



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.







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



Board member roundtable Ecology update Commerce update Attendee comments







7

Board roundtable:





Agency Updates

Kara Steward



Rob Duff





Center work plan for 2022-2024



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

https://www.ezview.wa.gov/Portals/_1962/Documents/rdcab/WorkPlan-July2022.docx



www.nextcyclewashington.com



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

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

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 <u>NextCycleWA@recycle.com</u> 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.



Agenda

9:00 am Welcome & review meeting goals

9:15 am Updates

10:20 am

9:30 am Ecology's data on paper by Dan & Gretchen



10:30 am NORPAC presentation

Bio Break

11:45 am Wrap-up



Dan Weston– Ecology SWM Materials Management Gretchen Newman– Ecology SWM Lead Data Analyst







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)



What is the survey?

		46	0.000	AN	AD .	10	KG	AT	45	47	: MJ	
18.												
2 Lines	CAp/real Record	· WRITE COURSE	· No.wriateger	Contract Local	 Encoded Fount (Regard) 	Data Auf Mitage mit Caper-	 Protocontined Need Descent Job y and Proceeding 	· Owner Cape In	talk and Anna Cartery pro hit inperio	· Annalis Containers and anno many, etc. and perce branes	Contraction of the	Page Barr
3 Clatars	Futa											Value Constant
# Clubam	Pp# Argania	111-800	THE - BOTI	Yes - Both	.He	Yes - Butts	744-8081	100	760	.44	Tes - Both	Construction of the second s
1 Claffart	Desuits	THE - DUDING	# TRA - Curbert	a Yee - Cartarda	700	Tep - Curbelle	. 180	100	THE		THE CARDINE	a the well plager
E Claffam	Livencerporated Claitare Caunty	Tes - Doft	Tes - Doffy	Yes-Soft	10	Yes - Dotto	Yes Diff.	300	Net and the second s	Mr.	Yee - Boty	
7 Class	Ratie Ground	THE - Both	Tes - Both	Yes - Hotte	Yes - Disp-box	Yes - Both	Ma	300	Yes-Bott	Tes-Both	No	
B Clark	Carlas	143-505	748 - DVPI	Yea - Both	768 - D400-008	790-10091	740	360	Yes - Byth	Tes - Both	7990	
9 Clare	La Center	TRE-DOR	THE - DURL	Yes-Dott	Yes -Drop-bes	Yee - Dutte	740	NO.	Yes - Bath	Yes-Both	100.	
TU CLUT	Hotheria	111-800	THE - BORL	Yes - Both	Yes Drop-one	Tes - Butto	740	780	194 - 848	Fee - BORL	784	
TT Clare	Overcompanyled Chain County	THE BOR	THE DOD.	Yes Both	Yes Crep des	Yee - Bolly	MD	No.	Ves - Balle	Yes-DOPI	199	
12 Clark	Viencoscier	THU-DOM	THE - Doft	Yes - Buth	Yes - Depp-one	Yes - Dom	No	210	Yes - Bath	Tes - Dott	140	
TR/CIWR	Washeaga	141-8481	THE HOUSE	Yes - Both	T#8 - D100-008	785-800	100	100	Tes-Hom	THE HODY	100	
TA CLIP	Woodland (part)	T11 - D00	788-000	199 - E10	Yes - Drop-Dex	Yee- Delle	540	.500	TRB-Bally	THE DOT	100	
TT Coars	Taut	188-2021	100-000	744-010	T#8 - D#02-D18	Tes - Dom		.100	785-008		100	
THE LCOWNER .	Calle Holx	_										
ST HOUWER	Name											
THE COURSE	NAME AND ADDRESS OF AD											
THE LOWER	Langener											
AN COWEL	Characteria and Column											
Whit Column	Anapolitani	Taxa - Dotte	Test Links	Max - Dom	100 C	Very Both	Var. Dott	144	Var. Dom		Tax Doll	
The local state		Sec. But	Sec. But	New York	- Tele	You down	Mail Book	- Tele	New Work	0111-)	New Property	
THE Course Hards	o Colemapore	Tax. Dott	Tata Dista	NAG . Even	100	Value - Broth	The Soft	100	Van Boll	144	The District	
The strength of the lot	o strong and	Fax - Dotte	Van - Golfe	Ves - Dott	100	Vest - Dotto	Ver Det	100	Van Euler	10	Yes - Dolt	
28 Clark Harts	o Bérl De an	Ter - High	Tex - Hulb	Neg - Both	han	Test - Buth	Ted . Buth	No	Yest - Hutth	1.00	Yes - Hulb	
27 Gray Harts	Contraction of the second se	Tab. Bilds	Feb . 2005	Test - Dotte	Ref.	York , Thinks	Yan Both	The second	Yes Bulk	10	Two - Thirty	
29 Grait Hats	o Chulude	You - Don't	ing - Both	Yes - Both	top	Yes - Gutte	Yas - Gott	100	Van - Ball	Aug.	Ves - Both	
26 Genus Harb	o Craas Mures	Tax Diff.	Text - Bully	Vac. Hot	Teo .	You Hollo	Yes Aug	The local data	Tax - Bull	No.	The Date	
20 Gran Hath	o Orencompanyled Grant Harber County	Tax - Dott	Tex - Doll	Yes-Bith	100	Yes But	Tes-Duff:	110	Van - Bullt	Aug.	Yes - Bolt	
11 Grave Harts	o Westport		100000000000000000000000000000000000000			200-1011	AND SHITTE		CATALINA CONTRACTOR	STIC.	district and the	
32 Jatherson	PetTownsed											
22 Jaffernam	Orencessor also Laffernori Countr	Tax - Dotte	Tex-Duth	Vea - thirts	Yes-both	Yan - Dom:	No	104	Fac.	No	100	Magazinek
SELENE	Centrala	Two - Body	Tes -Both	Yes - Butte	Yes - Special Collector, Event Or	Yes-Buth	310	100	THE .	144	194	Occasionally contract with Lerice-Modely Diversiding for public (
24 Lewis	Chahala	Tax Bolly	741-505	Yes - Bath	Yes - Special Collection Event Or	Yes-Buth	No	No	Fair .	Age .	100	AND THE PRESENCE AND ADDRESS OF ADDRESS ADDRESS OF ADDRESS OF ADDR
35 Lewis	Morton	Tep - Dith	Tes - Dolt	Yes - Buth	Yes - Special Collection Event Or	Yea - Bath	540	No	No.	845	140	
37 Lews	Monorecti .	Tex-Bidt	Tes - Both	Ves-Both	Yes - Special Collecton Event Or	Yes-Bith	190	100	Plat	No	No.	
38 Lewis	Napome	THE-DOD	Tex-Solt	Yes - Both	Yes - Breckel Cohectory Event Or	Yes-Bath	540	100	has not set of the set	110	100	
30 Lewis	Pati	Tes-Batt	Tex-Doth	Yes - Dutte	Yes - Special Collection Event Or	Yes - Buth	340	100	Two -	10	100	
all Lewis	Toledo	Yes - Doft	Tes - Roth	Yes - Buth	Yes - Special Collection Event On	Yes - Guth	No	344	No	No.	No	
45 Lewis	stresosasted Leves Courty	Yes - Culture	# Tes - Carbeld	W Yes - Careade	Yes - Special Collection Event On	Yes-Bath	740	No.	140	141	100	More limited amongled Berts al Paultwood Drop off
42 Lewis	Valler				Yes - Special Collector, Event Or	Yes-Duth	250	10	700	Au .	100	
40 Lewis	Withinst	Fax-Bott	Tex - Soft	Ves - Both	Ver - Special Collector Event Dr	Yes Bith	780	100	Tes:	Har .	100	
dd Mason	Theton	782-8089	788 - DOD	Yes - Bilbi	Yes - Corboids	Yes - Cuitelde	(Y#3/E##)	Ves - Both	Yeo-Batt	(Yes - 200)	(100	
-an Masse	University and all Maxim County	Two-Durbook	¥ Yes - Cuttors	R Yes-Carborde	Yee - Curbuide	Yes-Carteide	Yes-Billy	Yes-Bolts	Yes - Balts	Yes - Soft	No	
#5 (Pacific	lieaco	Tex - Drop-box	a Yes-Erop-bo	is Ves - Drop-oos	Yes - Drog-box	Yes - Drop-box	No	190	This	Charles Control of Con	No	
#7]Paces	Ling Beach	THE-DISE-DIS	I TEE-DHID-NI	H Yes - Drig-box -	Yes - Drop-bie	Yes-Ovep-box	No	10	- Fear	- Mil .	100	
48 Palite	Ramond	Pes-Drup-Res	s Tes - Drop-In	e Yéé - Drop-box	Wes-Desp-box	Yes - Desp-Rot	.740	380 -	Tes	. Ma		
#9 Daults	South Read	THE - DOD.	Tes-Bolly	Yes - Both	Yes - Dog-bas	Yes - Crip-line	.740	-100	THE .	1.8M	Ne	
-90 Pacific	Uninceparated Paper Dealty	T85 - Drop-Bek	 Yes - Dolp-De 	IN THE - DRUG-DRW	Tes - Deop-box	THE DESP-SON	740 main and the	Ne	The second second	MH HERROR	No.	New of the state o
53 Plence	Autorn (pet)	Tex-Dom	THE DORS	Yes - Doffi	Yes - Drop-Dox	Two-Dom	Yes-Drop-box	Nes - Drop-Co	1 TRO - D102-DUA	Tes - Drop-box	Tes - Dep-ber	e Dropbox also fakes hard and soft cover books. Dropbus contra
SZ (FINCE	HOUR PILANA	TRE-Curples	e tes-Cutters	NU YAS - BODS	Mile Contractor	140	TRE-CUIDER	399	Page	144	Tes - Curtosile	e Papertoaresenee
ST PLANE	ENCINE	THE CARDON	THE CONDER	N YOU CON	PHI .	THE .	THE CAPTURE	100	THE		THE CARDINE	a Papersoard Books
CA PROLE	Caronala	781-00000	THE CONTRACT	0.749-010	110	100	The Conside	.100	100		THE - CARDING	r Paperson Lines
and interce	UNP DE											
The second second	Extended	The Party of the P	New Yorking	1000 MIN	No.	and the second se	Very working	100	1 million	1447	with places	No. 100 March 1
an Dente	Coperate .	THE CONSIDER	a rea - Corpert	Was - Date	the second se	Tax.	Nes California	- Line	THE .		Tes - Carborn	Contraction of the second s
and diament	Environ .			A THE TREE		100	1184 - Software	100	100	77.10	The Contract	- Alter and a second
and Plants	The Marker	San Committe	a Tata Domain	witten Bullt	100	Etc.	Their Chattaine	100	Ten .	100	She Comile	Republicated Research
At Barry	1 March 12	Real - Poststate	The Contract	West Blogs		Rec.	Var Contractor		100	1	Tes - Carbon	Panatheast Brass
di Bana	Million (2007)	Two - Corbitate	a Two Contracts	a Val- Hote	100	Page 1	Yes Cabada	100	tes	100	Feg - Combine	Paparto at lines
AT Parts	Other	Two Complete	Was Contain	Water Made	100	540	Tax Contracts	ten .	the second se		Yes College	Plantened Brook
64 Patra	Partic inget	inter a subserver	a reactions		114	1980	The Designed	144	1.00		and the second	
and Pratrie	Provident .	Tax Durbanks	a bas - Comain	West Lines	Mar.	Page 1	Vas - Contrainte	100	the second se	1.000	Ann - Parmante	Planets and based
an Perce	Riv					No	Contraction of the second s	110				
AT Flatte	Sutto	Test Contains	· Tas - Current	Net Birth	The .	PAL	Yes - Curtains	114	The Control of Control	10	The - Carrier	e Paterboard Birnes
an Plants	Bouth Provide	Was - Curbelds	· ven - Carbair	w Yes - Hote	1m	Pilo .	Yes - Carbolds	100	Paint	144	Yes - Carbolds	Papertuald Science
HO PLANCE	Thidactory	The second s	CONTRACTOR OF	EV. Contraction	WT	77	A MARKEN AND A MARKEN A			9711.6	AND WARD DO	SARATER DATA
70 Plense	Surrest.	Tes - Curtrante	s. Tau - Damaid	in Yes - Buth	100	Neo.	Yes - Curbaids	teo	-Two	344	Tes - Carbaigs	 Papertnart Econt
Pf Plains	Tacons .	Tes - Curbinde	W YES - Carting	W Yest - Hum	No	No	240	140	Page 1	418.	Yes - Carbon	e Papertuart bores
TZ Plans	Wincodovalad Plane Clurky	Pau-Don	Tes - DOP	Yes - Buth	Page 1	Yes - Dith	Yes-Evel	1940 -	100	Ma	1988	Paperts art borst
73 Platts	University Place	The state of the s										
74 Photos	Weinegoer	Two - Durbaide	e 'tks - Cumaid	in Yes - Both	No	Peo	THE - DATERIN	540	hits	.546	TWO - CARDING	Paperheald boxes
75 Diariana	North Bonnesika	Tes - Dhip-tree	s. Yes - Drop-do	K Yes Drap-box	Yes - Drop-box	No	Yes - Diop-box	194	Ten .	142	Yes - Drog-dos	COLORNAL AND
TH Diamania	Devenue	Tas - Drast-box	s Tes - Drop-ht	Wag - Drup-box	Yes - Deap-bes	Pag	Yes - Orap-bas	No.	-tax		Yes - Drop-Inte	

https://app.box.com/s/3j2wstr7kd6o0vu9y63vmhpef5kmleot



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

<

	# of	
Bin Color	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

Back to report RECYCLING BIN COLORS Black
 Blue
 Gray
 Inconsistent Colors in Service Area
 Multi-color/Different Lid Color
 None
 Red
 Unknown West Arm Park Vancouver Nanaimo Okanogan National Forest North. Cascades NP Colville Indian Victor Reservation Spokane Olympic N.P. I.R. · Coeur d'Al Quinault Coeur I.R. Alene. WASHING IR Mt. Rainier N.P C Nez Letton Perce Yakama Indian LR. Reservation Walla Walla Hillsboro Umatilla Hells Gresham Canyon Portland N.R.A.



Paper Collection



Population with Access to Paper Recycling

■ Curbside ■ Drop-box ■ Special Collection Event ■ No



Plastic Collection

Population with Access to Plastic Recycling







Local Program Recycling Survey

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





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



Gretchen Newman – 2020-2021 Waste Characterization study







2020-2021 WASHINGTON STATEWIDE Waste Characterization Study

State of Washington Department of Ecology

PAPER IN DISPOSED WASTES

GRETCHEN NEWMAN

SOLID WASTE MANAGEMENT

RDC JUNE 8, 2022



Purpose of the Study

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.

Map of Waste Generation Areas





Study Elements: Sectors & Samples

SECTOR	NUMBER OF SAMPLES
Commercial	240
Residential	120
Self-hauled	160
Total	520



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
Total	143



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?

>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		
Total for Top Materials 51.5% 2				

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

Overall Statewide Disposed Waste **Stream** Composition


Materials from Washington Solid Waste Characterization Study

ORGANICS					WOOD DEBRIS							METAL		CONS		
					Painted Wood		R/C	Wood	D	Dimen	sional					
Edible Food Waste- Vegetative	Animal Manure		Yard/Gar		Engineered Wood		Pall	Nat Trea Pallets & Crates		Trea	Other Ferrous Me					
		Vord/C		D/	PLASTIC	Plastic G	arbag	#5 PP	#7	7 Ot	#1 PE	D/C Mata				
Inedible Food Waste- Vegetative	Edible Food	Inedibl	le	Fo	Packaging Film Pl	#7 Othe	r/Unk	Expand	de	Plast	#1	Food C	W O			
					Bulky Rigid Plastic	R/C Plas	tic Pr	Transp Plastic	or N	#2 #2		Alumin RESIDU	Alu	Shoes	HA.	
Cardboard & Kraft Packaging	Compostable	Mix	(ed/Lo	ow	CONSTRUCTIO	n Mati	RIALS	5	6		Disa			Fines/	, Med	
	Mixed/Low-g	ra	C Pa		Drywall		Concre	te	Carp Soil,	Roc	Cera	Disposab GLASS	le Diapers	Slud	P	
Compostable Paper Products	R/C Paper Pro	d Ma	a		Asphalt Roofing		R/C Co	nstru	Insu	lation	Car	Clear Gla	ss Brow	R		

Paper Packaging & Products in Disposed Wastes

		Mixed/Low-grade Paper Products,			Mixed/Low-grade Paper Packaging, 78,166		
	Compostable Paper Products, 180,366		R/C Paper F	ackaging, 34	1,716	Newspaper Products, 16,033	
Cardboard & Kraft Packaging, 276,196	Compostable Paper Packaging, 107,175	R/C Paper Products, 45,574	High- Grade Paper Products, 11,664	Magazine s, 11,102	Gable Top Containers 9,494 Aseptic Containe	Cardboa rd & Kraft Paper Produ Other Polyc	



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)



Commercial Self-Hauled Residential





Annual Disposed Ecolo **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
Total	5,275,515

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



Annual Tons





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

	2009 waste	composition	2015-	16 waste	2020-21 waste			
	S	tudy	compos	ition study	composition study			
	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated		
Material	% of MSW	Tons in MSW	% of MSW	Tons in MSW	% of MSW	Tons in MSW		
PAPER PACKAGING:								
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		
PAPER PRODUCTS								
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		
Total Paper disposed	19.28%	959,624	14.90%	683,753	16.68%	879,891		

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





Questions?

Contact: Gretchen Newman WA Dept. of Ecology Olympia, WA 360-764-0588 (cell) gretchen.newman@ecy.wa.gov





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

Washington RECYCLING DEVELOPMENT CENTER

Agenda

10:30 am NORPAC presentation

11:45 am Wrap-up



Let's take 10 minute break





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

55



Agenda



NORPAC Introduction Finished Product Market Overview Wastepaper







Company Introduction and **Recovered Fiber**





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







NORPAC Products – Printing & Writing



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



NORPAC Products – Packaging 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 ft2
- NOR-Liner exceptional performance and printing for the Liner market with Basis Weights from 21 to 35 lb/1,000 ft2
- 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















US Demand: Newsprint & UM Standard
Pulp and Paper Products Council US Newsprint Demand vs US and Canadian Supply January 2010 to August 2018



EPARTMENT OF







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



Recovered Fiber Finished Products: Packaging Grad

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[®] 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.



Recovered Fiber Finished Products: Packaging Grad

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 – Represent of Technology



History of MIX Paper Usage at NORPAC – Reference Technology



History of MIX Paper Usage at NORPAC – Reference Technology



History of MIX Paper Usage at NORPAC – Reference 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!