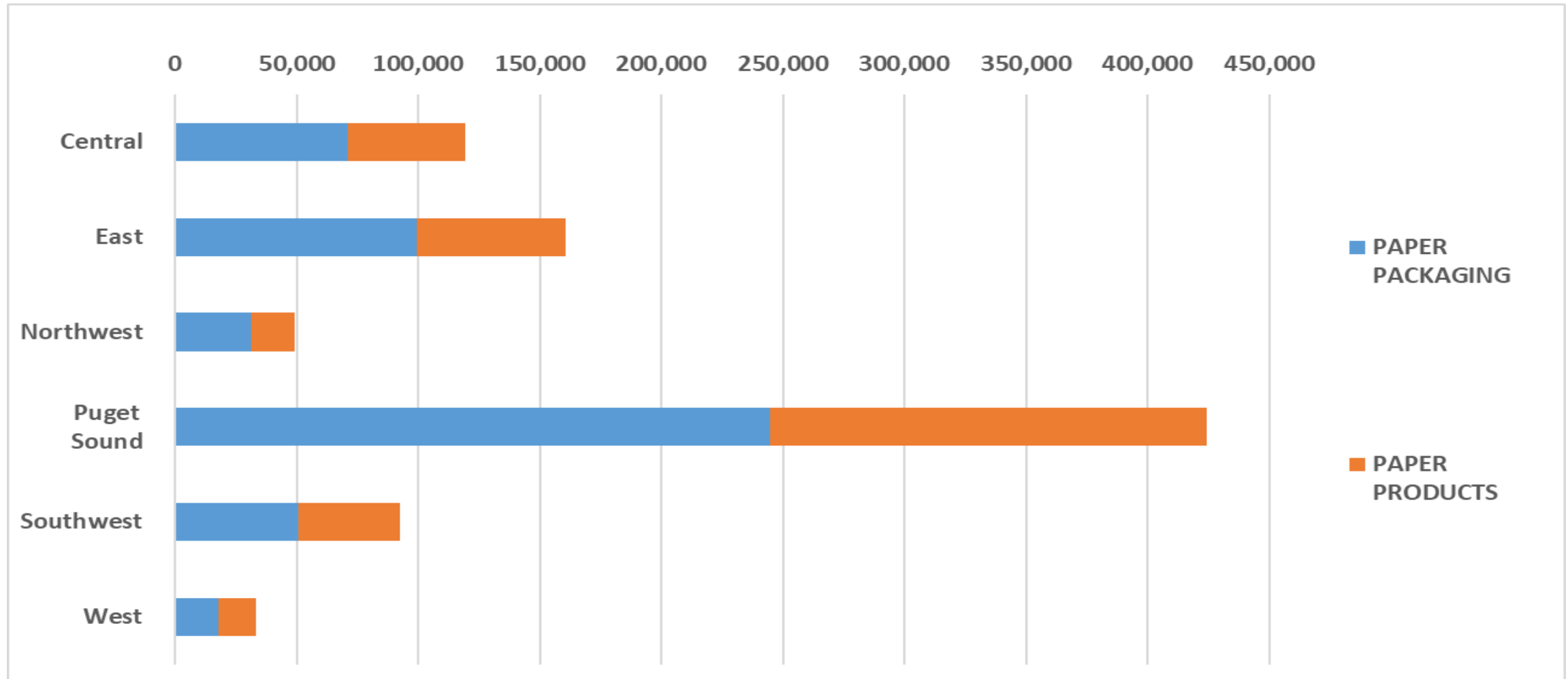
\*Paper packaging and products are combined in 1992 and 2003.

# Paper Disposed in MSW in Washington

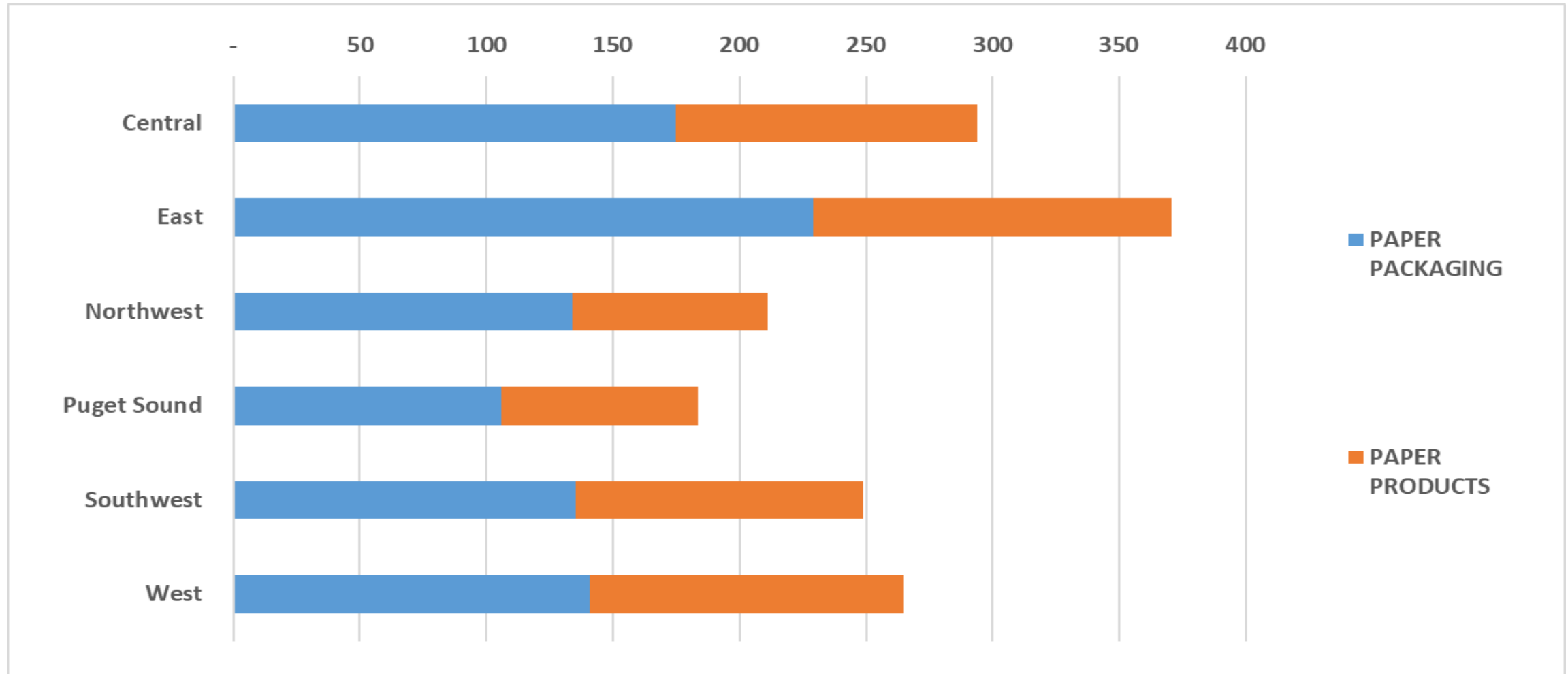
Material	2009 waste composition study		2015-16 waste composition study		2020-21 waste composition study	
	Estimated % of MSW	Estimated Tons in MSW	Estimated % of MSW	Estimated Tons in MSW	Estimated % of MSW	Estimated Tons in MSW
<b>PAPER PACKAGING:</b>						
Newspaper Packaging	0.24%	12,088	0.17%	7,673	0.00%	178
Cardboard/Kraft Paper Packaging	3.72%	185,311	3.12%	143,398	5.24%	276,196
Other Groundwood Paper Packaging	0.15%	7,344	0.11%	5,267		
Mixed/Low Grade Paper Packaging	2.62%	130,662	1.84%	84,336	1.48%	78,166
Asceptic, polycoat, and gable top packaging			0.23%	10,552	0.34%	17,975
Compostable Paper Packaging	1.17%	58,191	1.07%	49,332	2.03%	107,175
R/C Paper Packaging	1.53%	75,979	0.70%	31,986	0.66%	34,716
<b>PAPER PRODUCTS</b>						
Newspaper Products	1.42%	70,594	0.78%	35,814	0.30%	16,033
Cardboard/Kraft Paper Products	0.08%	3,894	0.08%	3,577	0.11%	5,952
Magazines	0.93%	46,149	0.24%	11,019	0.21%	11,102
High-Grade Paper Products	1.00%	49,667	0.69%	31,828	0.22%	11,664
Other Groundwood Paper Products	0.28%	13,874	0.01%	447	0.02%	1,162
Mixed Low Grade Paper Products	1.63%	81,068	1.10%	50,689	1.77%	93,631
Compostable Paper Products	4.05%	201,801	4.01%	184,006	3.42%	180,366
R/C Paper Products	0.46%	23,003	0.74%	33,829	0.86%	45,574
<b>Total Paper disposed</b>	<b>19.28%</b>	<b>959,624</b>	<b>14.90%</b>	<b>683,753</b>	<b>16.68%</b>	<b>879,891</b>



# Paper Disposed by WGA, 2020-21 (tons, all sectors)

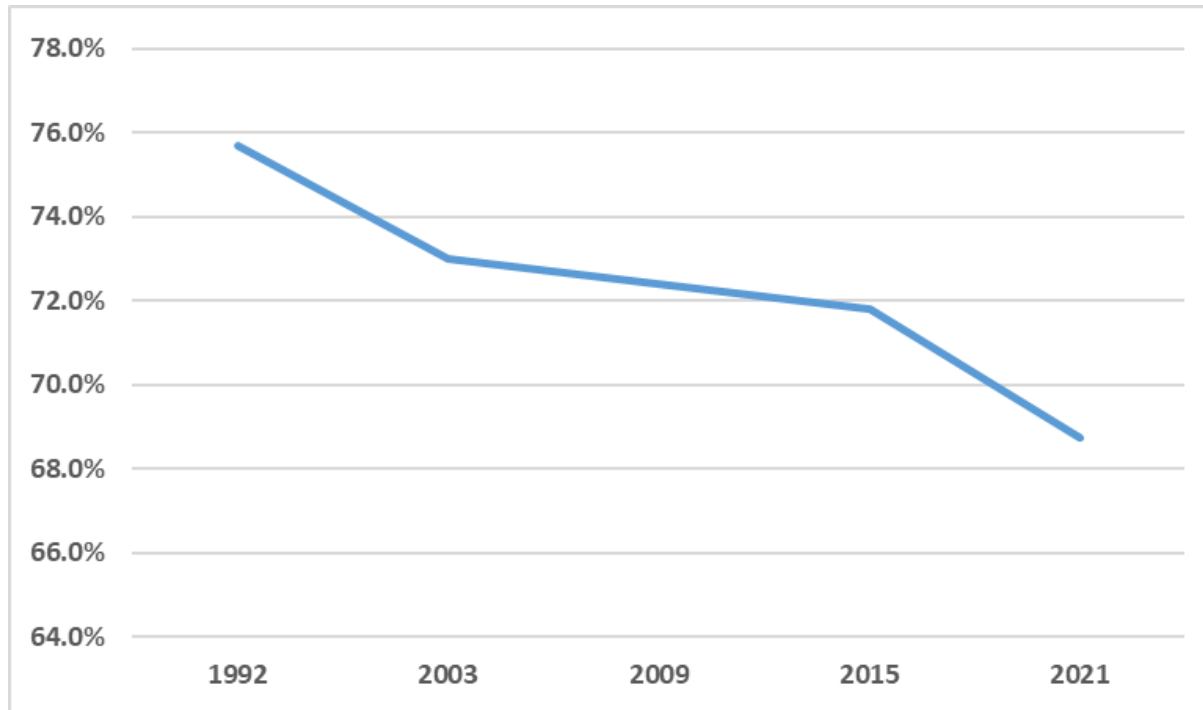


# Paper Disposed by WGA, 2020-21 (pounds/person/year, all sectors)



# Percent Recoverable Materials Remaining in Disposed Wastes

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# Questions?

**Contact:**

Gretchen Newman

WA Dept. of Ecology

Olympia, WA

360-764-0588 (cell)

[gretchen.newman@ecy.wa.gov](mailto:gretchen.newman@ecy.wa.gov)



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

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# Let's take 10 minute break



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# Paper presentations

NORPAC Introduction

Finished Product Market Overview

Wastepaper

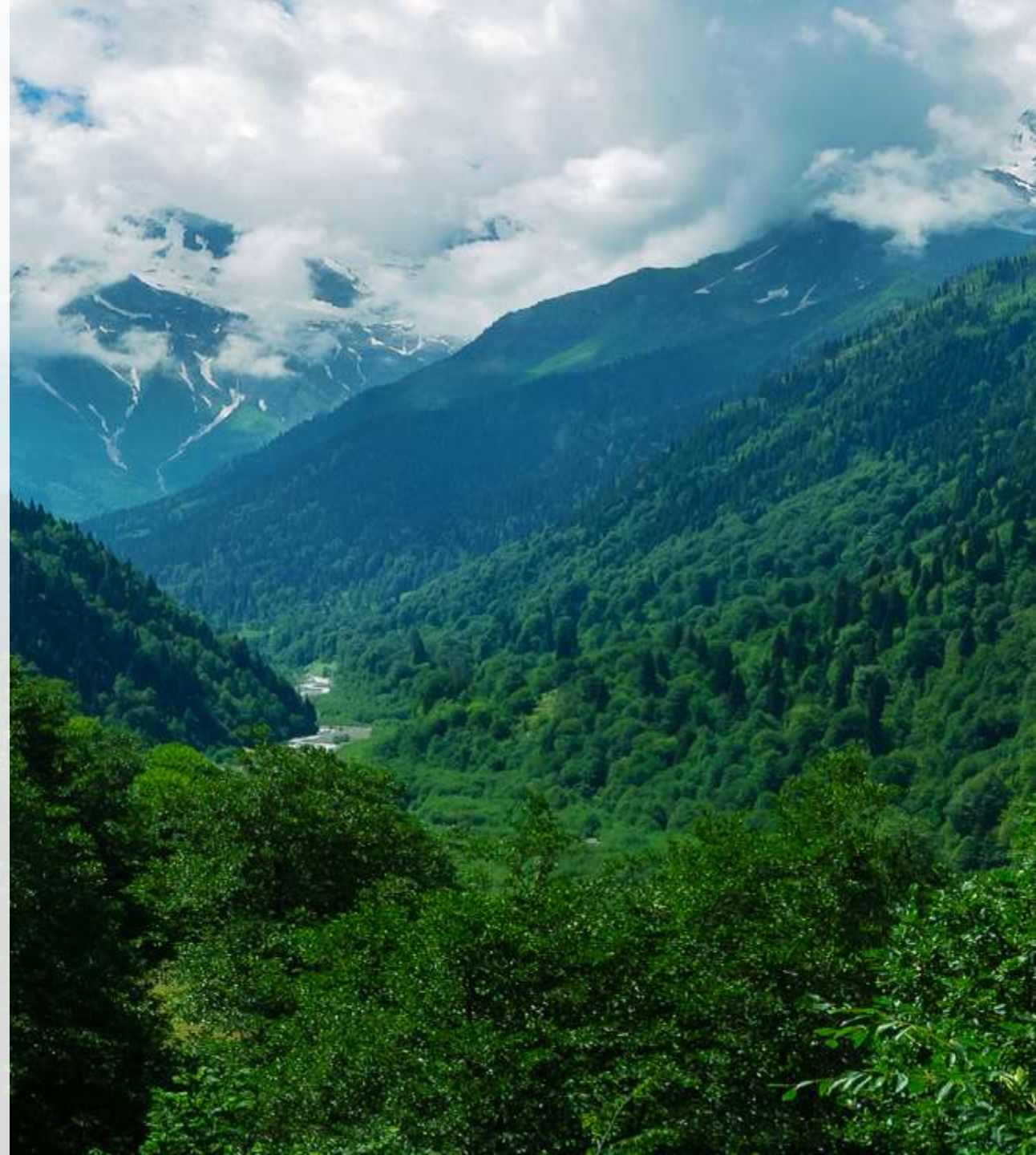






**NORPAC**

Company Introduction  
and  
Recovered Fiber



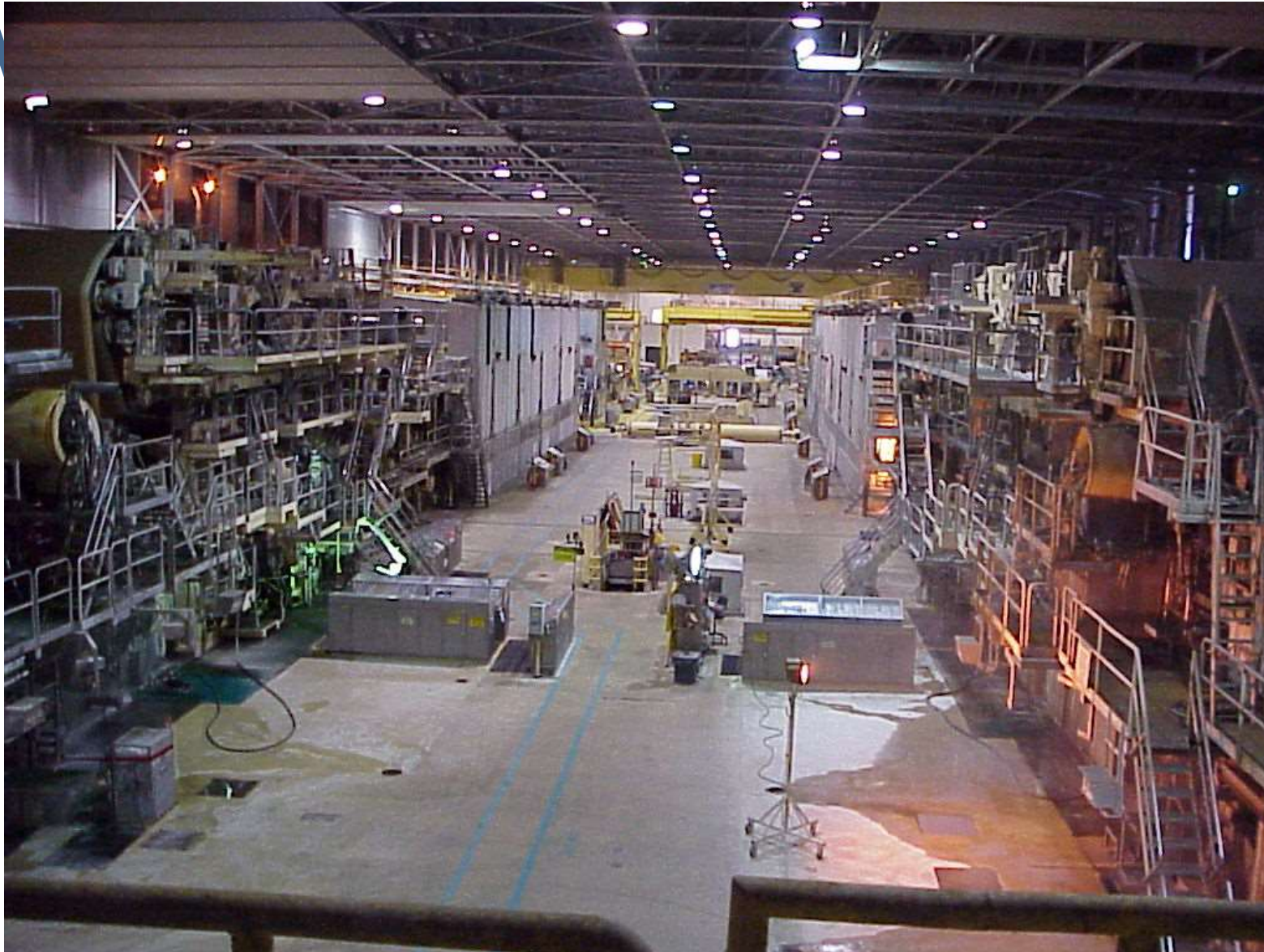
# NORPAC



# NORPAC



# NORPA



# NORPAC



# NORPAC



# NORPAC Organization

- North Pacific Paper Company (NORPAC) is the largest Specialty Paper mill in North America
- Longstanding facility that was started in 1979 as a JV between Weyerhaeuser (USA) and Nippon Paper (Japan)
- In November 2016, the mill was purchased by One Rock Capital
- ~400 current skilled employees
- 100+ contractors and many other suppliers and transportation providers directly serving the business; significant multiplier effect exists over and above the employees of the mill
- Three paper machines with an annual capacity of ~800,000 tons at current grade mix and limited recycle fiber supply
- Due to poor market conditions resulting from unfairly traded imports from Canada, we idled our PM#1 in October 2017. PM#1 was restarted in May 2018. Packaging Papers produced from waste paper are 100% of PM#1's production.



# Best in the Business

Three of the world's largest and fastest paper machines

	Placed in Service	Trim	Speed
①	1979	356"/9 meters	4,400'/1,340 m/minute
②	1981	356"/9 meters	4,200'/1,280 m/minute
③	1991	330" / 8.4 meters	4,700' / 1,430 m / minute

Daily capacity equivalent to a 30-foot wide sheet stretching from Seattle to Miami



## Bright, clean, affordable papers

- Newsprint in basis weights from 40 gsm to 48.8 gsm
  - Norbrite Book—caliper-controlled papers in cream and blue white shades for book publishers and printers
  - Norbrite—high bright groundwood papers 65-92 ISO, 27.7-55 lb (45-81 gsm) papers in rolls
  - Natural Choice Copy Paper 100% uncoated mechanical, high yield copy paper optimized to deliver maximum economic and environmental efficiency for today’s “paperless” workplaces
  - Orca uncoated free sheet copy paper produced with kraft pulp from Nippon Dynawave and elsewhere
- **Norbrite Book**
  - **Norbrite**
  - **Newsprint**
  - **Business and Office Papers**

## Clean, 100% recycle Lightweight Packaging

- NOR-Flute – exceptional performance for the medium fluting market with Basis Weights from 16 to 35 lb/1,000 ft<sup>2</sup>
- NOR-Liner – exceptional performance and printing for the Liner market with Basis Weights from 21 to 35 lb/1,000 ft<sup>2</sup>
- NOR-BAG – Exceptional performance in the light weight 100% Recycle BAG market.
- NORPAC HydroGuard – excellent performing products with moisture product used in boxes for transporting food from field to market. Provides an excellent product alternative to Wet Strength with 100% repulbaility
- Specialty Kraft segment-
  - Builder's Paper –
    - Red Rosin
    - Saturating Kreft

- Norbrite Book
- Norbrite
- Newsprint
- Business and Office Papers

# Why Longview?

- Ample supply of wood, water, and electricity
- Proximity to suppliers
- Strategic transportation hub
- High skilled workforce

1. Nippon Dynawave Kraft Mill
2. Specialty Minerals, Inc.
3. Solvay Chemicals
4. Short-line railroad
5. TMP
6. Paper machines
7. Warehouse
8. Deink plant
9. Chip piles & ONP storage



All critical suppliers and transportation hubs on or adjacent to mill site

# NORPAC's Economic Impact

NORPAC's social and financial impact on its employees, suppliers, and the community is significant

- \$40 million of salaries and wages paid to employees annually
- \$26 million of maintenance costs (labor, materials and local contractors) paid annually
- \$7 million in taxes paid to local governments annually
- \$65 million in transportation costs (marine, trucking and railroad companies) paid annually
- \$50 million of locally sourced raw materials (chips) annually
- \$10 million of waste paper sourced from PNW region

# NORPAC's Community Involvement

In the Community –A broad and deep Commitment

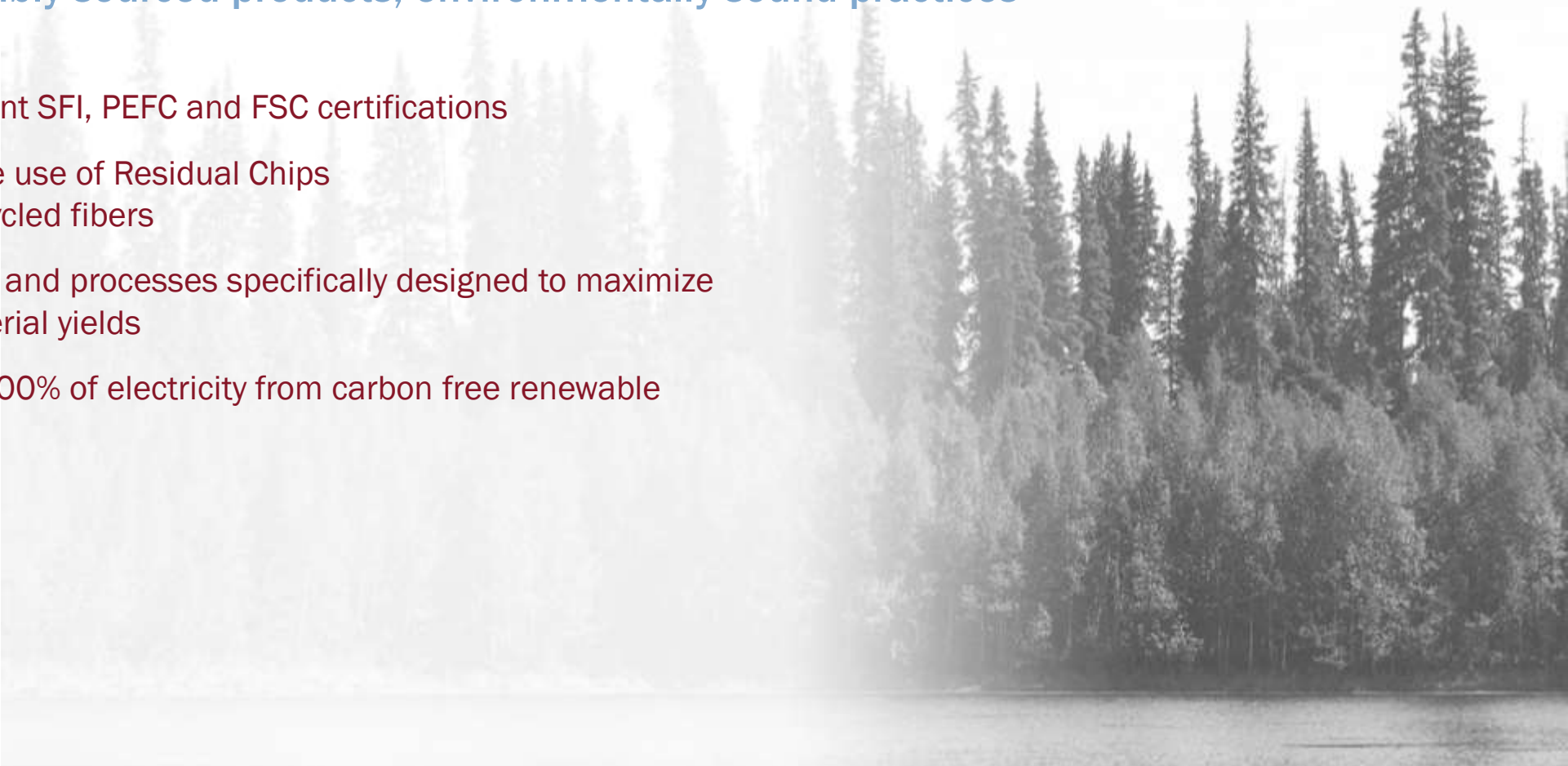
## NORPAC-Supported Community Partners

- American Red Cross
- Bonneville Power Administration Customer Collaborative
- CEDC conference
- Community Home Health and Hospice Board
- Cowlitz County Economic Development Council
- Cowlitz County PUD Electric Rate Advisory Committee
- Diaper Drive
- Head Start
- Kelso 1st Methodist Church
- Leadership Tomorrow
- Lions and Rotary clubs
- Longview Sister City Commission
- Lower Columbia Transportation Association
- Northwest River Partners
- Relay for life Salvation Army
- Southwest Washington Economic Development Council
- United Way
- Weyerhaeuser Giving Fund
- Weyerhaeuser WAVE
- Worksource
- YMCA
- Goodwill
- Kelso Longview Chamber of Commerce

# NORPAC's Environmental Responsibilities

## Responsibly sourced products, environmentally sound practices

- All relevant SFI, PEFC and FSC certifications
- Extensive use of Residual Chips and Recycled fibers
- Products and processes specifically designed to maximize raw material yields
- Almost 100% of electricity from carbon free renewable sources

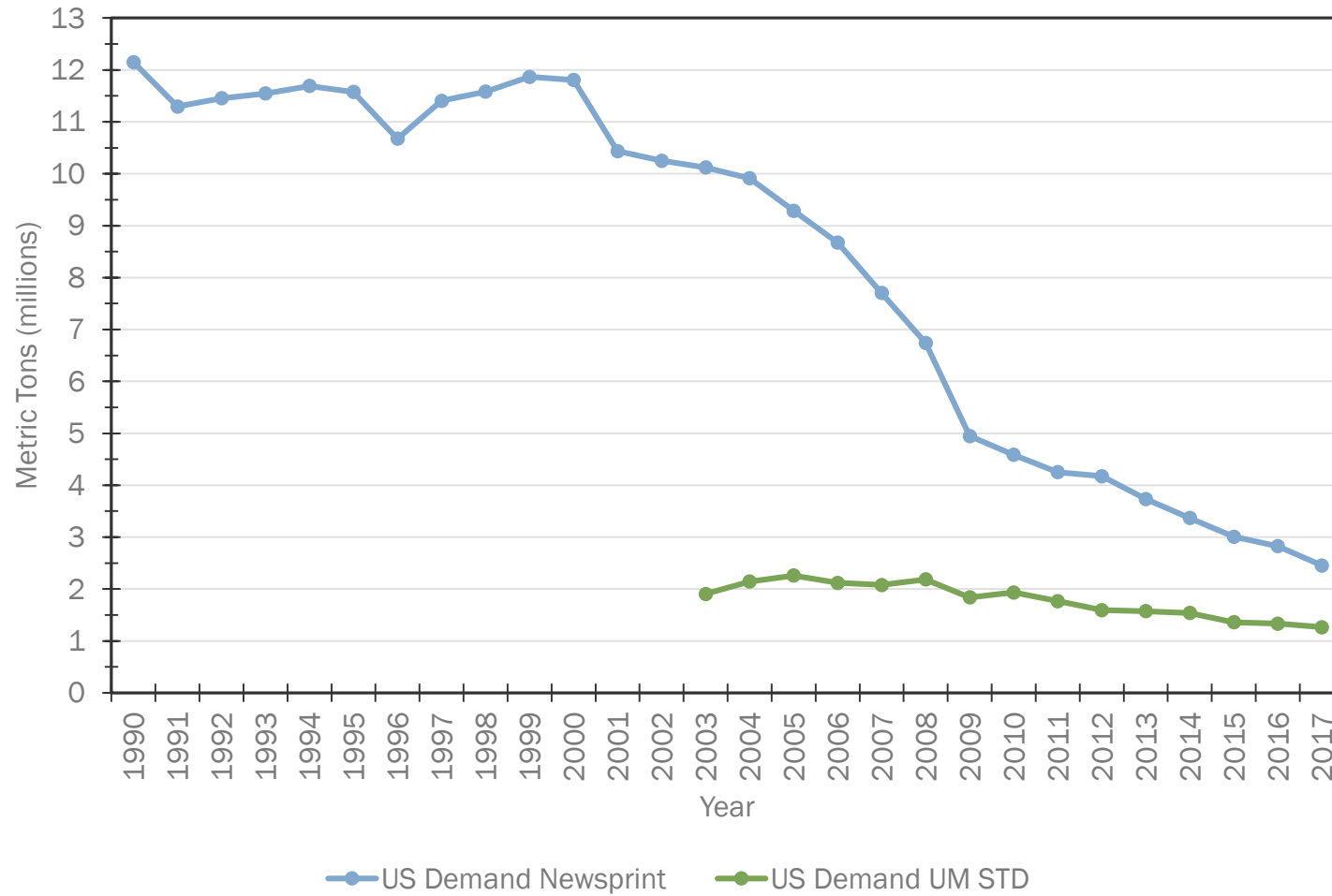




# Industry Challenges

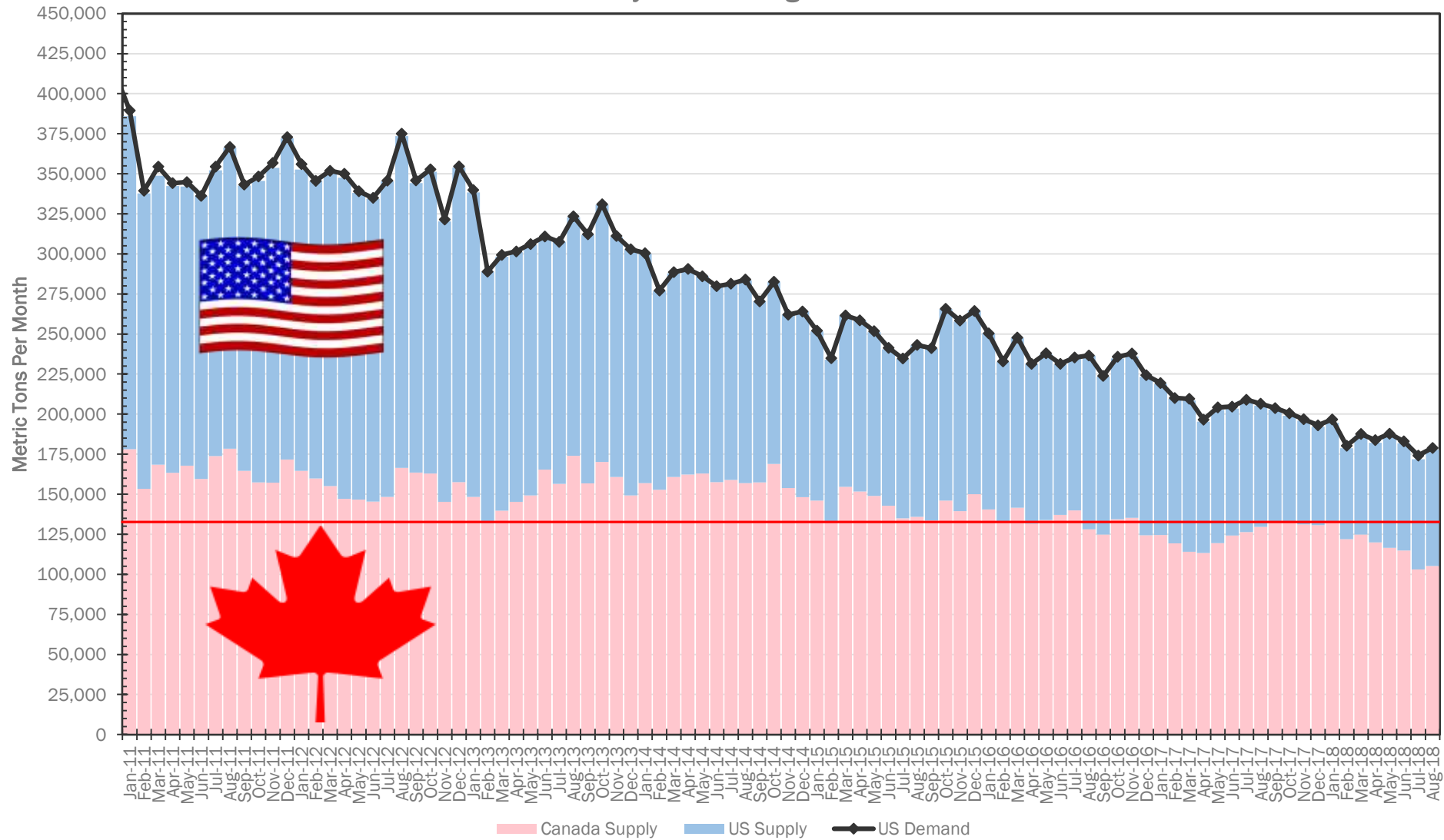
# U.S. Newsprint Demand since 1990

## US Demand: Newsprint & UM Standard





# Pulp and Paper Products Council US Newsprint Demand vs US and Canadian Supply January 2010 to August 2018





## Recovered Fiber Project

# Packaging Markets

- **eCommerce Growth**
  - RISI estimates a continued 3% Growth as Walmart, Target, others sharpen their focus to compete with Amazon
  - Amazon purchase of Whole Foods viewed by industry as a major step to expand the grocery/food industry into the virtually untapped eCommerce sector.
  - Worst case scenario will have box plant production growth stay pace with GDP of 1.5-2%
- **Lightweight Packaging**
  - eCommerce is focusing on
    - Lightweight package
    - “Right Size” packaging (eliminate wasted space on transport vehicles)
    - Environmentally friendly packaging eliminating; “peanuts”, plastic “air pillows”, etc.
  - **BAG Grades**
    - Corporations and Communities Reducing Plastic Bag Usage
    - Kroger and other major national retailers changing environmental strategies and moving to lower environmental impact & higher sustainability

NORPAC is well suited to compete in all of these categories

## Corrugated Box Sector

- Corrugating Medium:
  - Midweight, Lightweight and Ultra Lightweight (35lb/1,000 sq ft to 14lb/1,000 sq ft respectively)
  - Recycled Fiber based on MIX and OCC paper grades
- Liner:
  - Midweight, Lightweight and Ultra Lightweight (35lb/1,000 sq ft to 23lb/1,000 sq ft respectively)
  - Recycled Fiber based on MIX and OCC paper grades
  - HydroGuard<sup>®</sup> is a unique product developed by NORPAC that is an alternative to Wet Strength additives historically used to resist effects of moisture on box integrity.

## Bag

- Medium weight kraft bags for retail dry goods and grocery
- Lightweight kraft bags small product distribution (pharmaceuticals, beverages, etc.)

## Builders Paper Sector

- Red Rosin Paper:
  - Used as floor protection during construction/re-model work
- Saturating Kraft
  - Used as vapor barrier for stucco and other similar construction needs

## Void Fill

- Ultralightweight paper used for product protection during shipping

# Recycled Fiber Plant Project

- Development of a Recovered Fiber Plant would consume approximately 1,700 ST/day of raw waste papers, which would produce 1,200 MT/day usable recovered fiber serving as the feedstock for packaging grade papers
  - *Represents tens-of-millions of dollars of investment into Cowlitz County*
  - *The project would support approximately over 100 direct jobs*
  - *The project, once approved, could be operational in 10 - 18 months*
- At 1,200 MT/day, NORPAC's Paper Machines PM1 and PM3 would consume all available volume of waste and mixed paper grades in Washington, Oregon, Idaho and other large metropolitan areas West of the Rockies – essentially securing majority of all MIX paper volume historically exported to China
- NORPAC has the expertise to utilize this material. We currently use equivalent of 300,000 tons per year.
- NORPAC also specializes in the lighter basis weight grades being asked for by the market

# Recycled Fiber Plant Project

Today, Washington state and the Western U.S. face an unprecedented environmental challenge from waste papers.

- China placed stringent restrictions on unsorted and high-reject content waste papers – effectively prohibiting imports from the U.S
- Reduction of waste paper imports has caused major disruption in US recycling system: paper traditionally recycled is heading to solid waste landfills
- NORPAC is committed to solving this environmental challenge by developing a higher capacity Recovered Fiber Plant

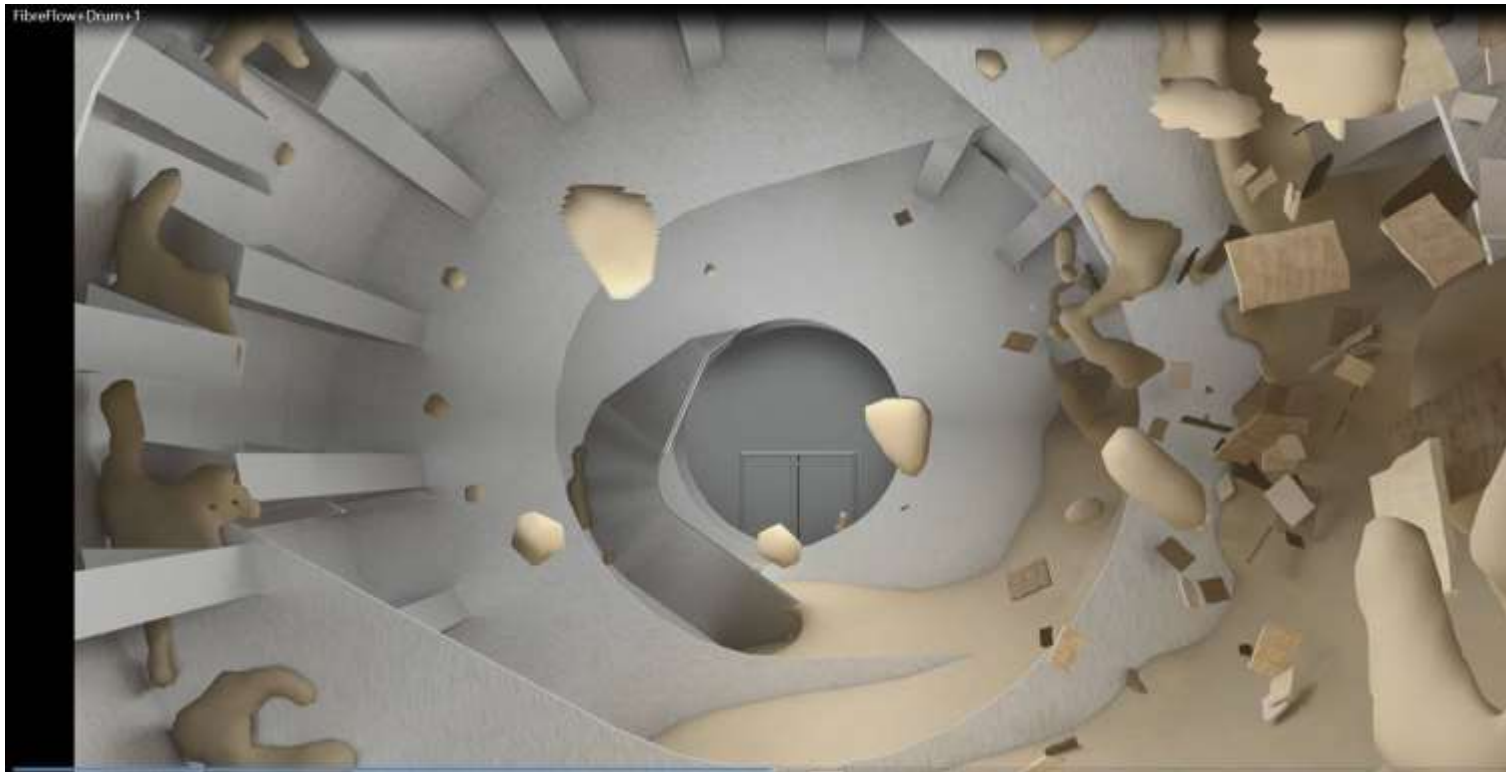


# History of MIX Paper Usage at NORPAC – Pulping Technology

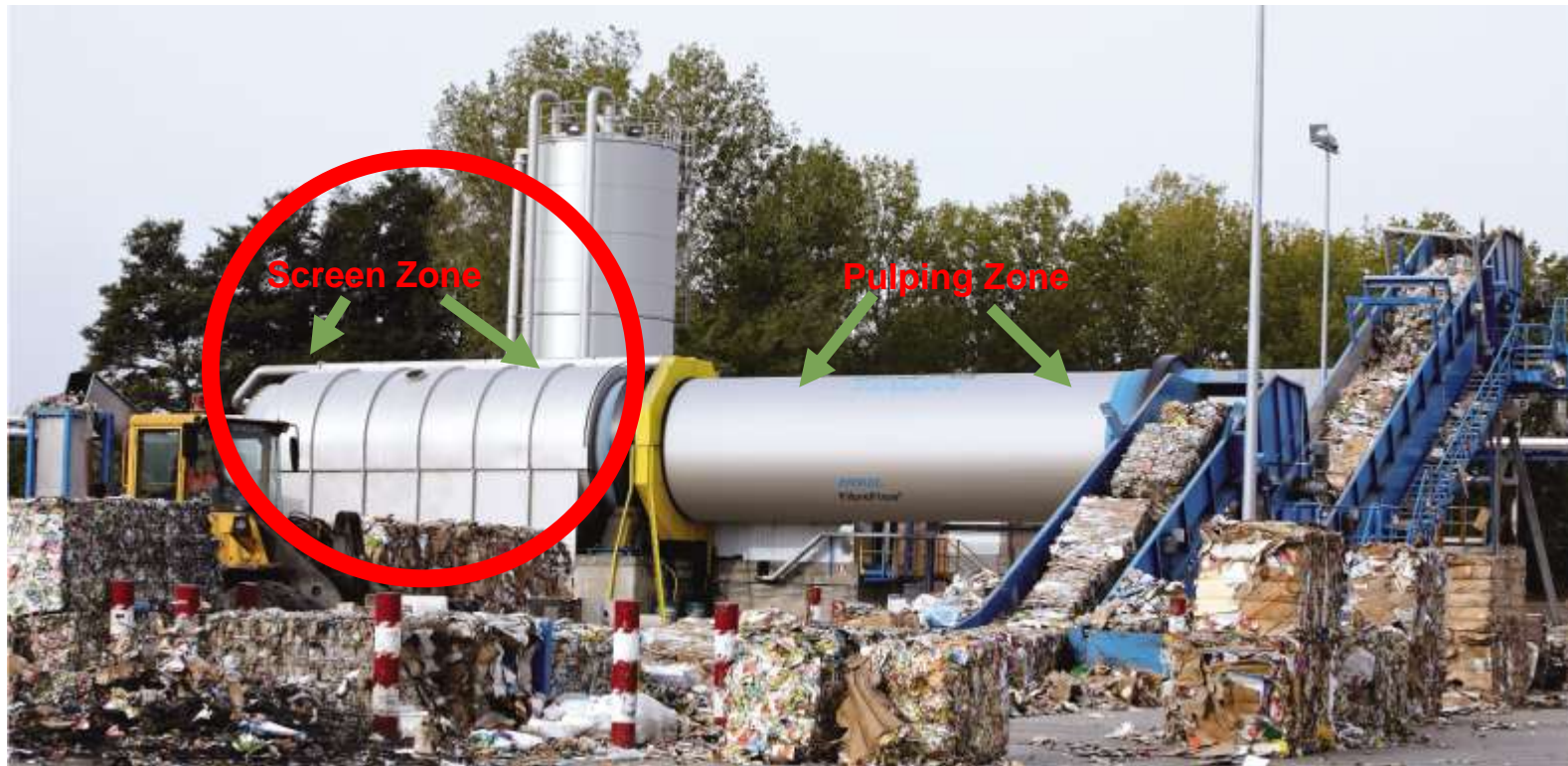




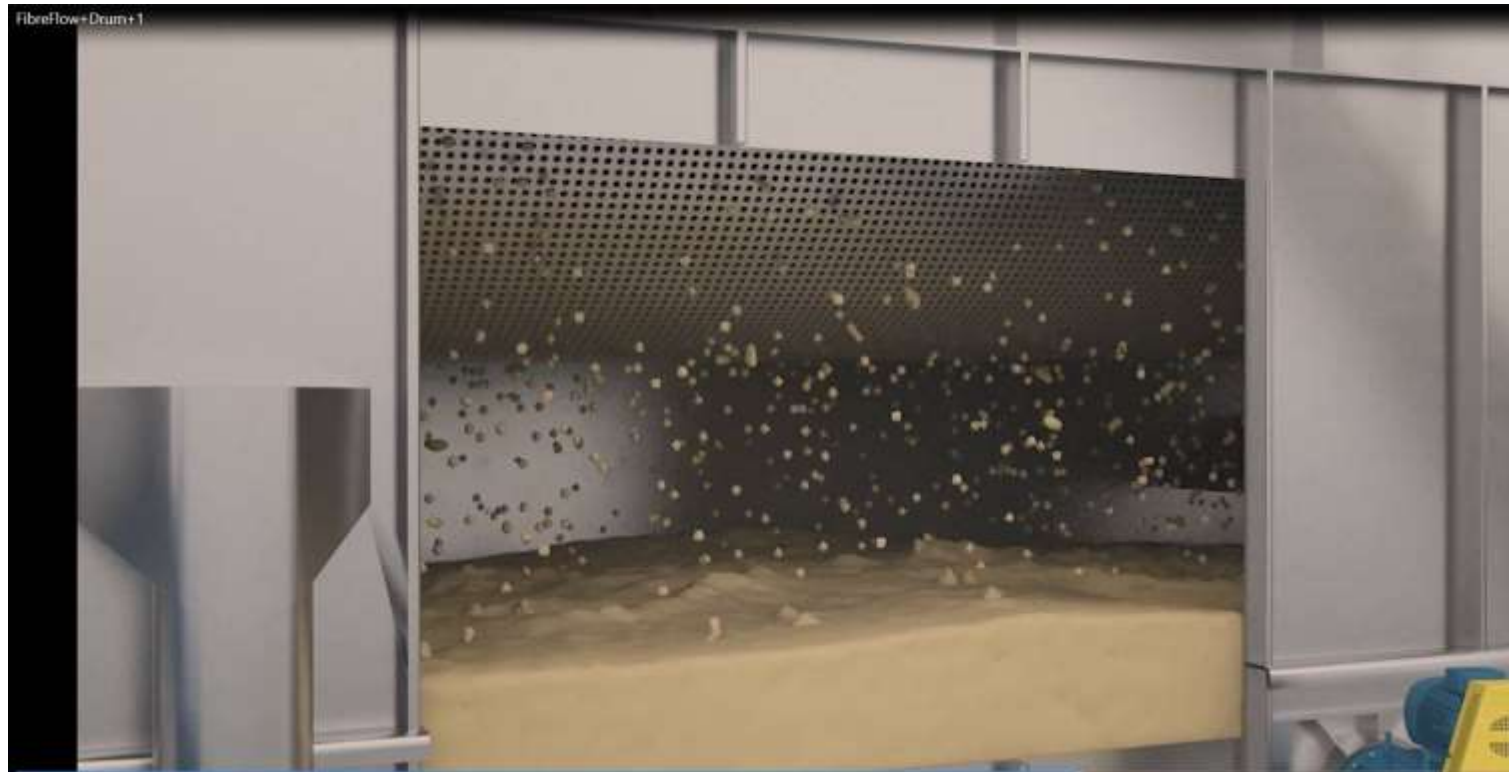
# History of MIX Paper Usage at NORPAC – Pulping Technology



# History of MIX Paper Usage at NORPAC – Pulping Technology



# History of MIX Paper Usage at NORPAC – Pulping Technology



# Drum Pulper Operation



# Key Messages



- This project will solve a significant environmental problem for the West Coast and primarily states of Washington and Oregon, converting waste paper into valuable products
- It will preserve over 100 direct and 400 – 500 indirect jobs, mainly in Southwest Washington
- It represents significant investment in Washington State manufacturing and will help preserve our leadership in the pulp and paper sector



# Meeting wrap-up



# Wrap up

## Next meeting:

- Wednesday, September 14, 2022
- Location and tour TBA
- September board meeting topic: Where are they now, 2021 one time grants?

## Tasks from today:

- Notes and slides from today will be posted to the EZ page next week.





**See you at the September 14 meeting!**