

# Waste and Materials Management Study Group Meeting

Oct 7, 2021 @ 1:00 P.M.



Waste and Material Management Study Group meeting

# Agenda

1:00	Welcome, agenda review, notes review	Chad Doverspike & Meleesa Johnson
1:05	Action on charter	WMMSG members
1:15	Update from Recycling and Diversion Subcommittee: Battery Management	Karin Sieg

Solid Waste Interested Parties meeting

1:30	Welcome	Natasha Gwidt
1:35	WA Program updates	Kate Strom Hiorns
1:55	Waste and Materials Management Program financials	David Albino
2:10	Diversion updates and annual recycling data	Jennifer Semrau
2:30	CWD deer carcass compost project	Rob Michitsch (UWSP)
3:00	Department CWD deer carcass management updates	Dan Kroll
3:10	Waste characterization study results	Casey Lamensky
3:25	Wrap up and questions	Natasha Gwidt

# Solid Waste Interested Parties (SWIP) Meeting

Oct 7, 2021 @ 1:30 P.M.



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# For landfill certification CEU credits for this meeting

Please direct message Casey Lamensky in the meeting chat or by email at [Casey.Lamensky@Wisconsin.gov](mailto:Casey.Lamensky@Wisconsin.gov) and provide

- first and last name
- meeting ID if different from your name
- operator certification number

# **Waste and Materials Management Program Updates**

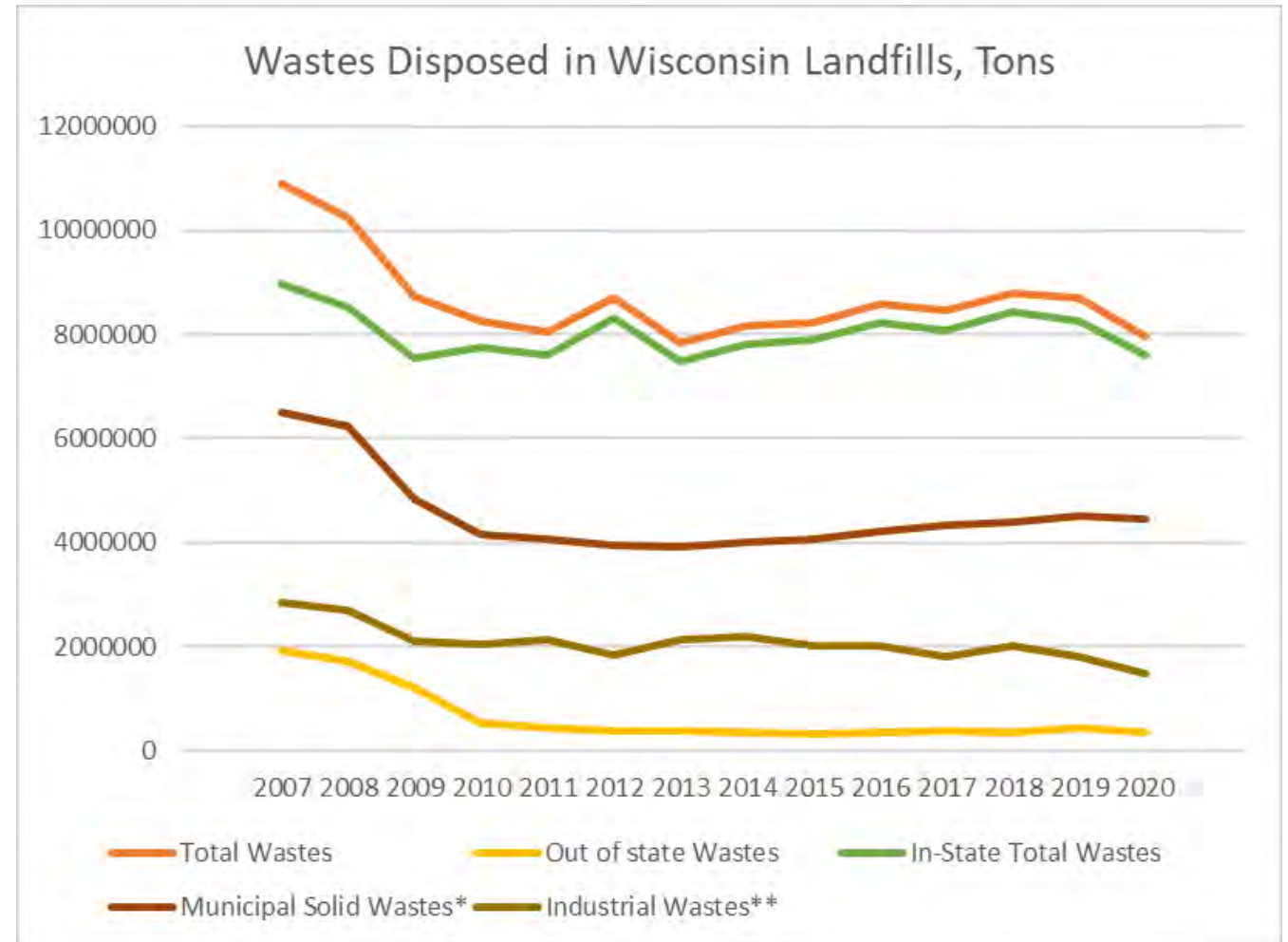
**Kate Strom Hiorns**

# WA Program Updates

- Staffing changes in FY21 (7/1/20 – 6/30/21) and recent recruitments
- FY21 solid waste metrics:
  - 120 inspections at active landfills, 182 at closed landfills
  - 192 inspections at non-landfill recycling and solid waste facilities
  - 87 inspections at E-Cycle Program facilities
  - 258 total submittal/plan review decisions made
  - 46 social media posts, 38 newsletters, 5 press releases

# WA Program Updates

- Waste generation and COVID – 2020 annual Tonnage
  - ~8% decrease from 2019 tonnage
  - Biggest decrease in industrial waste, but that continues an overall trend since 2007
  - Hard to determine direct correlation





# Electronics and E-Cycle Rule

**Scope:** Define requirements for electronics collection, transportation, and recycling activities and codify E-Cycle policies

**WA-11-19 web access:**

<https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

**Current status:**

Requesting approval from Natural Resources Board 10/27

# Coal Combustion Residuals Rule

**Scope:** Coal Combustion Residual (CCR) Landfills. Incorporating federal rule language into Wisconsin's current landfill regulations.

**WA-17-19 web access:**

<https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

<https://dnr.wisconsin.gov/topic/Waste/Laws.html> (timeline)

**Current Status:** public hearing and comment period, draft rule available

[Public hearing Oct. 28, 2021 \[PDF\]](#)

[Fiscal Estimate & Economic Impact Analysis \[PDF\]](#)

[Draft Rule \[PDF\]](#)

# Landfill Operator Certification Rule

**Scope:** Allow third party administration of online operator certification examinations

**WY-27-20 web access:**

<https://dnr.wisconsin.gov/news/input/ProposedPermanent.html>

**Current Status:** Emergency rule is in place, permanent rule public hearing 10/12; Online exams likely starting this month

# Recent policy and guidance updates

- Guidance for the Mass Disposal of Animal Carcasses in Landfills, WA-1915, May 2021
  - More on that later
- Resources for landfill owners and operators
  - <https://dnr.wisconsin.gov/topic/Landfills/forms.html>
  - Includes animal carcass guidance, updated stormwater management guidance, checklists
- Development on Landfills: change from exemption to approval and fee change
  - <https://dnr.wisconsin.gov/topic/Landfills/development.html>

# Web Resources

- New review timelines on external website
  - <https://dnr.wisconsin.gov/topic/Waste/Solid.html>
  - <https://dnr.wisconsin.gov/topic/Landfills/Siting.html>
- Good resources already on website – resources and FAQs
  - <https://dnr.wisconsin.gov/topic/Landfills/operationFAQ.html>
  - <https://dnr.wisconsin.gov/topic/Landfills/MonitorFAQ.html>
  - <https://dnr.wisconsin.gov/topic/Landfills/SitingFAQ.html>
  - <https://dnr.wisconsin.gov/topic/Waste/SolidFAQ.html>
  - <https://dnr.wisconsin.gov/topic/Landfills/forms.html>

# Waste Characterization Study & Food Waste

- Casey Lamensky covering study details later on
- EPA goal: cut food loss and waste in half by the year 2030
- W&MM Program focus on food waste reduction moving forward
- Please notify us of any local efforts and resources for food donation, diversion, composting, etc.

# Solid Waste Program Revenue

**David Albino**

Annual update per NR 520.04(1)(d)(5)



# Program Revenue Account Status

	FY19	FY20	FY21	FY22
	Actual	Actual	Actual	Estimated
Opening Balance	\$ 366,116	\$ 1,126,904	\$ 1,019,443	\$ 536,620
<b>Revenue Sources</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>	<b>FY22</b>
SW landfill license surcharge	\$ 1,059,706	\$ 1,119,099	\$ 1,068,239	\$ 1,082,348
SW landfill licenses	\$ 572,550	\$ 507,257	\$ 477,400	\$ 519,069
SW C & T licenses	\$ 364,490	\$ 135,964	\$ 393,173	\$ 400,000
Facilities)	\$ 122,210	\$ 133,870	\$ 131,230	\$ 129,103
SW plan review fees	\$ 420,555	\$ 356,825	\$ 435,510	\$ 404,297
HW facilities licenses	\$ 83,632	\$ 96,000	\$ 83,200	\$ 167,611
HW transporter licenses	\$ 73,200	\$ 3,581	\$ 73,097	\$ 70,000
HW plan review fees	\$ -	\$ -	\$ -	\$ -
HW manifest fee	\$ 65,880	\$ 1,518	\$ -	\$ -
SW Facility Oper/Mgr Cert Fees	\$ 37,300	\$ 24,700	\$ 36,689	\$ 32,896
Misc. (i.e. IW / copying sales / printing)	\$ 47,696	\$ 43,820	\$ 47,835	\$ 46,450
<b>Total Revenue</b>	<b>\$ 2,847,219</b>	<b>\$ 2,422,633</b>	<b>\$ 2,746,373</b>	<b>\$ 2,851,774</b>
<b>Total Available: (All Revenue Sources + Opening Balance)</b>	<b>\$ 3,213,335</b>	<b>\$ 3,549,537</b>	<b>\$ 3,765,817</b>	<b>\$ 3,388,395</b>
Total Expenditures	\$ (2,323,503)	\$ (2,642,997)	\$ (3,220,446)	\$ (2,800,000)
<b>Total Expenditures &amp; Budget Lapses</b>	<b>\$ (2,323,503)</b>	<b>\$ (2,642,997)</b>	<b>\$ (3,220,446)</b>	<b>\$ (2,800,000)</b>
DOA adjustments to A/R Accounts	\$ 237,071	\$ 112,903	\$ (8,750)	\$ 113,741
<b>Closing Balance</b>	<b>\$ 1,126,904</b>	<b>\$ 1,019,443</b>	<b>\$ 536,620</b>	<b>\$ 702,136</b>
	<b>FY 19</b>	<b>FY 20</b>	<b>FY 21</b>	<b>FY 22</b>



# Program Revenue 20% Balance

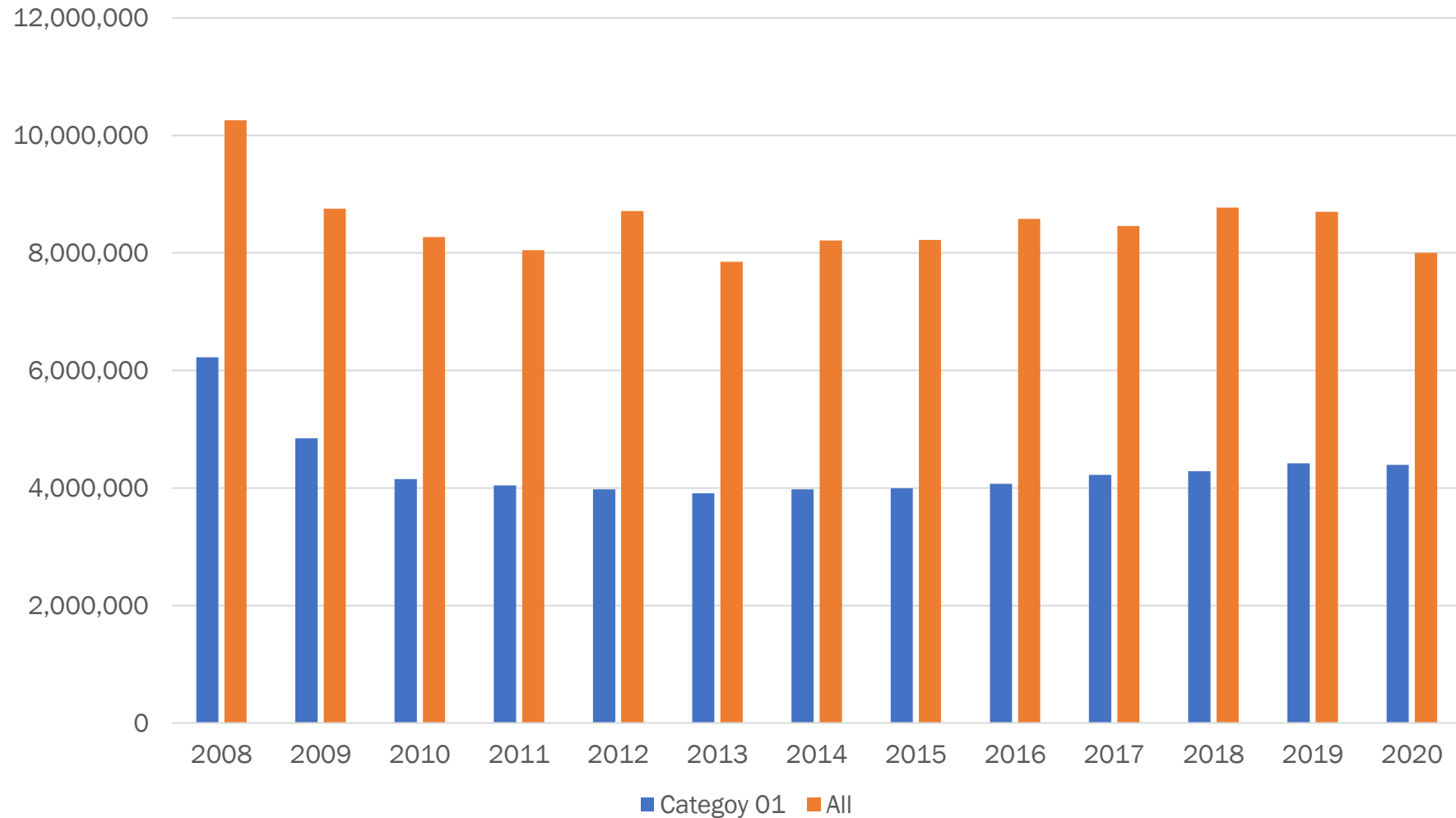
Fiscal Year	Schedule	(Denominator)			(Numerator)		(Ratio)	
		Authorized Expenditure Level	Expenses	DOA Adjustments	PR EOY Account Balance	Actual % (PR EOY Account Bal / Auth. Exp. Level)		
FY17	\$ 2,591,700	\$ 2,785,214	\$ (2,258,606)	\$ (279,904)	\$ 246,704	8.86%	Actual	
FY18	\$ 2,591,700	\$ 3,024,616	\$ (2,740,129)	\$ 81,629	\$ 366,116	12.10%	Actual	
FY19	\$ 2,591,700	\$ 3,213,335	\$ (2,323,503)	\$ 237,071	\$ 1,126,904	35.07%	Actual	
FY20	\$ 2,728,600	\$ 3,549,537	\$ (2,642,997)	\$ 112,903	\$ 1,019,443	28.72%	Actual	
FY21	\$ 2,728,600	\$ 3,765,817	\$ (3,220,446)	\$ (8,750)	\$ 536,620	14.25%	Actual	
FY22 - estimated	\$ 2,751,800	\$ 3,388,395	\$ (2,800,000)	\$ 113,741	\$ 702,136	20.72%	Estimated	

If, for 3 consecutive fiscal years the PR Account Balance is >20% of the Authorized Expenditure Level, the DNR must propose rule revisions to lower the landfill license fee surcharge.

NR 520.04(1)(d)5

# Landfill Tonnage

Landfill Tonnage – Yearly Totals



# Recycling Data and Diversion Updates

Jennifer Semrau

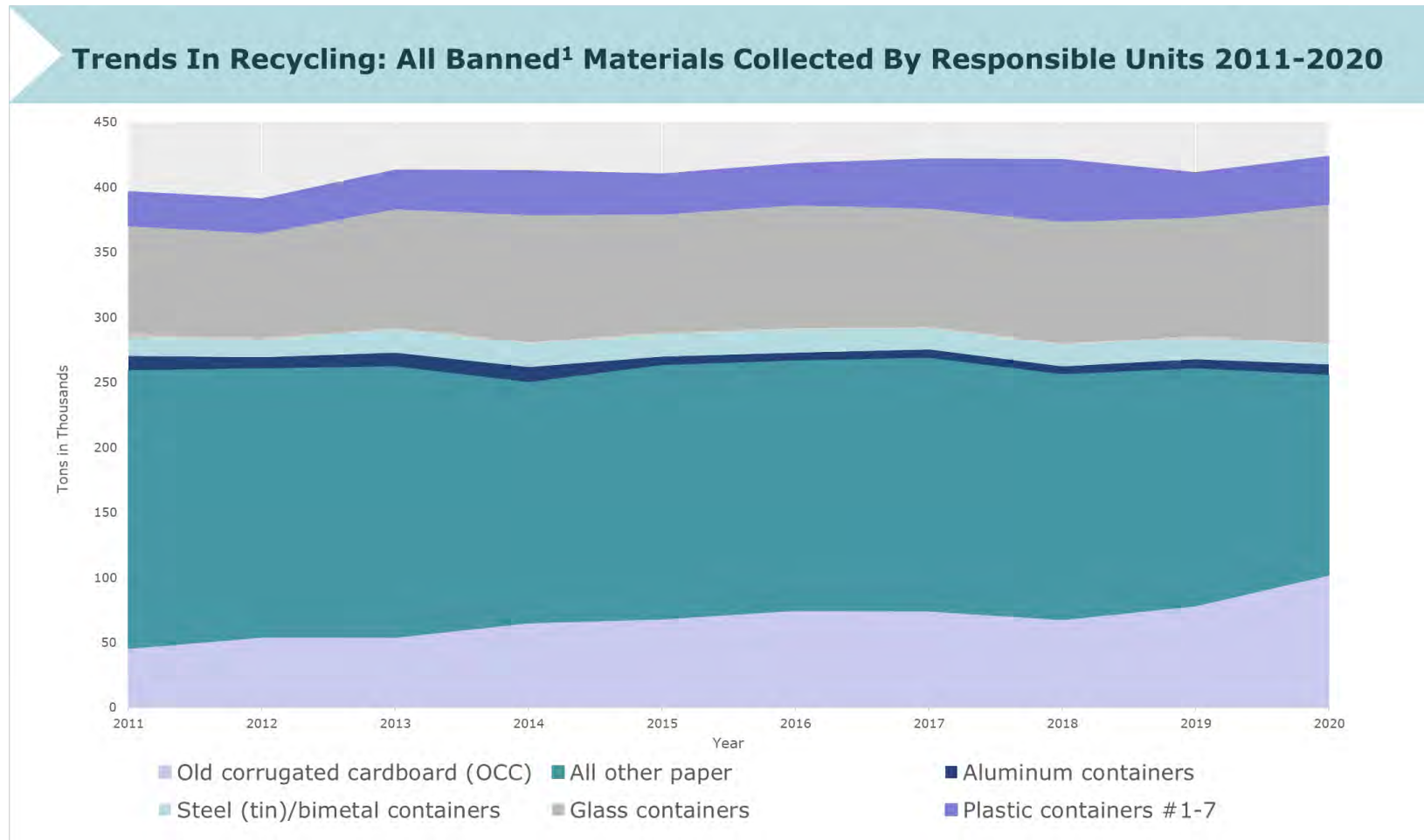
October 7, 2021

# Recyclable Materials Collected by Wisconsin Responsible Units (in tons)

Mandatory Reporting - Banned <sup>1</sup>	2020	% Change from 2019
Old corrugated cardboard (OCC)	101,774	↑ 30.3%
All other paper	154,147	↓ -15.5%
Aluminum containers	7,787	↑ 11.5%
Steel (tin)/bimetal containers	15,573	↓ -10.1%
Glass containers	107,747	↑ 17.0%
Plastic containers #1-7	36,402	↑ 7.1%
<b>Total Mandatory Reporting</b>	<b>423,431</b>	<b>↑ 3.0%</b>
WI Population	5,879,284	↑ 0.3%
<b>Per capita mandatory reporting (lbs per person)</b>	<b>144</b>	<b>↑ 2.7%</b>

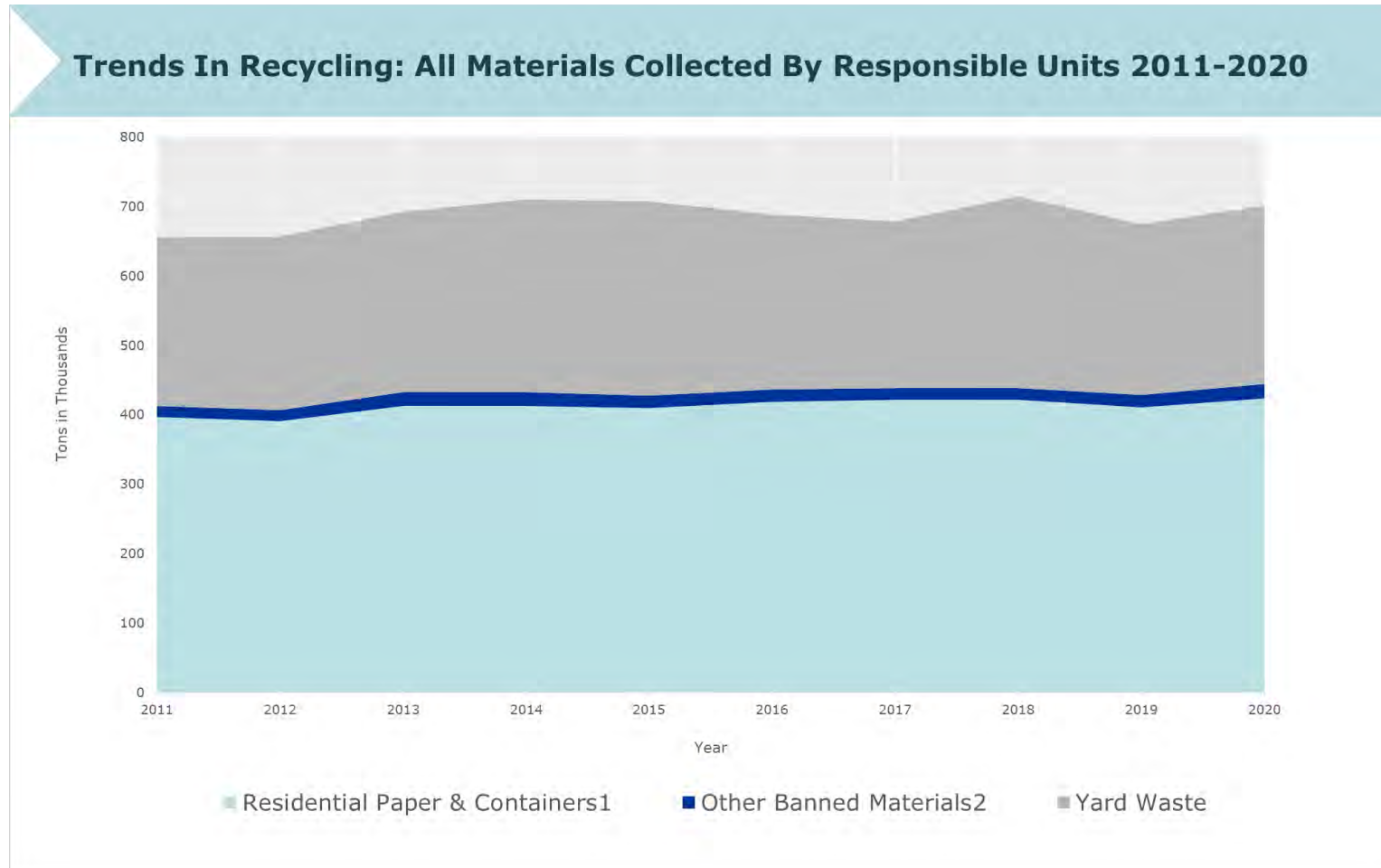
<sup>1</sup> Wisconsin Recycling Law bans these materials from landfills

# Responsible Unit Data Trends: Mandatory Reporting- Banned Materials



<sup>1</sup> Wisconsin Recycling Law bans these materials from landfills

# Responsible Unit Data Trends: All Recyclables



<sup>1</sup> Wisconsin Recycling Law bans these materials from landfills

<sup>2</sup> Includes electronics, major appliances, non-residential office paper, used lead acid batteries, used oil, used oil filters, and waste tires

# Recyclable Materials Collected by Wisconsin Self-Certified MRFs (in tons)

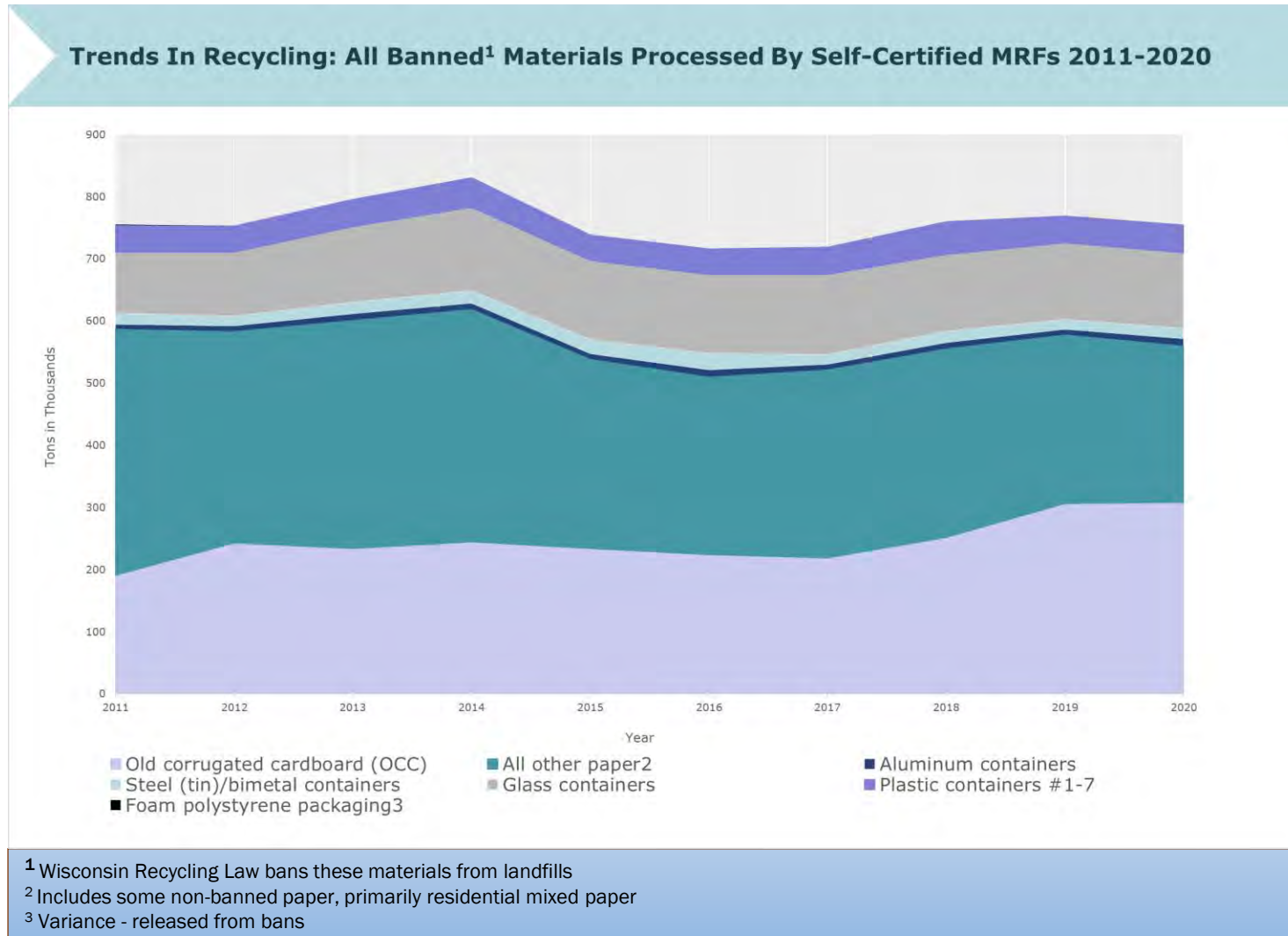
Mandatory Reporting - Banned <sup>1</sup>	2020	% Change from 2019
Old corrugated cardboard (OCC)	307,905	↑ 0.4%
All other paper <sup>2</sup>	252,363	↓ -7.0%
Aluminum containers	10,845	↑ 33.1%
Steel (tin)/bimetal containers	17,368	↑ 6.2%
Glass containers	121,432	↓ -1.2%
Plastic containers #1-7	44,223	↑ 1.8%
Foam Polystyrene <sup>3</sup>	2	↑ 9.6%
<b>Total Mandatory Reporting</b>	<b>754,137</b>	<b>↓ -1.9%</b>

<sup>1</sup> Wisconsin Recycling Law bans these materials from landfills

<sup>2</sup> Includes some non-banned paper, primarily residential mixed paper

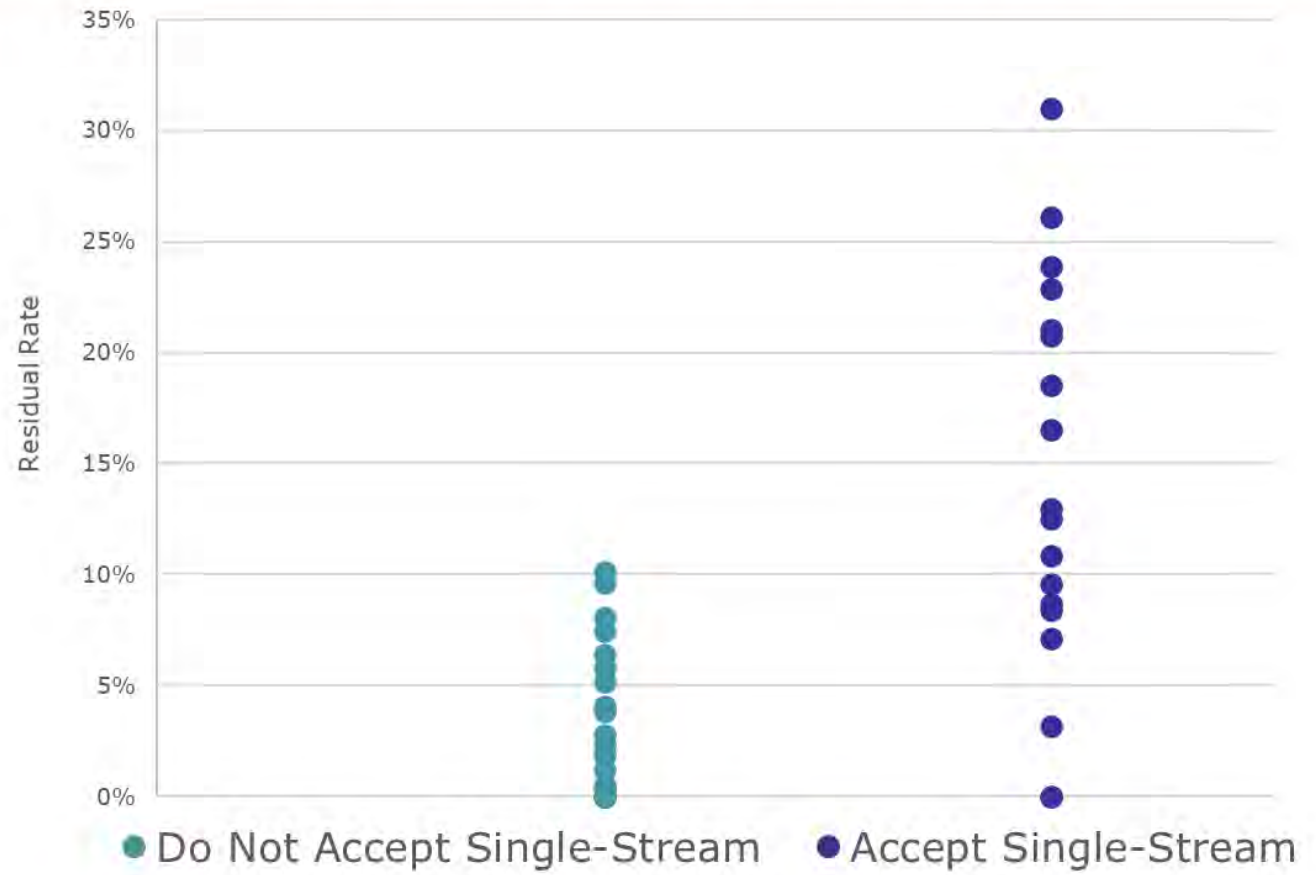
<sup>3</sup> Variance - released from bans

# Self-Certified MRF Data Trends: Mandatory Reporting- Banned Materials

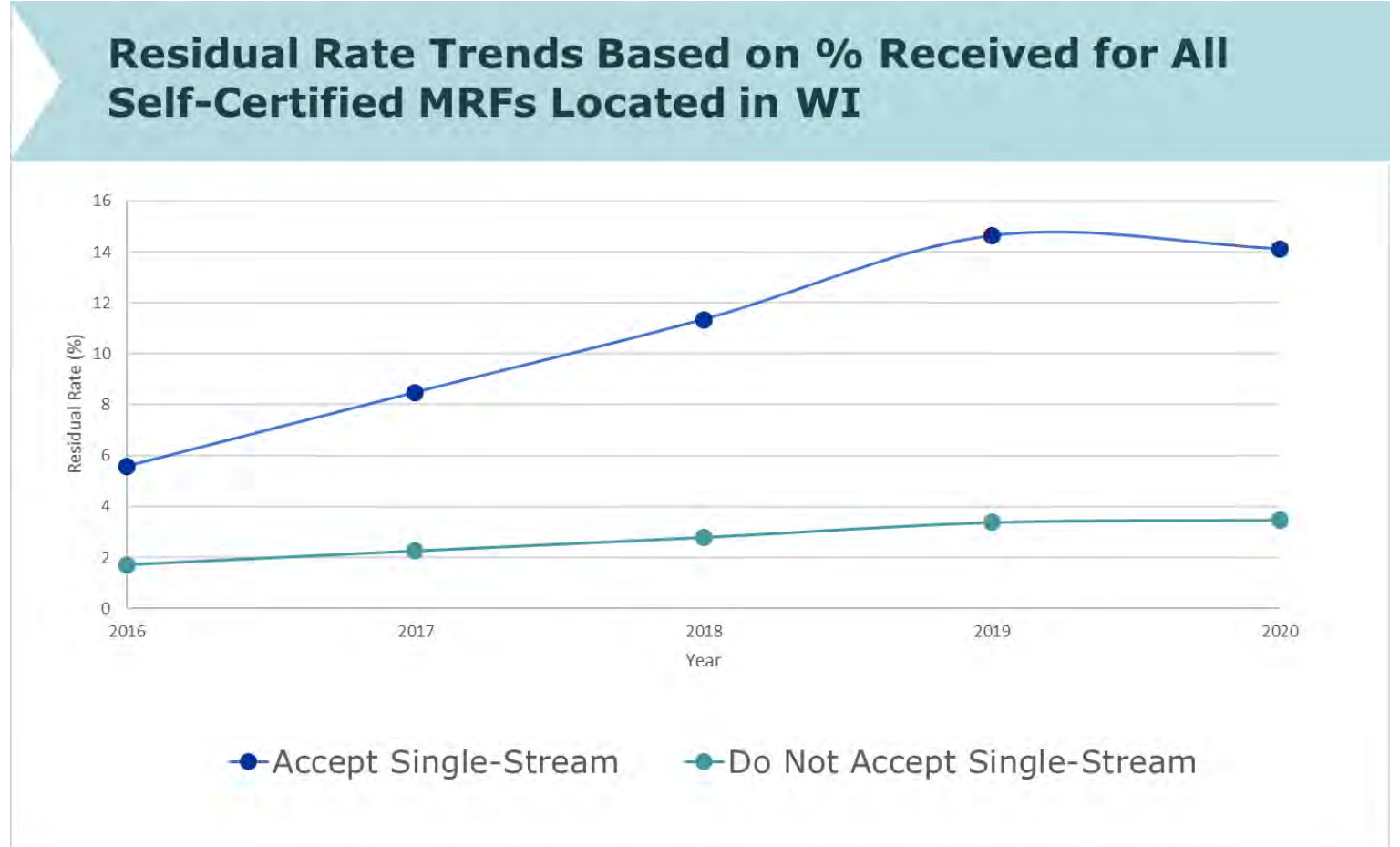




## Residual Rates Based on % Received for All 2020 Self-Certified MRFs Located in WI



# WI Self-Certified MRF Residual Rate Trends



# Top Recycling Story of the Moment: Commodity Values

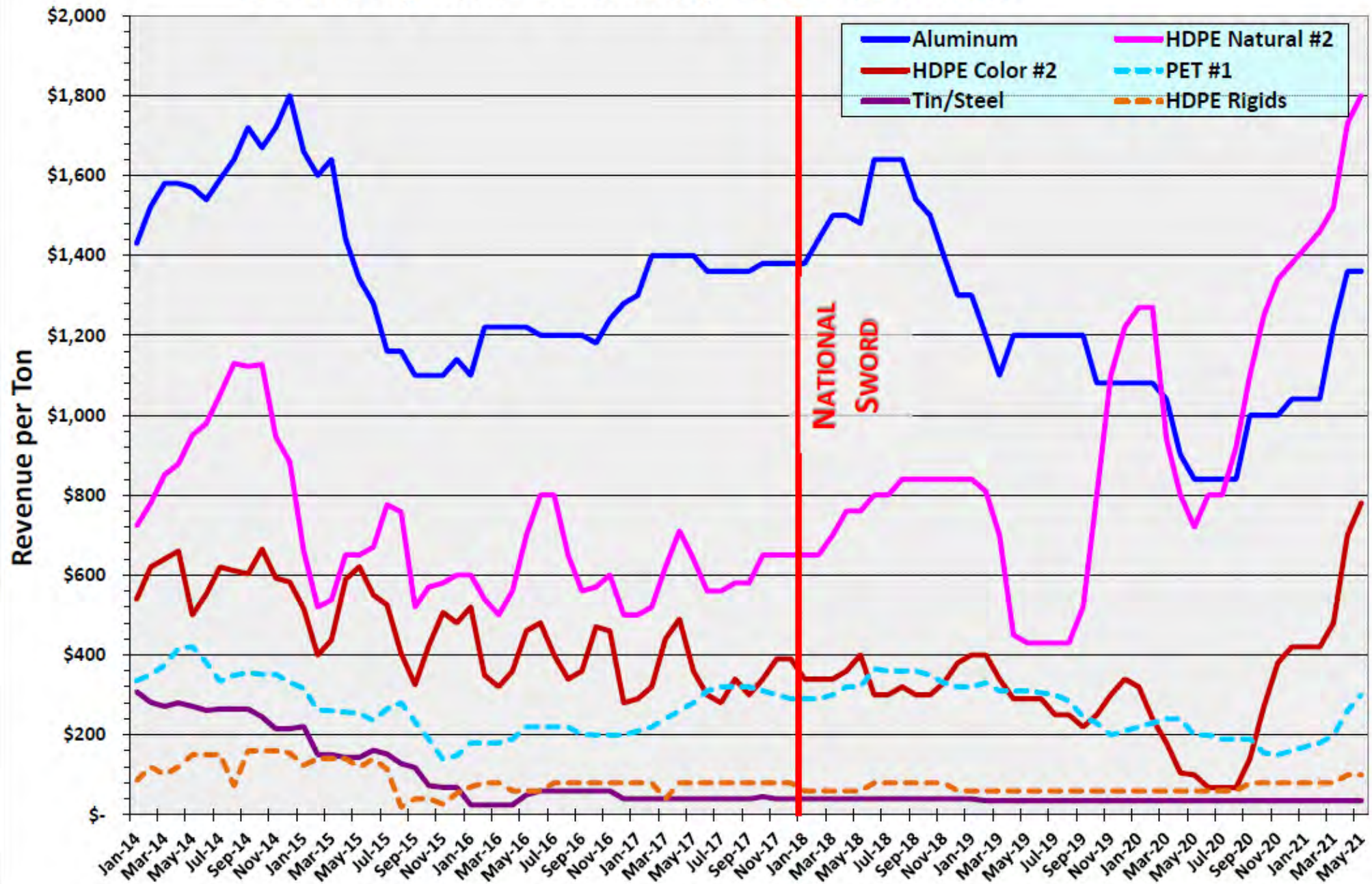
Historic highs for a number of materials

Demand exceeding supply for fiber, plastics

## Pricing (Sept)

- OCC \$190/ton
- Mixed \$115/ton
- Aluminum \$1640/ton
- Steel \$35/ton
- PETE \$580/ton
- HDPE natural \$2260/ton
- HDPE color \$1260/ton

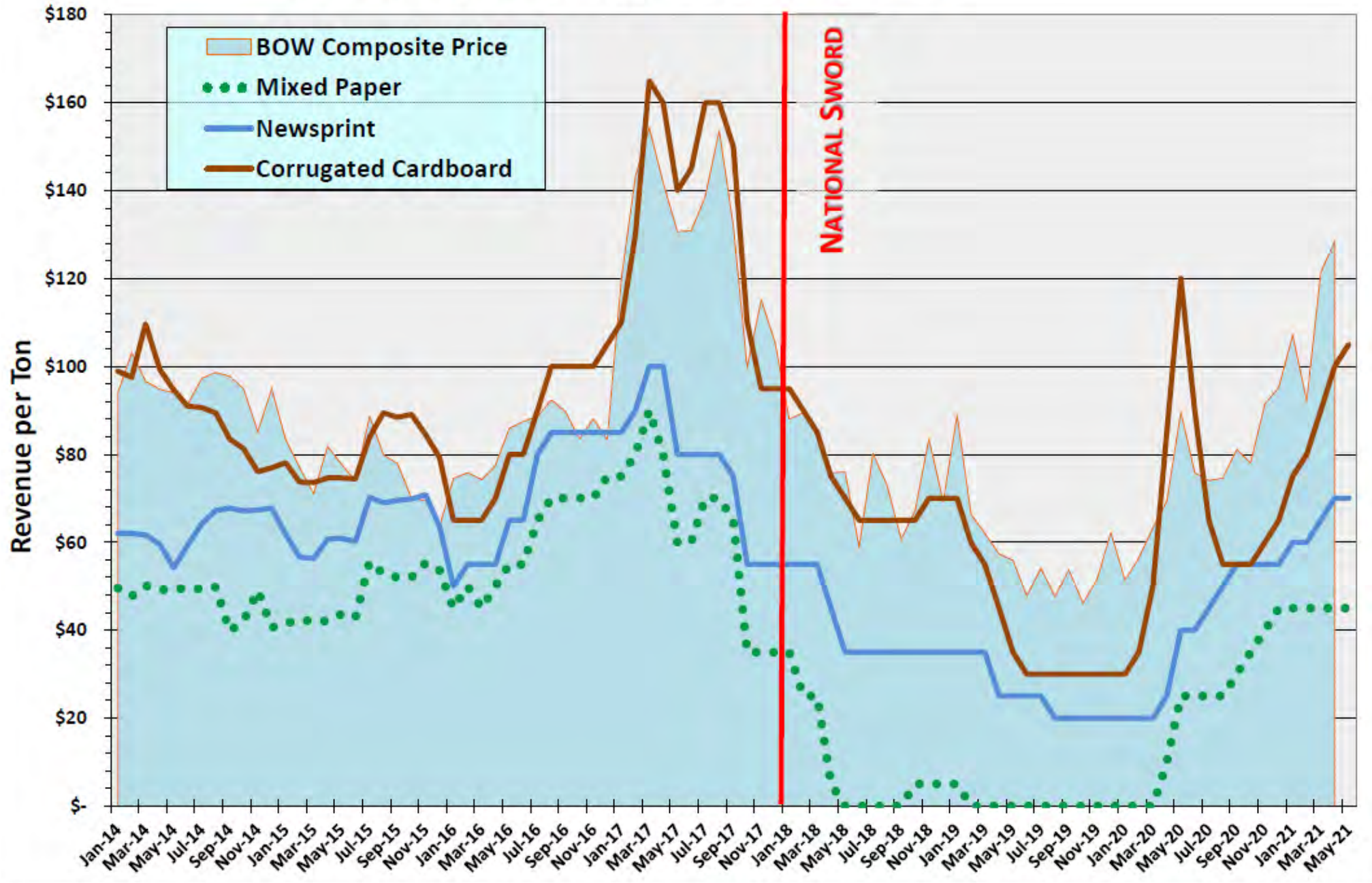
# BOW Recyclable Commodity Values 2014-2021



Courtesy of Mark Walter, Brown County



# BOW Recyclable Paper Values 2014-2021



Courtesy of Mark Walter, Brown County

# Legislative Audit Bureau Statewide Recycling Program Audit

Received LAB report last Nov.

Public hearing Feb. 2

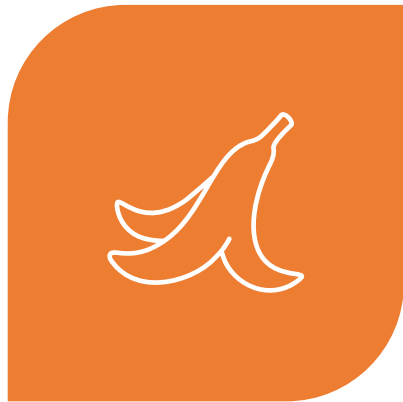
Official DNR response by Apr. 1

Implementing recommendations

- Increased individual Responsible Unit (RU) evaluations
- Increased documentation of procedures
- Opening NR 544 Effective Recycling Programs

New recycling LTE: Eliza Kruszynski

# Focus Areas



UTILIZING RESULTS OF WASTE  
CHARACTERIZATION STUDY  
(FOOD WASTE DIVERSION)



ANALYZING RESULTS OF  
HOUSEHOLD SURVEY



MULTI-FAMILY PROPERTY  
COMPLIANCE

# Questions?

Jennifer Semrau

[Jennifer.Semrau@wisconsin.gov](mailto:Jennifer.Semrau@wisconsin.gov)

608-381-0960



# Composting Deactivation of CWD Prions

Rob Michitsch

# Solid Waste Interested Parties Meeting

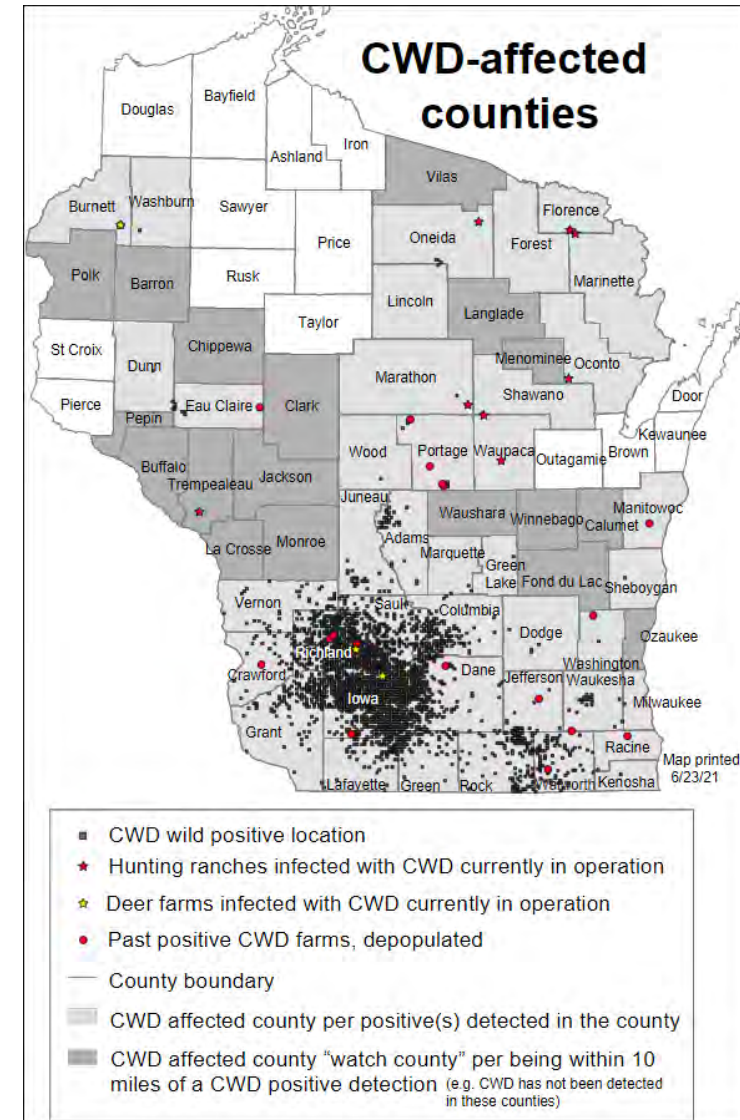
Carcass Management Updates

October 7, 2021

Dan Kroll – WDNR

# CWD in Wisconsin

- First discovered in Southwestern WI in 2002
- Current CWD in Wisconsin
  - 58 Affected/Watch Counties
  - 40 Counties with a wild and/or captive positive CWD deer documented
  - 32 Counties with a wild positive CWD deer documented
  - 10 Hunting Ranches/Deer Farms with positive CWD deer documented still in operation



# Deer Waste Disposal Webpage

- <https://dnr.wisconsin.gov/topic/hunt/landfillmap.html>
- Provides a list of licensed animal carcass haulers
- Resources on hauling and disposal
- Deer Carcass frequently asked questions document
- Interactive disposal locations map



Many hunters, meat processors and taxidermists have questions about proper handling of deer carcasses. Given statewide concern about managing the spread of chronic wasting disease, proper carcass disposal is more important than ever. This document answers many frequently asked questions about deer waste and carcass disposal.

**Are deer carcasses considered a solid waste?**  
Yes, according to Wisconsin statute s. 289.01(33), deer carcasses are defined as solid waste.

**Can deer carcasses be disposed of in a landfill?**  
Yes, landfilling is the preferred option for carcass disposal. Contact your local landfill to determine if it accepts deer carcasses and if it requires any special handling procedures prior to disposal. You should do this before placing the carcass in your curbside container or bringing it to the landfill.

**What is Adopt-a-Dumpster?**  
The main goal of the Adopt-a-Dumpster program is to provide hunters an option for appropriate deer carcass waste disposal, especially in areas where carcass disposal options are very limited or unavailable. Individuals or organizations can volunteer to sponsor a dumpster during the deer season at a mutually agreed upon location with the DNR. Contact your local DNR wildlife biologist or deer biologist for details.

**Where can I find a landfill, transfer facility or Adopt-a-Dumpster location to accept my deer carcass?**  
The DNR maintains a list of licensed or approved facilities willing to accept deer carcasses at: [dnr.wisconsin.gov/topic/hunt/landfillmap.html](https://dnr.wisconsin.gov/topic/hunt/landfillmap.html).

This list may not be all-inclusive, so contact your local landfill or transfer station prior to disposal. Adopt-a-Dumpster locations are only shown on the map during the fall deer hunting season.

If I butcher my deer at home, what should I do if I live in an area where the landfill does not accept deer carcasses?  
The preferred option for carcass disposal is landfilling. However, if that is not a reasonably available option, you may legally bury a single carcass on private property where the waste was generated with permission from the landowner. The carcass should be buried deep enough to prevent excavation by scavengers.

This method effectively removes the waste from the open environment and places a barrier between uninfected deer and a potential source of CWD transmission. Do not bury carcasses in wetlands or where they may cause a detrimental effect to surface or ground water. Burial is only allowable for residential generated carcass waste. Burial is not an option for large quantities of carcasses that would be generated by roadside pickup, butchering operations or taxidermists.

**Can I dispose of my carcass in the field?**  
Leaving a deer carcass in the field is a last resort!

for hunters. If no other option is available, hunters may obtain landowner permission to dispose of deer carcasses on private property as close to the site of harvest as possible. Anyone using this option should also place the carcass waste in a location where other deer and scavengers are unlikely to encounter it.

Deer carcasses are solid waste, and it is illegal to dispose of waste on any public lands or roadways as well as on private property without permission. Field dressing a deer and leaving the gut pile and associated animal parts on site on public or private land is permitted.

**Are there restrictions on where I can move a deer carcass?**  
Yes, because CWD can be spread to deer through contact with deer carcasses, it is crucial to minimize carcass movement, especially in CWD-affected areas. State statute requires that the head, spine and lymphoid tissues of deer harvested within a CWD-affected county shall not be moved or disposed of outside of the CWD-affected county of harvest unless it is brought to a licensed landfill, meat processor or taxidermist, the head brought to a CWD sampling station or to an adjacent county.

**Can road-killed deer be collected and buried in a pit or trench?**  
No, burial of collected road-killed deer is not allowed. Burying deer carcasses poses a threat to ground water quality. Road-killed deer need to be disposed of at a licensed landfill, renderer or DNR-approved facility such as a transfer facility.

**Can road-killed deer carcasses be left on the landscape where they were killed?**  
Yes, road-killed deer may be left on the roadside in instances when only one deer is killed. There may be concerns about odor or unsightliness, but they are generally short-lived as the carcass naturally decomposes.

To avoid vehicle collisions with birds or other animals feeding on the carcasses, road-killed deer should be moved to the far edge of the road right-of-way but not onto private property outside of the right-of-way. A reasonable effort should be made to obscure the deer carcass from the traveling public. Examples include moving the carcass at a 90-degree angle from the road so uncut grasses hide the carcass, or using bushes or other woody vegetation.

**Can I compost road-killed deer picked up by a contractor or municipality, or carcass waste generated by a processing facility or taxidermist?**  
Composting may be an option for commercial or municipal operations. Composting may only be done in counties unaffected by CWD. A license from the DNR is required for this type of composting. Contact your local waste management specialist for further details.


**Can licensed meat processors and taxidermists dispose of inedible deer parts on the landscape or provide them to trappers or wildlife watchers?**  
No, licensed meat processors and permitted taxidermists receiving deer carcasses must dispose of all inedible parts and all parts of the spinal column, brain and lymphoid tissues in a properly permitted landfill or with a licensed renderer in accordance with s. NR 10.105(7)(c), Wis. Adm. Code. Use of deer parts as bait for trapping or attractants for personal entertainment, such as photography, is prohibited.

**Resources**

**Find carcass disposal options near you:**  
[dnr.wisconsin.gov/topic/hunt/landfillmap.html](https://dnr.wisconsin.gov/topic/hunt/landfillmap.html)

**Find more information on chronic wasting disease:**  
[dnr.wisconsin.gov](https://dnr.wisconsin.gov), search "CWD."

**Questions on deer carcass disposal? Contact:**  
Dan Kroff, DNR waste management specialist  
920-662-5488, [daniel.kroff@wisconsin.gov](mailto:daniel.kroff@wisconsin.gov)

 Wisconsin Department of Natural Resources  
Waste and Materials Management Program  
P.O. Box 7921, Madison, WI 53707-7921

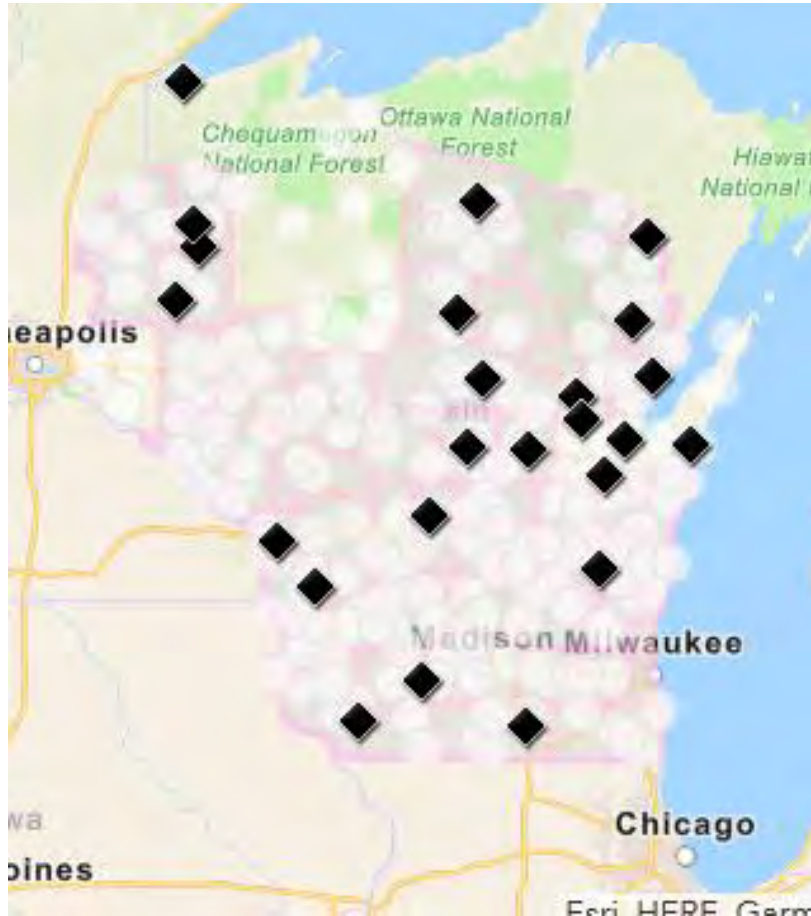
PUB-WA-1881 2019

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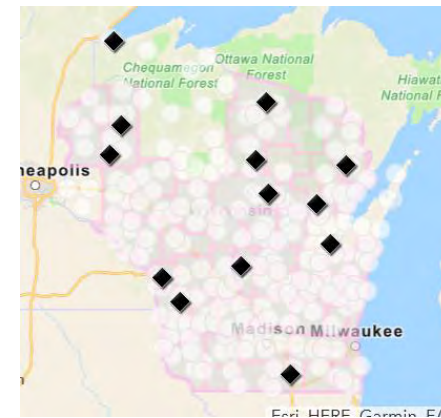
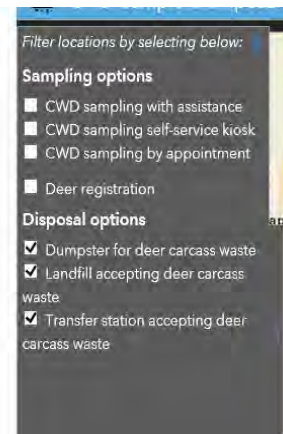
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# Deer Carcass Disposal Sites



- 13 Landfills
- 7 Transfer Stations
- 4 Adopt-A-Dumpster
- Additional dumpster locations will be added to the map as they become available



Landfills Accepting Deer Carcasses

<https://dnr.wi.gov/topic/hunt/landfillmap.html>



# Adopt-a-Dumpster

- In 2021 the department received a USDA Grant in the amount of \$126,000 to support the Adopt-a-Dumpster and state funded dumpster programs.
- Two ways to participate
  - **Donate Full Cost**
    - AAD partners are responsible for all costs and guidelines associate with the dumpsters. The length of time the dumpster is available would be determined by the participant.
  - **Donate Partial Cost through Cost Sharing**
    - AAD partners can participate in a cost sharing option during the 2021 deer seasons.
    - Up to the first \$1000.00 of the invoice costs are shared 50/50. Any invoice costs over \$1000.00 are covered at 100%.
    - Cost sharing available in all counties for 2021, with up to 3 dumpsters per county.
- WDNR Contact – Amanda Kamps, Wildlife Biologist (608)712-5280 or [Amanda.Kamps@Wisconsin.gov](mailto:Amanda.Kamps@Wisconsin.gov)

# State Funded Dumpsters

- In areas where there are not sufficient disposal options the department will place dumpsters.
- 2021 Deer Season Goal
  - Have disposal options in each county to help prevent the spread of CWD.
  - Expand the dumpster program to have 3 disposal options in CWD counties.
- State funded dumpsters will be placed in mid/late October and will remain in place through the gun deer season.
- 2020 Deer Season Dumpsters
  - 6 dumpsters fully funded by AAD partner
  - 49 dumpsters funded by cost share
  - 40 dumpsters fully funded by department



# USDA - APHIS

- USDA tested a horizontal grinder to manage mass animal mortality.
- 10 large dairy cows were ground with a mixture of wood chips.
- About half the amount of carbon is needed to compost if carcasses are ground.
- In 3 weeks, there was no notable tissue remaining.





## Guidance for the Mass Disposal of Animal Carcasses in Landfills – WA1915

- Animal carcasses may be disposed of in MSW landfills provided they are disposed in accordance with the landfills Plan of Operation (PO).
- Carcasses must be immediately covered and compacted.
- A plan modification may be needed to accept mass volumes of carcasses if the amount requires the landfill to implement special handling requirements.
- Guidance provides recommended special handling procedures that can be incorporated into the PO.

# Contact Information

Dan Kroll (920)401-1314

[Daniel.Kroll@Wisconsin.gov](mailto:Daniel.Kroll@Wisconsin.gov)

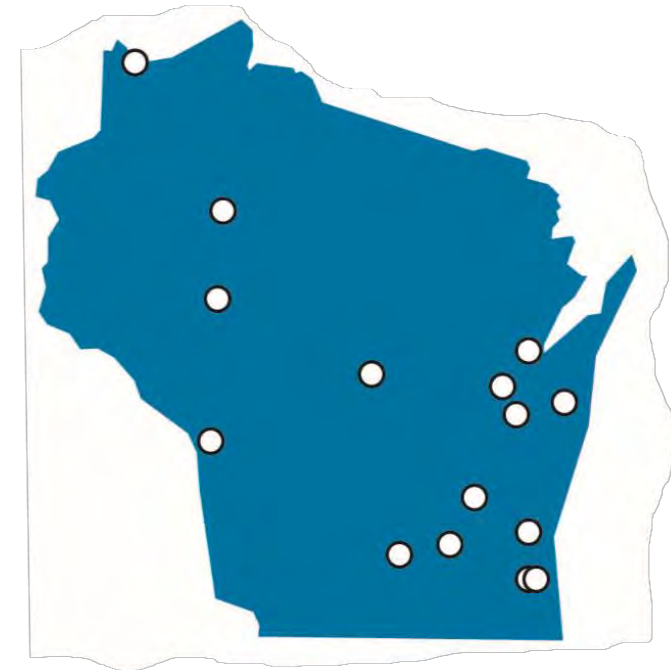
# **Waste Characterization Study Overview**

**Casey Lamensky**

# Stats:

- Contracted with SCS Engineers
- Sept.-Nov. '20 and March-April '21
- 15 host facilities (14 landfills and a transfer)
- Host landfills accept 72% of the state's landfilled MSW
- Focus on MSW and C&D waste

- GFL Hickory Meadows LF
- Brown County Transfer Station
- Outagamie County LF
- WM Ridgeview LF
- City of Superior Moccasin Mike LF
- WM Timberline Trail LF
- Dane County LF Site No.2 (Rodefeld)
- GFL Glacier Ridge LF
- WM Deer Track Park LF
- WM Metro RDF
- GFL Emerald Park LF
- WM Orchard Ridge LF
- Cranberry Creek LF
- GFL Seven Mike Creek LF
- La Crosse County LF



# Process:

- Hand sorted and weighed 398 samples MSW from residential, commercial and industrial/institutional sectors
- Visually inspected 659 samples of C&D waste
- Process similar to 2003 and 2009 studies though categories did change
- Waste was sorted into 85 categories
- Data statewide, by DNR region, and by sector
- Study cost \$335,000

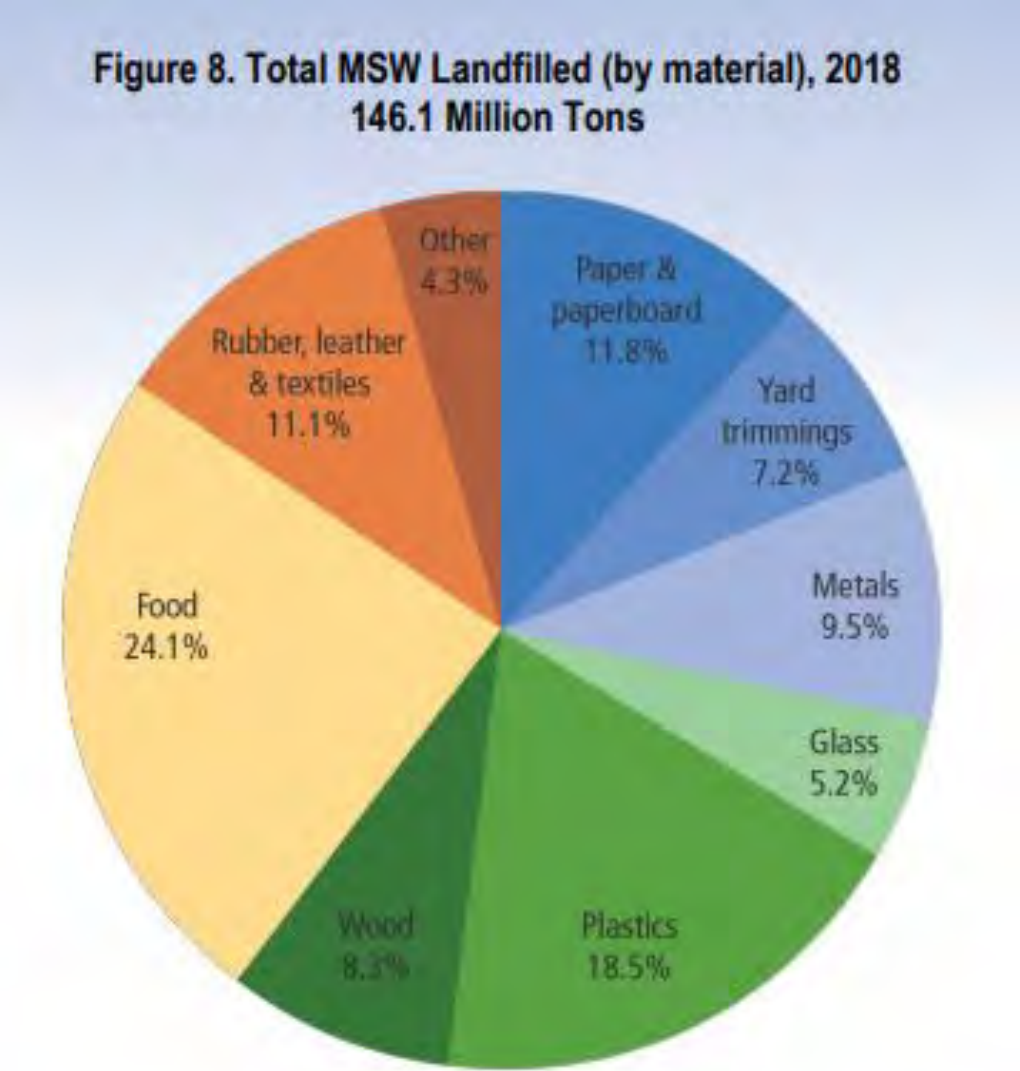
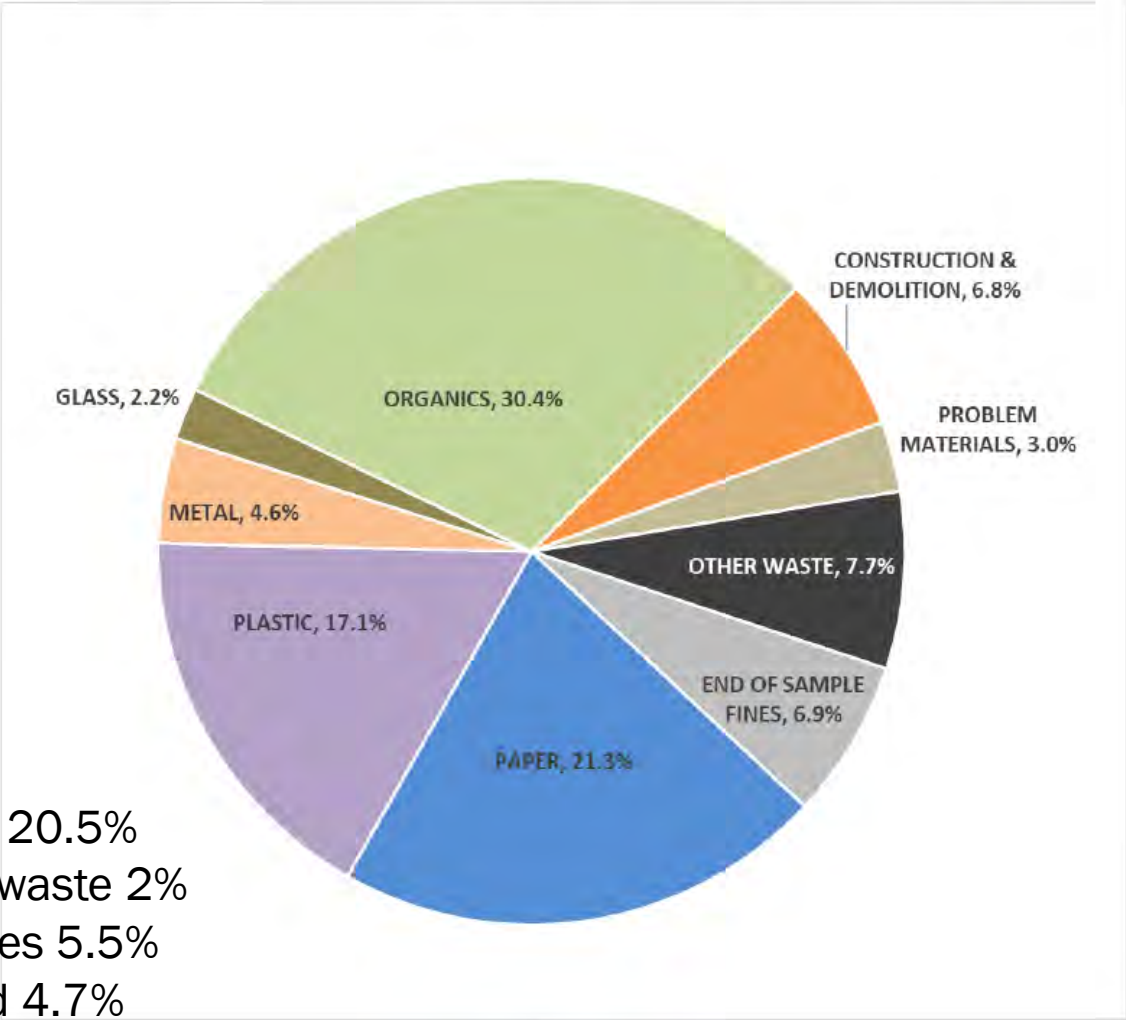


# Interpreting results

- Data by % composition and extrapolated to weight using the category 1 and category 25 landfill tonnage reports
- 2009 landfill tonnages (used for extrapolation): 3,973,345 tons
- 2020 landfill tons (used for extrapolation): 4,350,100 tons
- Data was likely impacted by the pandemic.
- Results are a picture of what was landfilled, not a picture of the waste stream
- For a comprehensive picture we have compost data, BU data and processing data. Recycling data available but is specific to facilities accepting multi materials or contracting with an RU.

# Comparison to National Numbers

Exhibit 1. Overall Category 1 MSW Statewide Waste Composition



# Results by type:

- The five largest components of the MSW landfill waste stream are:
  - 14.5% “wasted food” comprised of food items that are traditionally edible,
  - 7.2% “other flexible films” including flexible plastics like chip bags and granola bar wrappers,
  - 6% “food scraps” which are not traditionally edible food waste such as peels,
  - 5.5% “textiles” or cloth materials, and
  - 5.3% “compostable paper” which is paper that is not able to be recycled such as tissues or paper plates



### Top 5 20/21 Categories Across Studies

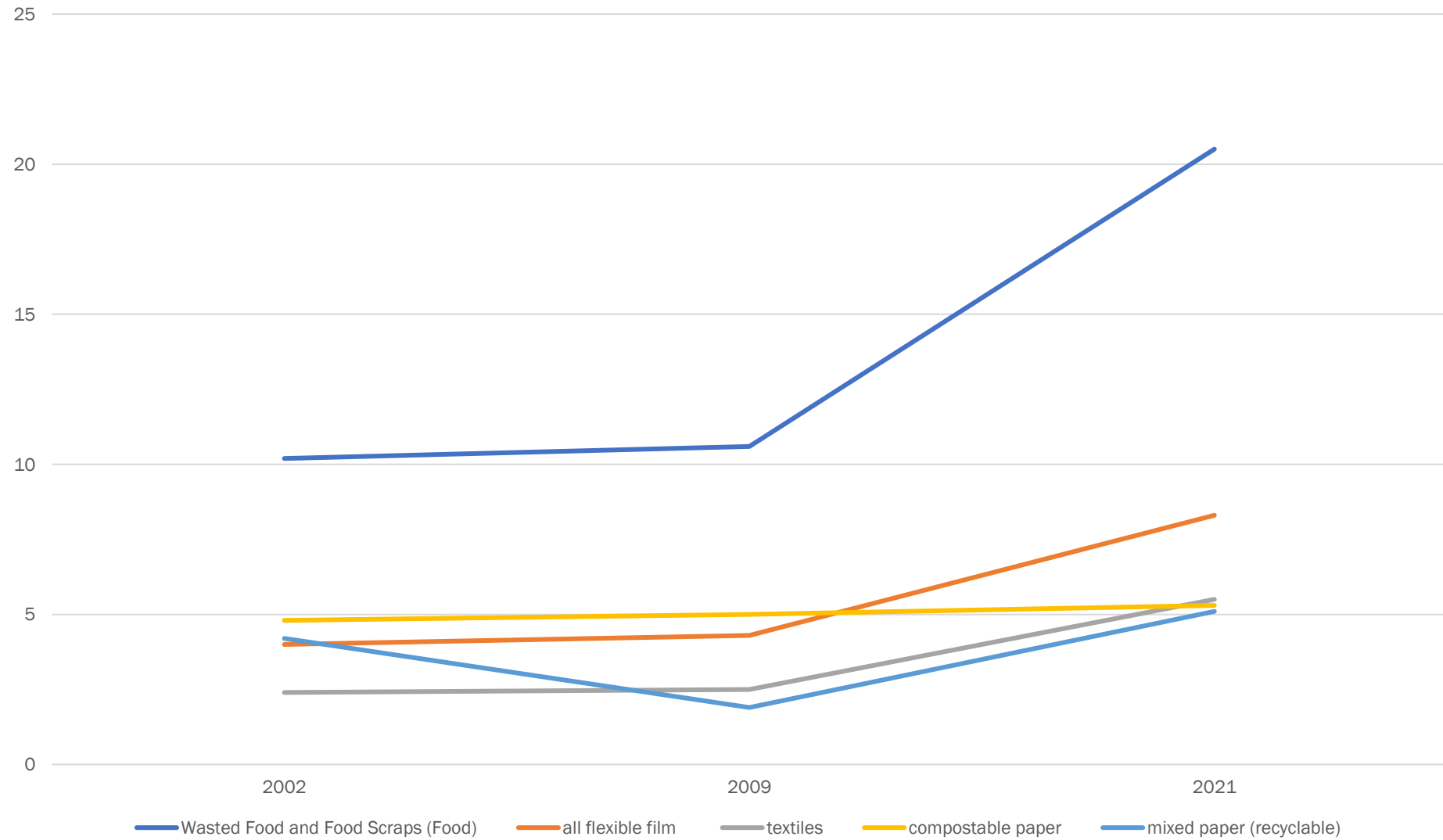


Table 3. Comparison of the Top 10 Category 25 CDD Material Components from 2009 and 2020-2021

2020-2021 Study Results		2009 Study Results <sup>1</sup>	
Material Component	Percent Composition	Material Component	Percent Composition
Other C&D (any other material used in home construction, not including wood, rock, brick, concrete, gypsum wallboard, shingles, PVC or ceramics/porcelain fixtures)	25.0%	Roofing Shingles (asphalt shingles tarpaper; also tarpaper from built-up roofing)	29.5%
Untreated Clean Dimensional Lumber (unpainted, untreated new or demolition dimensional lumber such as 2x4s, 2x6s, etc.; may contain nails or other trace contaminants)	11.5%	Rock, Concrete, Bricks (rock gravel, Portland cement mixtures (set or unset), fire-clay bricks, asphalt pavement)	13.2%
Roofing Shingles (asphalt shingles tarpaper; also tarpaper from built-up roofing)	10.0%	Painted/Stained Wood (wood that has had an external coating applied, such as paint or varnish in more than small amounts)	10.1%
Unpainted Engineered Wood (unpainted new or demolition scrap from sheet goods such as plywood, particle board, wafer board, oriented strand board and other residual materials used for sheathing and related construction uses)	8.7%	Clean Dimensional Lumber (unpainted, untreated new or demolition dimensional lumber such as 2x4s, 2x6s, etc.; may contain nails or other trace contaminants)	8.8%
Gypsum Wallboard - Demo (used gypsum drywall typically with paint, wallpaper or other finish coating)	6.5%	Other C & D (any other material used in home construction, not including wood, rock, brick, concrete, gypsum wallboard, shingles, PVC or ceramics/porcelain fixtures)	5.8%

# Changes from 2009 to 2020

## MSW:

- Food waste is 193% of the percent it was in the 2009 study
- Recyclable waste increased. In 2020 mixed paper #6 and uncoated cardboard #10 (by %)
- TVs reduced by 85%

## C&D:

- Shingles decreased from 30% to 10% of the construction and demolition waste stream



# More info: DNR.wi.gov search “waste sort”

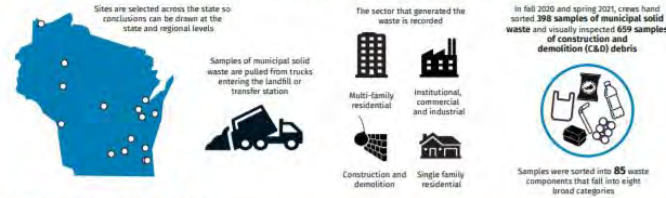
<https://dnr.wisconsin.gov/topic/Recycling/studies.html>

## What is ending up in Wisconsin landfills?

The DNR commissions statewide waste characterization studies to better understand what Wisconsinites are throwing in the trash. The most recent study occurred in 2020-2021. Prior studies were completed in 2002 and 2009. The results of these studies help guide waste reduction and diversion efforts at the state, regional and local level.

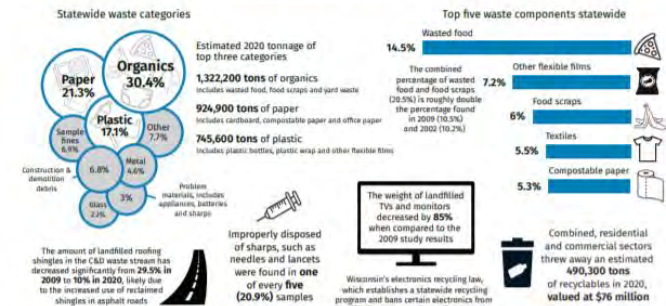
### How we study waste

Waste characterization studies are snapshots in time that reveal the composition and amount of landfilled materials



### What was discovered

Analysis of the 2020-2021 data shows us that Wisconsinites are dedicated to waste reduction, but there is more we can do



### Reducing landfilled waste

Reducing what we throw away supports Wisconsin's economy, helps the environment and saves valuable landfill space



# For landfill certification CEU credits for this meeting

Please direct message Casey Lamensky in the meeting chat or by email at [Casey.Lamensky@Wisconsin.gov](mailto:Casey.Lamensky@Wisconsin.gov) and provide

- first and last name
- meeting ID if different from your name
- operator certification number

# Questions?

- DNR.wi.gov search “SWIP”

Or

- DNR.wi.gov search “WMM study group”

For slides from this meeting and information about future meetings

[Casey.Lamensky@wisconsin.gov](mailto:Casey.Lamensky@wisconsin.gov) for questions