

Waste and Materials Management Study Group

February 5, 2026



Agenda

Welcome, November notes

Non-landfill solid waste rule update/processor code overview

DNR updates

Update on battery legislation

Metals in Groundwater at Small C&D Landfills

DNR organics management updates

Discussion of replacement member for Bart's retirement, Next topics

Proposed Changes to Processing and Transporter Code for Draft Nonlandfill Code Updates

Casey Krausensky

2/5/2026

Waste and Materials Management Study Group Meeting

Processing Code NR 502.08

- 47 active approvals and licenses
- Facility types include:
 - Tire shredders, infectious waste treatment, C&D MRFs, industrial waste blenders and solidifiers (not at landfills), food waste depackagers and some AD units, roofing sorters, electronics recyclers and more.

General

- Add exemption and conditional approval authority
- Submittal maps and blueprint requirements reduced to meet processing facility needs

Exemptions

- Updates language for exempt separate C&D processing to call out the specific materials allowed and increases the operational requirements that apply.
- Removal of the NR 502.08(2)(i) exemption (primarily used by shingle grinders)

Locational

- Add exemption from locational criteria for mobile processors at a location where processing takes place for less than 24 hours per year if:
 - Containerized storage requirements are followed
 - Processing takes place on a reduced permeability surface
 - Stormwater is managed
 - Litter concerns are not created
 - Performance standards are complied with

Plan Submittal Requirements Part 1

- Removal of requirements that aren't focus of current reviews such as
 - Noting certain operations within ¼ mile
 - Comparison to County land use management plans
 - Predominant vegetation and wildlife on property
 - Toilet facilities requirement
- Updates current language to minimize confusion and focus on necessary information
 - Changes the proposed service area from the population and industries to a general description of waste generators.
 - Makes several construction requirements to only being applicable if construction is happening.
 - Replaces a description of the materials balance with a description of all materials accepted, processing actions to be taken, and products and wastes to be generated and estimated quantities for each on a daily and annual basis.
 - Replaces the names of disposal facilities with certification that the disposal facilities are approved to accept the wastes being sent and the same for end markets plus a requirement that names and contracts be provided upon department request.

Plan Submittal Requirements Part 2

- Adds a contingency plan requirement for routine maintenance stoppages.
- Adds a place for addressing any locational criteria concerns
- Sloped floor requirements are only for wastes expected to generate wastewater and allows for private onsite wastewater treatment in addition to a sanitary sewer.
- Replaces a “discussion of possible hazards and safety precautions” with a copy of an operator training and safety manual (already required in operational requirements).

Operational Requirements

- Removes prohibition on accepting flammable or explosive waste
- Removes a means of communication with emergency facilities
- Moves non yard residuals, SSCM and ag composting from processing code to composting code and removes associated composting operational conditions.
- Creates standard annual reporting language and dates. (Goal to be made into an online form submittal).
- Removes grading requirement after facility construction.
- Adds specific storage requirements for electronics processing facilities and removes a requirement for notifying license exempt transporters of waste electronics that they are required to follow certain operational requirements.

Transporter Code NR 502.06

Current practice clarity

- Separation of single family and <20 ton exemptions
- Exemption for wastewater to include materials going to a wastewater treatment plant
- Street sweepings added to list of government exemptions (along with roadside litter collection)
- Clarify things like decals and magnets are allowed for displaying license #
- Clarify that waste can go to license exempt facility that is able to accept the waste type being handled
- Remove references to “collection... services”

Transporter Exemptions

- Removal of exemption from licensing if collecting only “recyclable materials” from commercial, retail, industrial and governmental operations
- Less than 20 ton exemption reduced to only apply to non primary waste businesses (fee exemption proposed)
- Trains have to follow most operational requirements but don’t need a license

Operating Requirements

- Update change of service requirements to match IW code. notify not just of stopping service but also, adding a vehicle, replacing a vehicle, changing hauling destinations (timing still 30 days).

Responsibility

- Responsibility for proper management is generators unless brought to a licensed or approved facility or a facility exempt from licensing and able to accept the materials being transported or unless contracted with a transporter.
- Responsibility of a nonresidential generator to provide sufficient information on waste for hauler to determine proper drop-off location or for generator to instruct on acceptable disposal location.

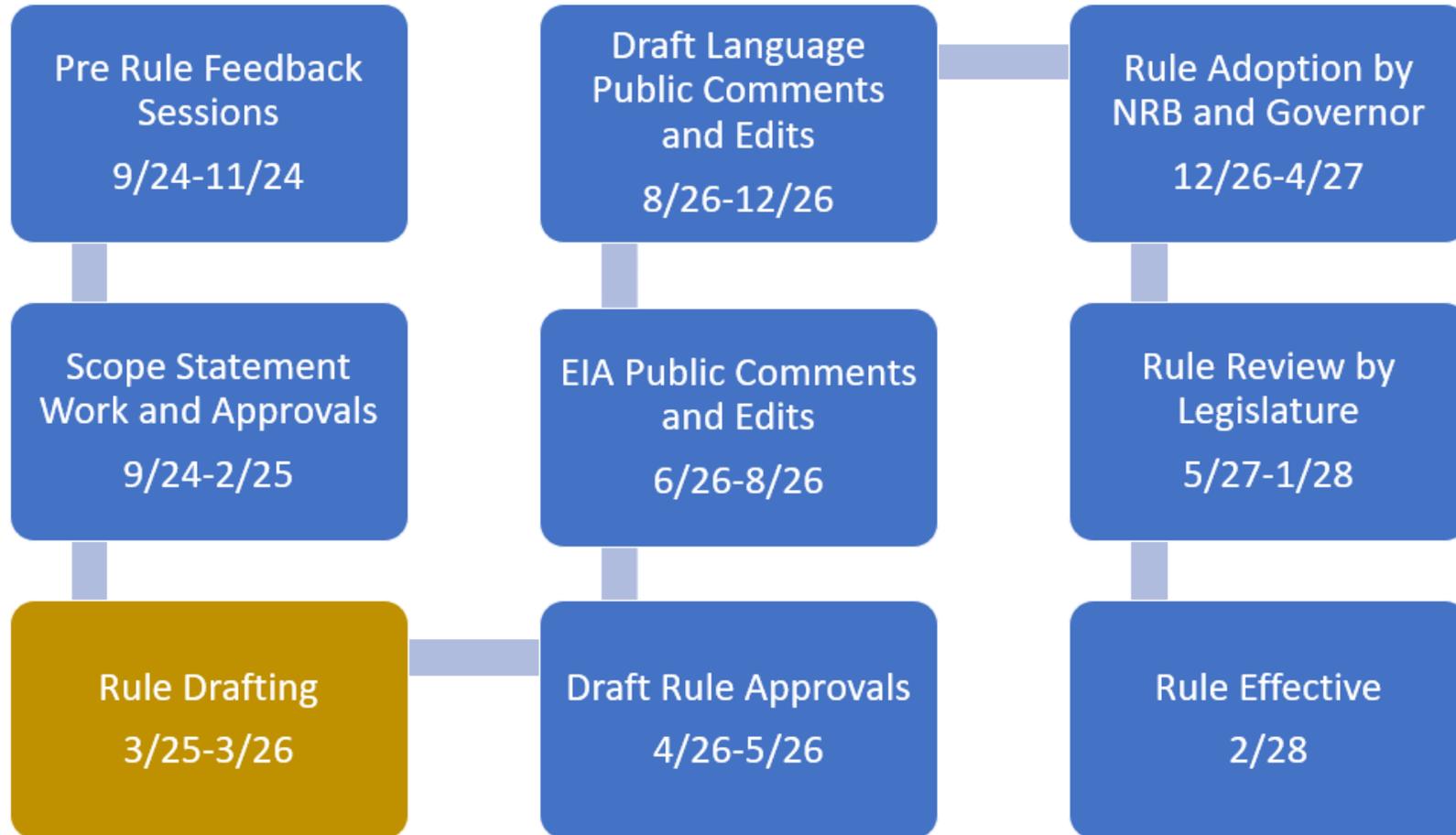
Other major changes in draft language so far

- Licensed storage facilities removed (merged w/ transfer)
- Emergency storm debris transfer code language added
- Emergency animal disease outbreak language added to compost code
- Common LHEs being made self implementing – new code language
- Removal of the one time burn exemption
- Including exempt haz waste facilities into solid waste regs
- Make licenses transferable
- Separate out transfer for non putrescible waste for up to 1 year

Other major changes still being discussed and researched

- Plan review and licensing fees
- Ability to suspend or revoke licenses
- Sharps grinding requirement for IW treatment
- Defining when something is no longer a solid waste
- Codifying other LHEs
- Requirements for certain AD facilities

Rule process and timeline



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"WILD WISCONSIN:
OFF THE RECORD"

DNR W&MM Program updates

- Program budget
- Reporting season
- CCR landfill program submittal
- National Battery Day 2/18

Staffing:

- Recruiting Hydrogeologist – SER
- LRC Specialist soon
- E-Cycle Wisconsin coordinator: Erik Flesch
- Retirement – John Morris, NOR/WCR supervisor

Upcoming meetings

- Council on Recycling 3/6

Recent legislation

AB605/SB599 relating to retention of environmental repair fees by certain municipal solid waste facilities.

AB130/SB127 relating to exempting certain persons from PFAS enforcement actions under the spills law.

AB131/SB128 relating to programs and requirements to address PFAS, as amended.

AB713/SB702 relating to requiring battery stewardship organizations to administer battery collection and recycling programs and providing a penalty.

AB911/SB895 relating to funding for a battery collection and recycling program and making an appropriation.

WI battery legislation (SB702/AB713)

- Requires battery producers to join stewardship organization, submit stewardship plan and collect covered batteries at no charge
- Covered batteries include small- and medium-format of various chemistries; does not cover lead acid batteries, EV or other large batteries, or batteries that can't be removed
- Initial plan due 1/1/27, disposal ban effective 1/1/28
- Would take work to understand how solid and hazardous waste requirements may apply

Metals in Groundwater at Small C&D Landfills

Nathan Coller

Northern Region Hydrogeologist

January 2026

Small C&D Landfill Regulations

- Construction & Demolition waste (C&D) landfills under s. NR 503.09, Wis. Adm. Code; <50k cu. yds
- Locational and performance criteria for siting similar to NR504, including min. separation distances to water table and bedrock
- Must have approved plan of operation prior to constructing and operating
- Department staff conduct inspections during construction, operation and closure of small C&D landfills
- Groundwater monitoring required; at least 2 wells downgradient and 1 upgradient; data reported to GEMS.





Small C&D Landfills

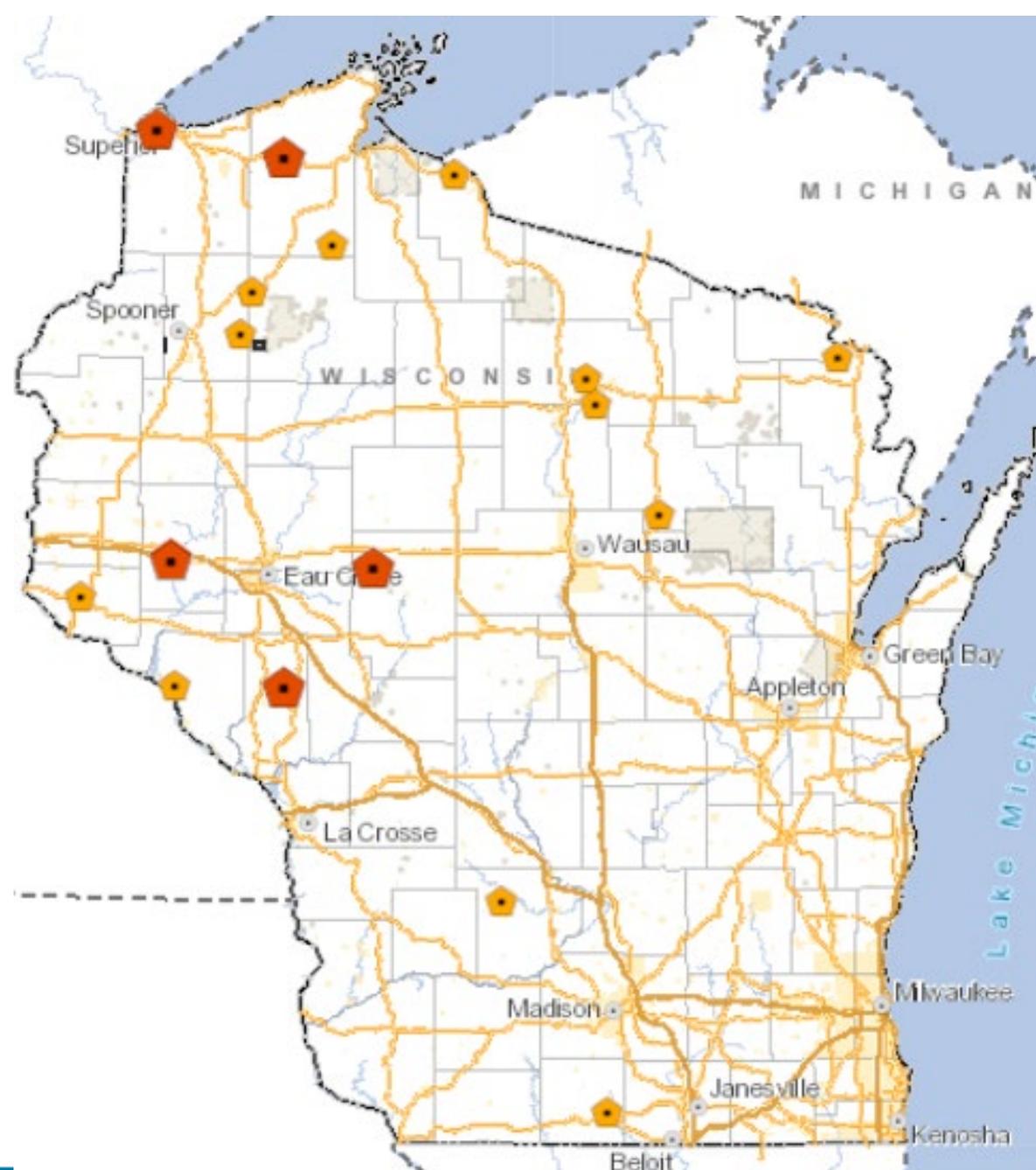
- Natural attenuation landfills; rely on underlying soils to filter, absorb, or otherwise minimize landfill leachate impacts to groundwater
- NR 503.09, promulgated under s. 289.43 (8) (b) (1), Wis. Stats., for low-hazard waste; C&D landfills are not licensed.
- Required to have written waste screening plan: procedures to inspect incoming loads, to limit unapproved wastes from entering, and to properly dispose of it when it does happen.
- Prohibited from expanding/constructing anew within $\frac{1}{4}$ mile of an existing small C&D landfill

Operating C&D Landfills Statewide - June 2023

— Construction & Demolition Debris

Intermediate

Small



Purpose of Study

- Evaluate & better understand impacts to groundwater
- Lack of metals data; Metals not typically monitored for in groundwater; other health-based substances such as volatile organic compounds (VOCs) sampled for routinely
- Obtain metals data at groundwater monitoring wells for small C&D landfills
- Similar studies:
 - Minnesota Pollution Control Agency (MPCA) groundwater study of **arsenic, boron and manganese** at unlined C&D landfills.
 - Florida study found **boron** and other metals including **strontium** leaching from certain C&D wastes



Sampling Period

- October 2020 to November 2021, during the routine groundwater monitoring events at **18** small C&D landfill
- Facility selection based on staff availability during routine sampling events; coincide with compliance inspection.



Sampling Sites

- **5 facilities actively** operating with start dates ranging from 1992 to 2016
- **13 closed** with final cover; closure dates ranging from 1997 to 2017.
- Followed groundwater sampling desk reference (PUB DG 00037) and field manual (PUB DG 00038)
- Samples analyzed at Wi State Lab Hygiene



Metals Analyzed

- **Total 27** metals/metalloids
- 19 metals have health-based groundwater standards; includes 8 RCRA Sub. D metals: **arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver**
- **Iron, manganese, and zinc** have welfare standards (related to aesthetic, taste and odor).
- No standards for **calcium, magnesium, potassium** and **sodium**; NR 140 Table 3 parameters, standards calculated, but not typically for C&D landfills
- **Strontium** and **titanium** do not have NR140 standards; **Strontium** has proposed standard by DHS

Initial Findings

- Occurrence in at least one downgradient monitoring well:
 - NR 140 Enforcement Standard (ES) Exceedances:
 - Boron, cobalt, manganese, nickel and thallium (health ES).
 - Iron (public welfare ES)
 - NR140 preventive action limit (PAL) Exceedances (below ES):
 - Aluminum, arsenic, cadmium and vanadium
- Most prevalent (active and closed small C&D landfills):
 - boron, iron and manganese

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 - NR140 preventive action limit (PAL) Exceedances (below ES):
 - Aluminum, arsenic, cadmium and vanadium
 - Most prevalent (active and closed small C&D landfills):
 - boron, iron and manganese
- Baseline metals required pur. to NR 503.09: arsenic, barium, cadmium, chromium, lead, manganese, mercury, selenium and zinc

Findings

- **Boron**

- in groundwater at 12 of the 18 landfills sampled.
- only detected in downgradient wells; none upgradient
- Half of all downgradient wells sampled (17 out of 33 wells), concentrations greater than the NR 140 PAL.
- At closed landfills, concentrations greater than PAL, below ES (with few exceptions); many below DHS proposed PAL of 400 ppb.
- Landfills with boron ES exceedances typically have history of PAL exceedances of indicator parameters like alkalinity, hardness, conductivity

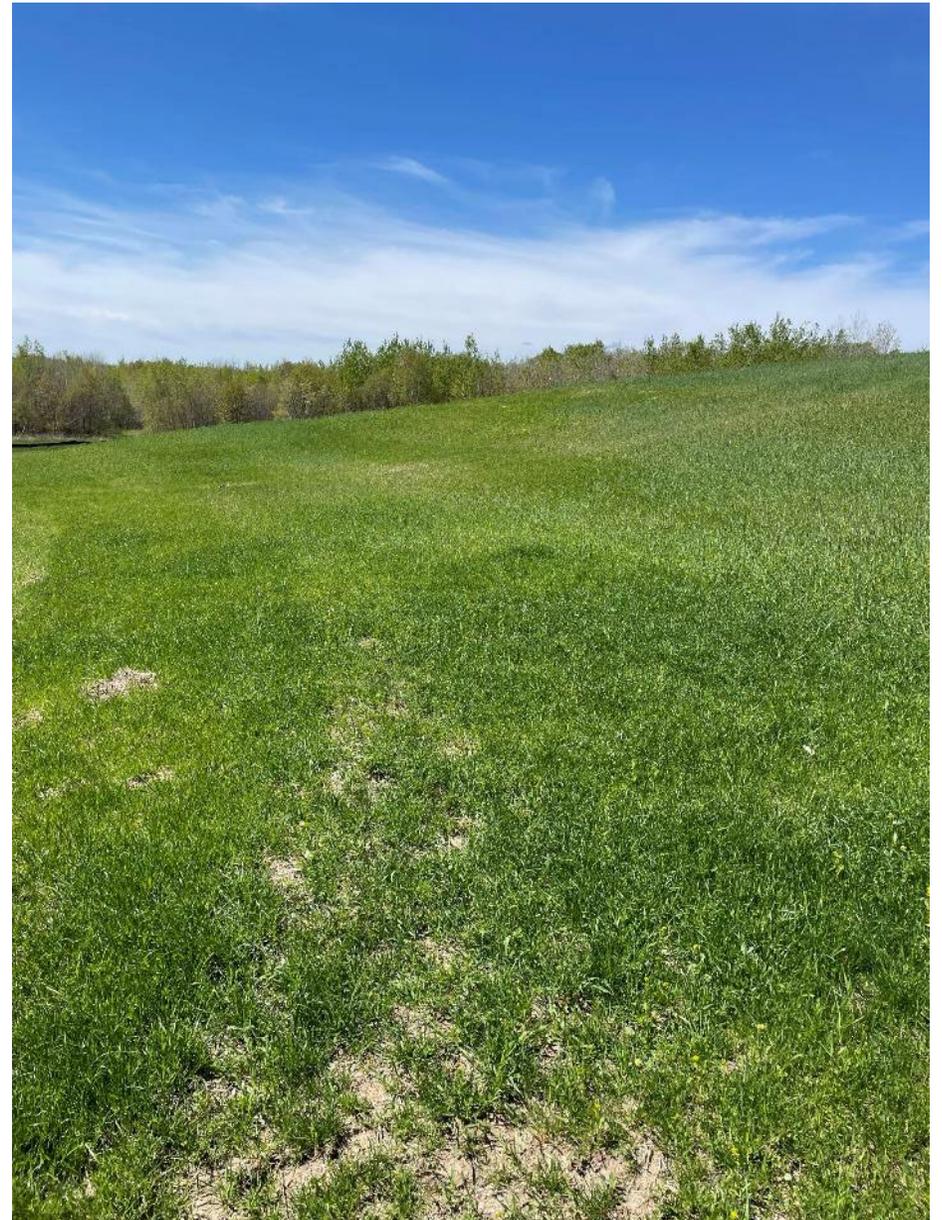
Boron not found at levels greater than PAL in background groundwater quality during baseline sampling prior to small C&D landfills operating.

Other Findings

- **Iron** and **manganese** found in downgradient and upgradient wells exceeding NR 140 ES. Must evaluate against baseline data at the well to determine impacts
- **Strontium** found to exceed DHS proposed NR140 PAL but not ES in downgradient wells; average overall concentrations greater in downgradient than upgradient wells.
- In follow-up samples since the study, **thallium** not detected; false exceedance, possibly due to higher lab limits and/or least preferable analytical method.

Actions Taken to Date

- 2nd round sampling done by facilities w/ 1st round exceedances.
- Confirmed **boron** and **manganese** NR 140 ES exceedances at 3 active facilities:
 - Required cause and significance evaluation
 - Enforced final cover design to include min. 2-ft. fine-grained soil and/or increase cover soil thickness.
 - Modified groundwater monitoring program to include sampling for **boron** and **manganese**.
- Plan of Op. approvals since 2020 require annual groundwater monitoring for **arsenic**, **boron**, and **manganese**



Recommendations

- Obtain metals data at other small C&D landfills for:
 - arsenic, boron, cadmium, cobalt, manganese, nickel, strontium, and vanadium.
- Continue to evaluate metals data
 - Compare to other monitoring parameters (e.g., hardness, spc. conductance, sulfate)
 - Identify any correlation between metals exceedances and other elevated parameters.
- Further evaluate any correlations between metals data and
 - Landfill location (depth to groundwater)
 - Operation (applying intermediate cover)
 - Design features (final cover soils used)
- Upload data from this study to GEMS
- Consideration in future rule revisions to ch. NR 503, Wis. Adm. Code

Link to Study

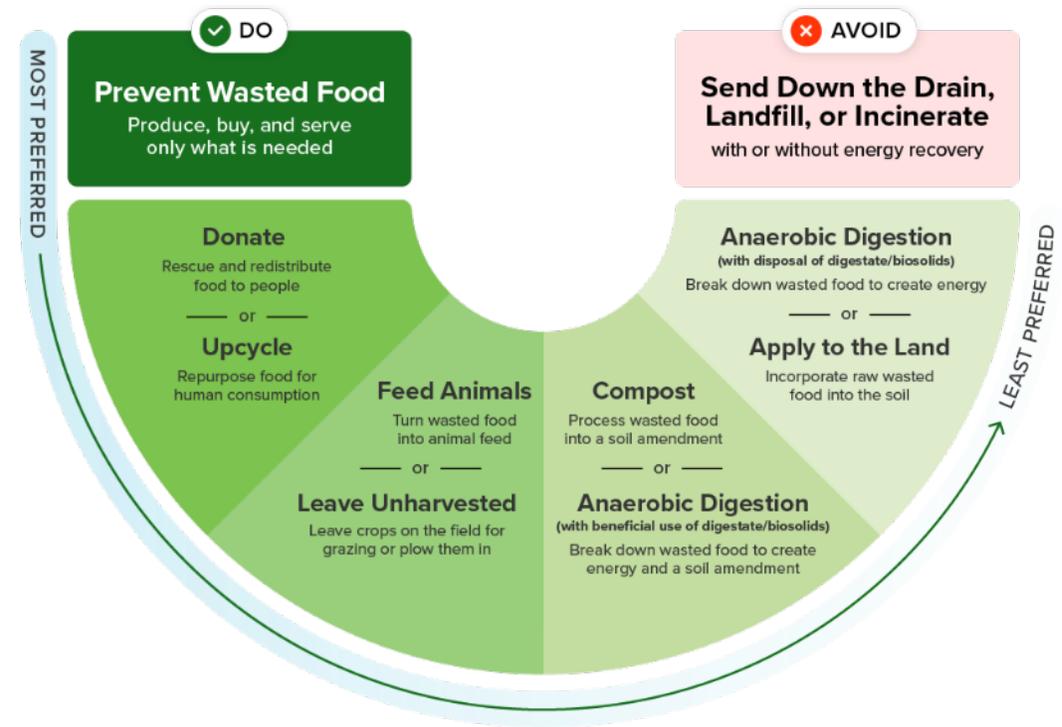
- Metals Sampling in Groundwater at Small-size Construction and Demolition Landfills PUB-WA-2053 July 2025
 - <https://apps.dnr.wi.gov/doclink/waext/wa2053.pdf>
- [Wisconsin Recycling and Solid Waste Studies and Reports | Wisconsin DNR](#)
 - <https://dnr.wisconsin.gov/topic/Recycling/Studies.html>

Wisconsin DNR organics management updates

Sarah Murray, DNR

EPA Solid Waste Infrastructure for Recycling (SWIFR) States and Territories Grant

- Objective: to reduce by half per-capita food waste disposed of in Wisconsin landfills by 2030 (from 2020 levels)
 - Focus on education, infrastructure and measurement
- Current grant/project: Oct. 2023 to Sept. 2026
- Potential for additional 3 years of funding



Key SWIFR project efforts to date

Wisconsin Food
Waste Evaluation

Public outreach

Policy
development

Collaboration with
other agencies
and organizations

Non-regulatory
technical
assistance to
foodservice sector

Foodservice sector technical assistance

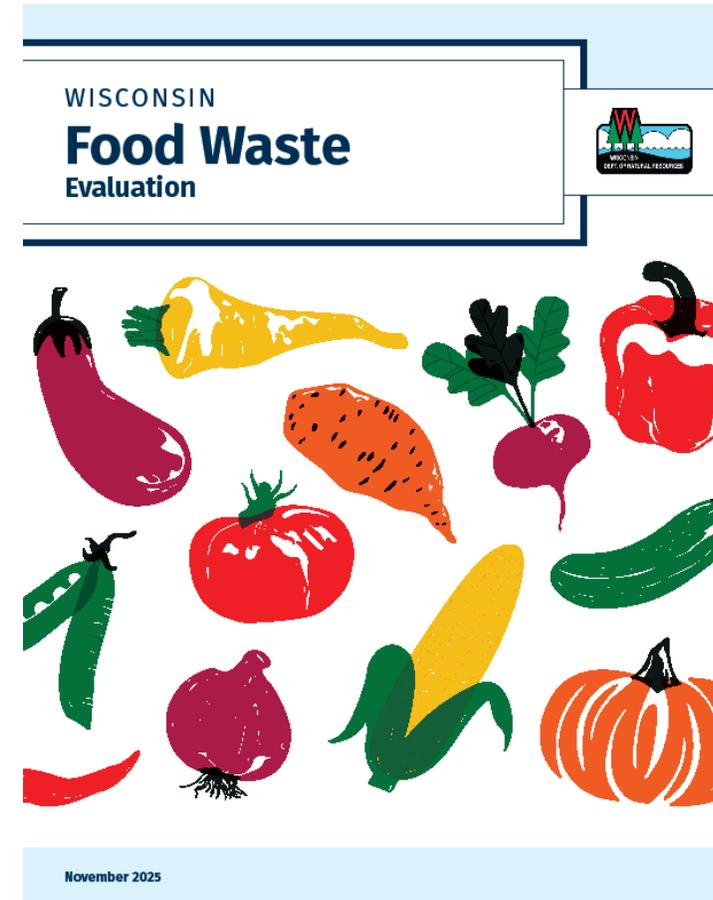
- Finalizing contracts with City of Milwaukee and Dane County to serve Brown, Dane and Milwaukee counties.
- Provide non-regulatory technical assistance to different types of foodservice providers (restaurants, institutional cafeterias, etc.)
 - one-on-one consultations and customized recommendations
 - information and solutions for food waste reduction, food donation, and food scraps recycling
 - information on project funding opportunities.
- Expands a successful pilot project offering CET No-Cost Waste Analyses for MKE and Dane County foodservice sector to other food waste generators



DANE COUNTY
**WASTE +
RENEWABLES**

Wisconsin Food Waste Evaluation

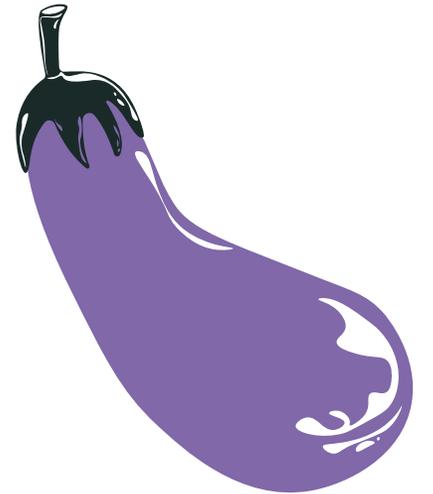
- Provides a baseline to evaluating future efforts
- Identifies key policy recommendations to reach food waste reduction goal
- Will serve as basis for a statewide food waste management efforts
- All stakeholders can use the report to identify opportunities



Project Background

Wisconsin set a goal to reduce per-capita food waste disposal in landfills by 50 percent by 2030 and to reduce methane emissions.

- ➔ Wasted food/food scraps accounted for 20% of trash sent to landfills—*the largest single category*
- ➔ Estimated **854,000 tons** annually, **294 pounds per person**
- ➔ **Three-quarters** of food could have been eaten
- ➔ Goal to reduce food waste to landfills, which wastes **resources, time** and **money**



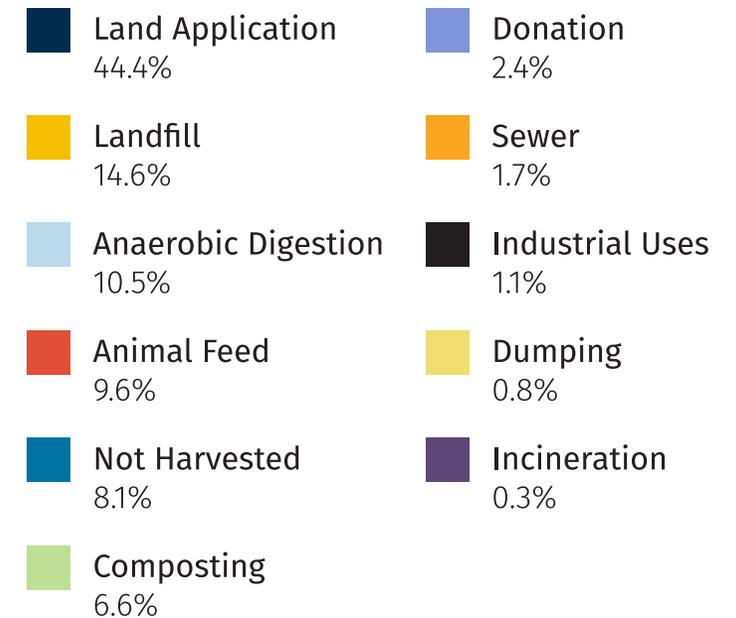
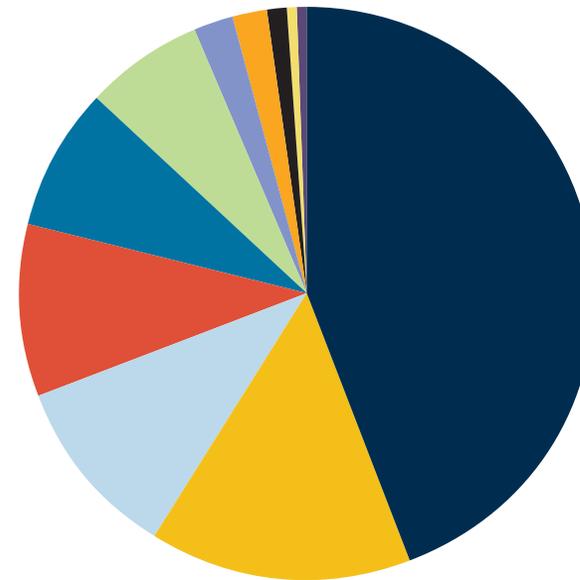
Food Waste Destinations



Approximately 44% of food waste goes to land application

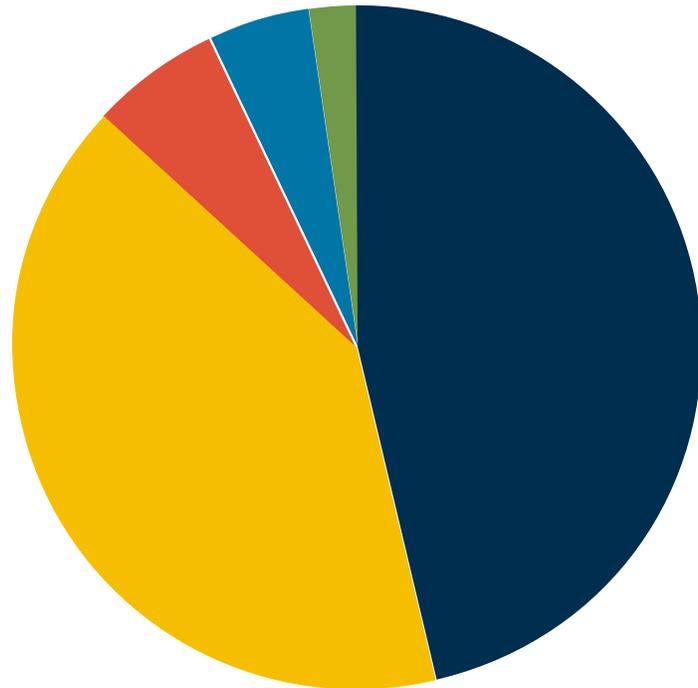


Landfills managed more than 900,000 tons of food waste in 2024



ReFED Estimate of Wisconsin Food Waste Destination

Food Waste to Landfill



Residential

209,000 tons (47%)



Retail

23,400 tons (5%)



Food Service

182,000 tons (41%)



Farm (produce only)

8,600 tons (2%)



Manufacturing

25,800 tons (6%)

ReFED Estimate of Wisconsin Food Waste to Landfill by Sector

Existing Infrastructure - Composting

- **286 licensed composting facilities**, including 30 approved to accept food waste
- **License-exempt facilities** also managing food waste
- Facilities managed **1.6 million CY** of organic materials



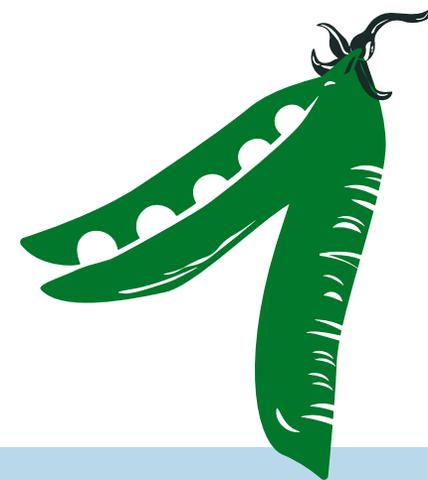
Recommendations - Composting

- Opportunities for **expanded capacity** would require new technology and enhanced processes
- **Existing facilities** do not have enough capacity to manage all food waste
- Identified challenges including:
 - Regulatory considerations
 - Capital and operational costs
 - Food waste transportation
 - Feedstocks
 - End market demand
 - Potential partners



Recommendations – Processing Infrastructure

- Review siting, zoning, and permitting to address barriers
- Policies to use landfill tipping fees to incentivize diversion
- Strong end markets
- Promote on-site management



Existing Infrastructure - Hauling

- **1,260 licensed solid waste haulers**, approximately **130** reported hauling for food waste
- Regional community composters

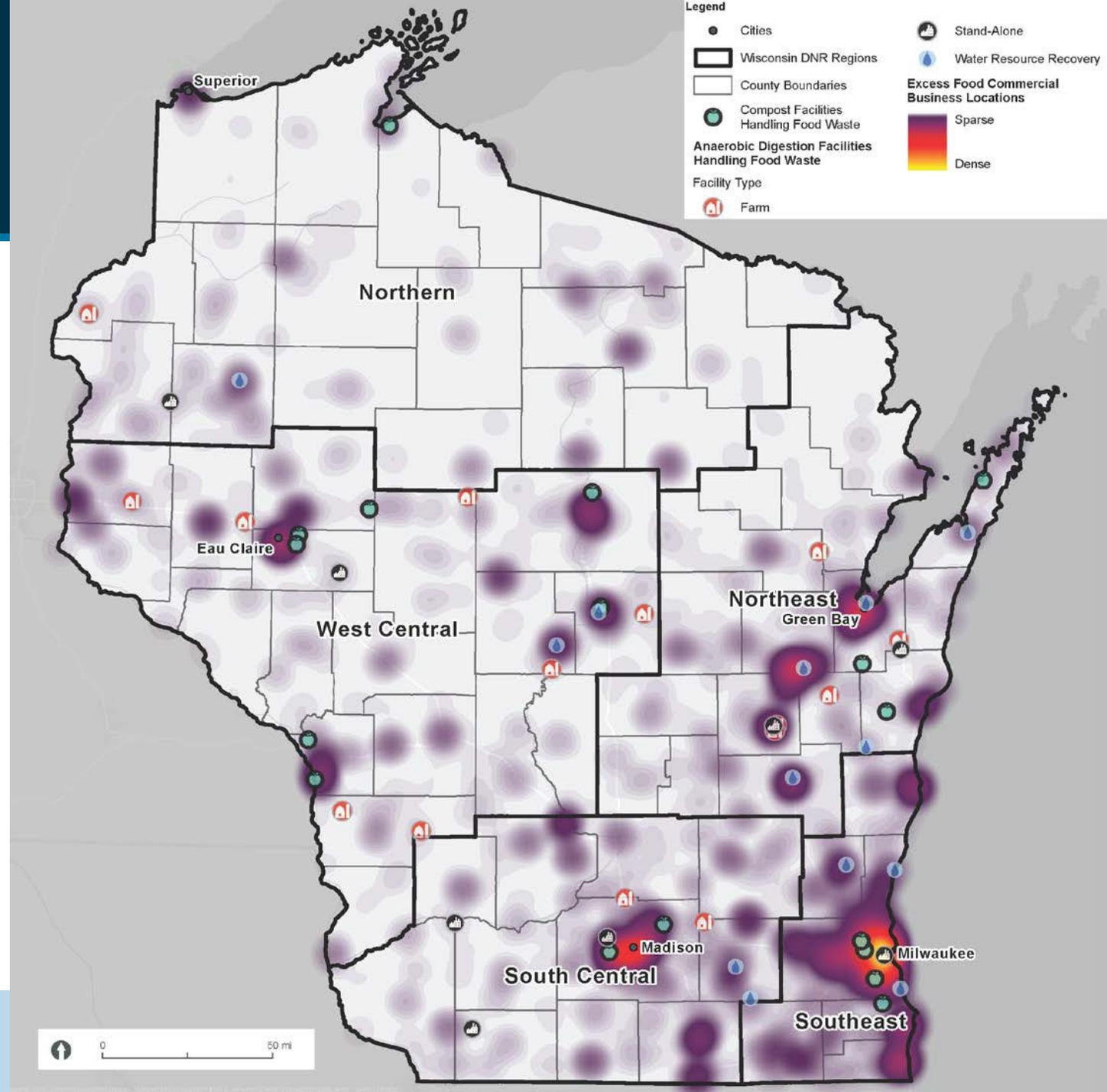


Opportunities in densely populated areas and near processing infrastructure

Challenges include lack of convenient processing facilities, lack of interest/customer density, cost of service, regulatory concerns, and nuisance/odor issues

Processing & Infrastructure Needed

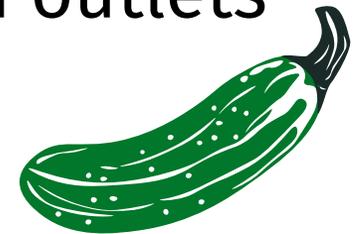
Processing capacity beneficial in the South Central, Southeast, and Northeast regions



Prioritizing Actions: Near-Term

Actions identify immediate opportunities without significant costs, time, or regulatory requirements

- Educational programs and campaigns
- Local partners
- Expanding food rescue using existing industries and outlets
- Leveraging existing landspreading practices
- Explore new composting facility opportunities



Prioritizing Actions: Medium-Term

Actions identify opportunities that require more effort, funding, or partner support

- Regulations/policies to promote expanded food donation
- Grants/technical assistance for food waste generators
- Technical support for WI-specific industries and agriculture
- Regional approaches



Prioritizing Actions: Long-Term

Actions identify opportunities for significant diversion through regulations, infrastructure, and private industry

- Siting locations for new processing facilities
- Financial support for food waste diversion, including higher landfill tipping fees
- Food waste diversion requirements



Thank you!

READ THE FULL REPORT:



Amanda Erickson

HDR, Solid Waste Planner

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Next steps

- Fill current DNR staff vacancy to focus on SWIFR work
- Complete current SWIFR grant work
 - Continue work on key activities
 - Use Wisconsin Food Waste Evaluation as basis for discussions with stakeholders to identify priorities for next steps
 - Develop data collection and measurement methods to track progress toward state food waste reduction and diversion goals and objectives
- Work with EPA to develop workplan and receive approval for 2nd round of funding to continue these efforts

Questions for Study Group



Initial reactions to report's findings?



Do you see follow-up actions DNR should prioritize?



Are there recommendations the Study Group would like to research/advocate for?

CONNECT WITH US

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"WILD WISCONSIN:
OFF THE RECORD"

Next meeting: May 7



- Any questions?
- Replacement for Bart Sexton?

Thank you!