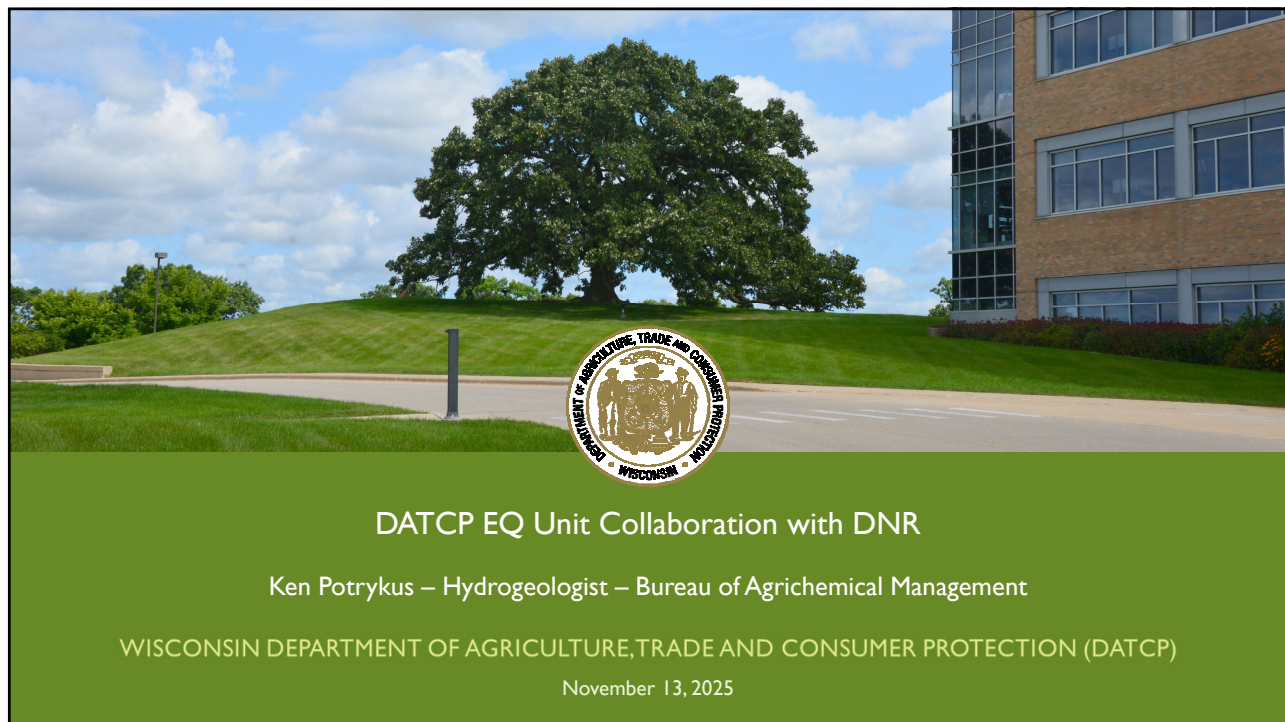




1

PRESENTATION OUTLINE

- DATCP's Environmental Quality (EQ) unit role and responsibility
- Groundwater/surface water standards
- DATCP and DNR collaboration

DATCP Mission:

We partner with all the citizens of Wisconsin to grow the economy by promoting quality food, healthy plants and animals, sound use of land and water resources, and a fair marketplace.



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DATCP'S EQ UNIT ROLE AND RESPONSIBILITY

Our mission: protect human health and the environment

- Determine whether pesticide/agrichemical concentrations exceed groundwater and surface water standards
- Determine which pesticides/agrichemicals are found in the environment through multiple sampling/monitoring programs
 - Monitoring wells at edge of agricultural fields
 - Private potable wells (biased sampling)
 - Private potable wells (random sampling)
 - Surface water sampling (biased sampling)



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EQ UNIT'S OVERARCHING ROLE AND RESPONSIBILITY

Our mission: protect human health and the environment

- DATCP Hydrogeologist focuses on pesticide's/agrichemical's effects on groundwater and surface water quality.

Pesticides = herbicides, insecticides, fungicides, rodenticides (active material and their metabolites)

Point Source = pesticide and commercial fertilizer bulk storage

Non-Point Source = pesticide use and applications (agriculture and urban)



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DATCP EQ UNIT PROGRAM FUNDING

License Fees – various fees are charged to agricultural chemical businesses, including pesticide dealers and applicators

+

Tonnage Fees – charged on the sale or distribution of certain chemicals, such as fertilizer and commercial feed

+

Permit Fees – special or non-agricultural fertilizers and soil/plant additive products.

=

Agrichemical Management Fund

Fiscal year 2023-2024 = revenues totaled \$8.5 million with expenditures total \$9.2 million

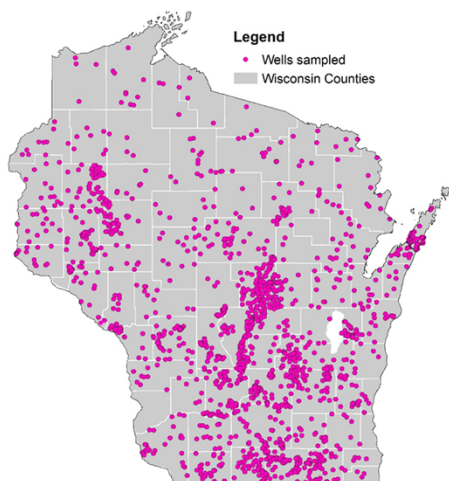
Legislative Fiscal Bureau, January 2025, Informational Paper #77



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DATCP GROUNDWATER SAMPLING LOCATIONS



From 2008 to 2024:

- **1,890 monitoring and private potable wells** were tested at least once.
- A total of **3,792 groundwater samples** were collected



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ASSESSING COMPOUNDS OF CONCERN IN GROUNDWATER

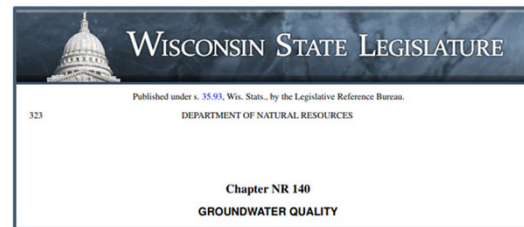
To assess compounds of concern, we compare concentrations of the pesticides detected with available groundwater standards.

Groundwater standards are established by the

WI Admin. Code, Ch. NR 140

- *Enforcement Standards (ES)*
- *Preventive Action Limit (PAL)*

If groundwater standards are not established, refer to → available [Department of Health Services Health Advisory Levels \(DHS HALs\)](#)



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GROUNDWATER STANDARDS COLLABORATION

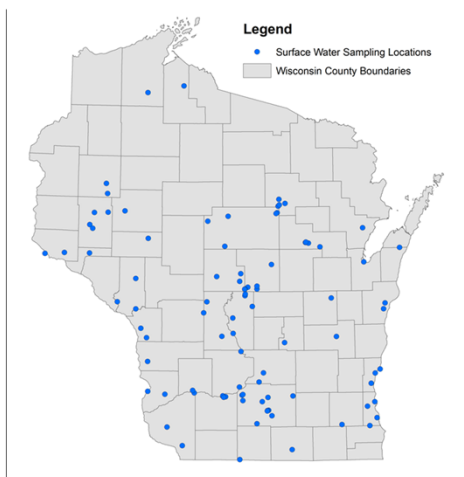
- DNR sets groundwater standards based on recommendations from DHS.
- For each active ingredient/compound, an Enforcement Standard (ES) and Preventive Action Limit (PAL) is established. Currently, we have 38 compounds/pesticides or their metabolites with established standards.
- DHS established drinking water health advisory (same concentration as ES) for 15 additional compounds.
- DNR to consider setting groundwater quality standards for pesticides in the near future.



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DATCP SURFACE WATER SAMPLING LOCATIONS



From 2011 to 2024:

- **79 surface water sampling stations** were tested at least once
- A total of **1,267 surface water samples** were collected. Several samples are collected at individual stations (usually once a month from March to December.)



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SURFACE WATER STANDARDS COLLABORATION

- There are no state surface water standards for pesticides, nor are any being considered.
- Compare detected concentrations to US EPA Ecological Benchmarks.
- Will be **influenced** by Endangered Species Act.
- Questions may arise regarding agency responsibility for pesticides in surface water (or other media like sediments.)



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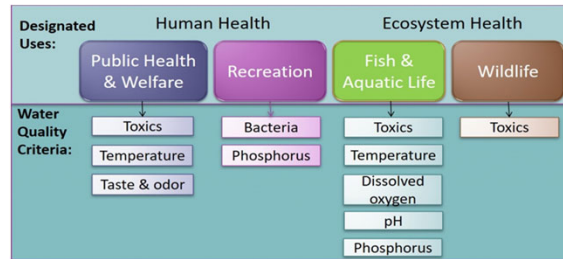
ASSESSING COMPOUNDS OF CONCERN IN SURFACE WATER

To assess compounds of concern, we compare concentrations of the pesticides detected with available surface water standards

Surface Water standards are established by the

WI Admin. Code, Ch. NR 100 Series

However, there are no state standards for pesticides. For comparison purposes, rely on **US EPA Aquatic Life Benchmarks**.



<https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk>



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DATCP – DNR COLLABORATION

Partnership efforts in regard to pesticide risk to human health and the environment

- Regular meetings (including DHS) to discuss agency program success/challenges and information sharing
- Groundwater and surface water data sharing; stored in a common DNR database (SWIMS and GRNs)
- Groundwater rule development
- Surface water/ecological risk development (working with fisheries)
- Shared training opportunities (health and safety, and technical information)



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NON-POINT SOURCE GROUNDWATER PROGRAM SUMMARY

- Atrazine concentration trends within Prohibition Areas indicate management approach is successful.
- Pesticides detected in surface water indicate groundwater discharge rather than runoff (in certain areas across the state).
- Ecological impacts for surface water are not well-studied and may become significant.
- EQ staff will continue with surface water, targeted, field edge, and exceedance sampling monitoring to evaluate long term trends and provide data for groundwater protection strategies.
- Will continue to prepare annual reports and post on DATCP website for easy access by stakeholder and public.

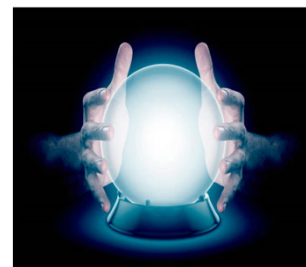


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DATCP'S GROUNDWATER FUTURE FOCUS

- Collaborate with DNR and DHS on developing new groundwater quality standards for >20 pesticides
- Evaluating effects on pesticide labels regarding the prioritization of the Endangered Species Act and biota
- Biomonitoring study results
- Agrichemical concentration distribution and depth across the aquifer
- Support groundwater research through participation with the GCC
- Cumulative agrichemical risk



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Environmental Quality Unit – Bureau of AgriChemical Management

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November 13, 2025

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Collaboration between DNR and DATCP: Groundwater standards for pesticides in Wisconsin

Carla Romano
Wisconsin Department of Natural Resources (DNR), Groundwater Section

11-13-2025

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Chapter 160 – Wisconsin's Groundwater Law

Minimize concentration of contaminants in groundwater by establishing numerical standards.

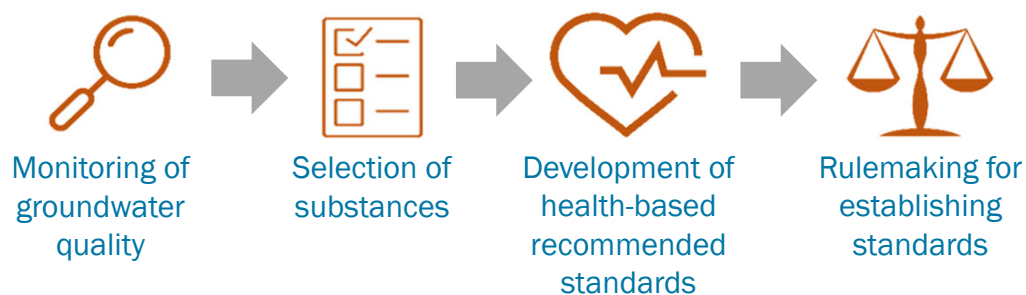


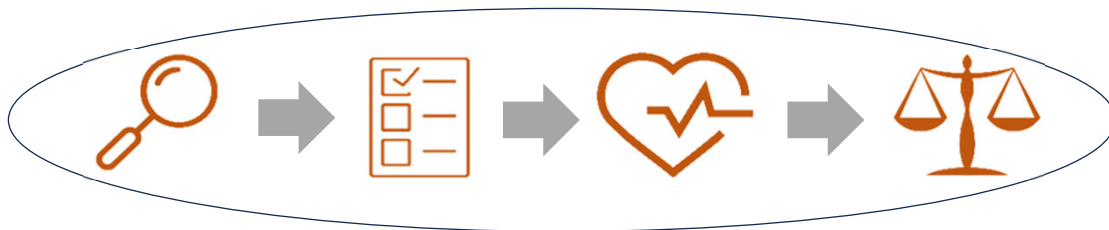
Figure modified from Yang S. (2020) - <https://www.dhs.wisconsin.gov/publications/p02816.pdf>
 * Wisconsin Department of Health Services (DHS)

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Chapter 160 – Wisconsin's Groundwater Law

Minimize concentration of contaminants in groundwater by establishing numerical standards.



How is this process applied specifically to pesticides?

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Pesticides data collection and monitoring

The Department of Agriculture, Trade and Consumer Protection (DATCP):

- Monitors groundwater for pesticides
- Shares data with DNR
- Works with DNR to store the data in the publicly accessible **DNR Groundwater Retrieval Network**

The DNR Groundwater Retrieval Network stores over 2.6 millions of Wisconsin groundwater quality data and currently contains over 100,000 pesticides data.



<https://dnr.wisconsin.gov/topic/Groundwater/GRN.html>

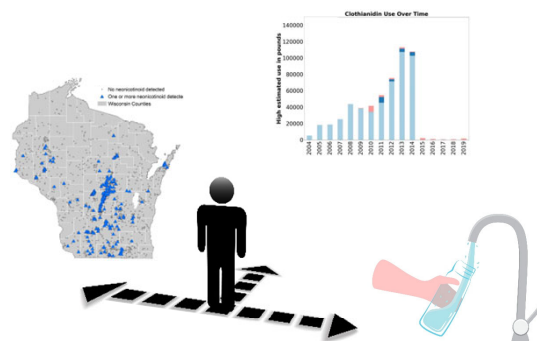
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Data review and substance selection

The Department of Natural Resources (DNR):

- Identifies, in consultation with DATCP, substances for possible inclusion in rulemaking to establish groundwater standards, based on factors such as:
 - Frequency of detection in Wisconsin
 - Potential health effects
 - Extent of use
- Compiles a list of candidate substances for rulemaking
- Requests DHS to develop health-based recommendations for groundwater standards



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Health Assessment

The Department of Health Services (DHS):

- Reviews available toxicological data for identified substances
- Develops health-based recommendations for groundwater standards

Note: If sufficient data are not available, some substances may not receive a recommendation.



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Chapter 160 vs NR 140

Ch. 160 mandates that DNR establish numeric groundwater standards in Wisconsin Administrative Code Chapter NR 140.

Chapter 160



Methods to establish groundwater standards.

NR 140

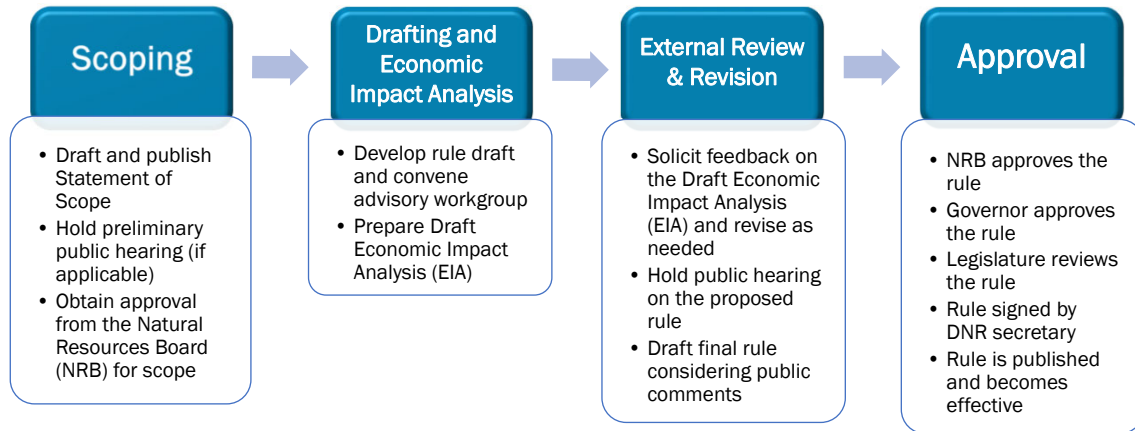


- Contains the groundwater standards.
- It provides guidelines and procedures for regulatory authorities to manage regulated activities and facilities that may impact groundwater resources.

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Revising process of NR 140



Timeline: 30 months from scope statement publication

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Outcome of standards setting rulemaking

- The rulemaking updates Table 1 of NR 140.10
- Certain rules that reference NR 140 may result in changes affecting specific activities and facilities

Subchapter II — Groundwater Quality Standards

NR 140.10 Public health related groundwater standards. The groundwater quality standards for substances of public health concern are listed in Table 1.

Note: For all substances that have carcinogenic, mutagenic or teratogenic properties or interactive effects, the preventive action limit is 10% of the enforcement standard. The preventive action limit is 20% of the enforcement standard for all other substances that are of public health concern. Enforcement standards and preventive action limits for additional substances will be added to Table 1 as recommendations are developed pursuant to ss. 160.07, 160.13 and 160.15, Stats.

Table 1
Public Health Groundwater Quality Standards

Substance ¹	Enforcement Standard (micrograms per liter - except as noted)	Preventive Action Limit (micrograms per liter - except as noted)
Acetochlor	7	0.7
Acetochlor ethane sulfonic acid + oxanilic acid (Acetochlor - ESA + OXA)	230	46
Acetone	9 milligrams/liter (mg/l)	1.8 mg/l
Alachlor	2	0.2
Alachlor ethane sulfonic acid (Alachlor - ESA)	20	4
Aldicarb	10	2
Aluminum	200	40
Ammonia (as N)	9.7 mg/l	0.97 mg/l
Anthracene	3000	600
Antimony	6	1.2
Arsenic	10	1
Asbestos	7 million fibers per liter (MFL)	0.7 MFL
Atrazine, total chlorinated residues	3 ²	0.3 ²
Bacteria, <i>E. coli</i>	0	0
Barium	2 mg/l	0.4 mg/l
Bentazon	300	60
Benzene	5	0.5
Benzo(b)fluoranthene	0.2	0.02
Benzo(a)pyrene	0.2	0.02
Beryllium	4	0.4
Boron	1000	200
Bromodichloromethane	0.6	0.06
Bromoform	4.4	0.44
Bromomethane	10	1

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DATCP regulates pesticide use and application

- If NR140 groundwater standards are exceeded, DATCP may impose pesticide use restrictions.
- Implementing groundwater standards in NR 140 does not automatically change pesticide use.
- Any potential pesticide use change require a rulemaking process led by DATCP.



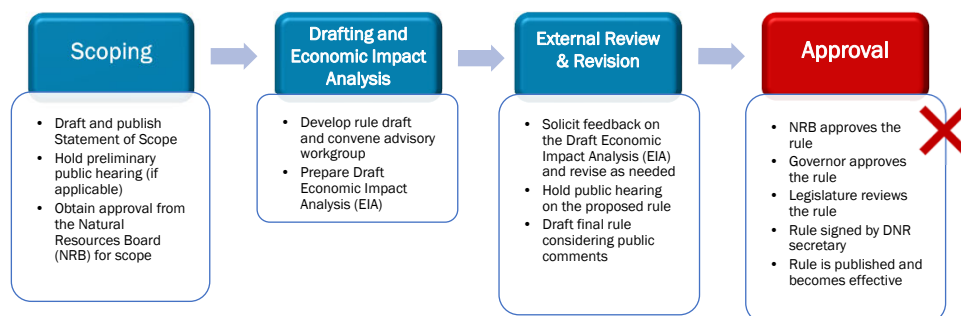
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Recent NR 140 rulemaking for pesticides

Cycle 10

- Started in 2019
- Details: Recommended groundwater standards for 12 pesticide compounds
- Failed in 2022 → NRB did not approve the rule



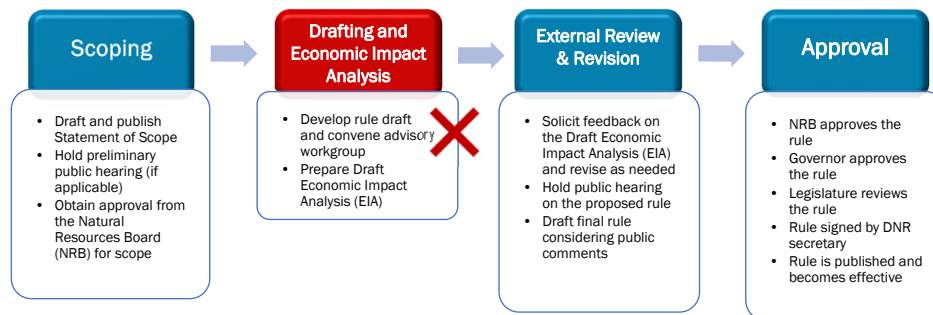
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Recent NR 140 rulemaking for pesticides

Cycle 11

- Started in 2021
- Details: Recommended groundwater standards for six pesticide compounds
- Failed in 2023 → Scope statement expired



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Next steps and other collaborative efforts

- Identifying pesticide substances to request DHS review, aiming to start rulemaking for setting groundwater standards in late 2026/early 2027
- Collaborating on research priorities for Wisconsin and allocating funds to support targeted studies through the Joint Solicitation
- Participating in Groundwater Coordinating Council activities, including the annual report to the Legislature

COLLABORATION ON GROUNDWATER PROTECTION

DATCP



DNR

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CONNECT WITH US

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@WI_DNR



/WIDNRTV



"WILD WISCONSIN:
OFF THE RECORD"

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Types of groundwater standards

- **Enforcement Standards (ESs)** are standards that, if exceeded in groundwater, trigger a regulatory response for action to achieve and ensure compliance.
- **Preventive Action Limits (PALs)** are lower standards (usually 10-20% of an ES) that signal potential contamination.



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NR 140 Cycle 10 DHS Recommendations for Groundwater Quality Standards for pesticides

Substance	Recommended Enforcement Standard (ES)	Recommended Preventive Action Limit (PAL)	Detected in WI Groundwater (including remediation sites)?	Detected above proposed ES or established health advisory level (HAL) ?
Clothianidin	1,000 µg/L	200 µg/L	Yes	No
Dacthal MTP degradate	70 µg/L*	7 µg/L*	No	No
Dacthal TPA degradate	70 µg/L*	7 µg/L*	Yes	No
Glyphosate	10 mg/L	1 mg/L	No	No
AMPA (glyphosate degradate)	10 mg/L	2 mg/L	No	No
Imidacloprid	0.2 µg/L	0.02 µg/L	Yes	Yes
Isoxaflutole	3 µg/L*	0.3 µg/L*	Yes	No
Isoxaflutole DKN degradate	3 µg/L*	0.3 µg/L*	Yes	No
Isoxaflutole BA degradate	800 µg/L	160 µg/L	Yes	No
Sulfentrazone	1,000 µg/L	100 µg/L	Yes	No
Thiamethoxam	120 µg/L	12 µg/L	Yes	No
Thiencarbazone-methyl	10 mg/L	2 mg/L	Yes	No

* DHS recommends combined standards

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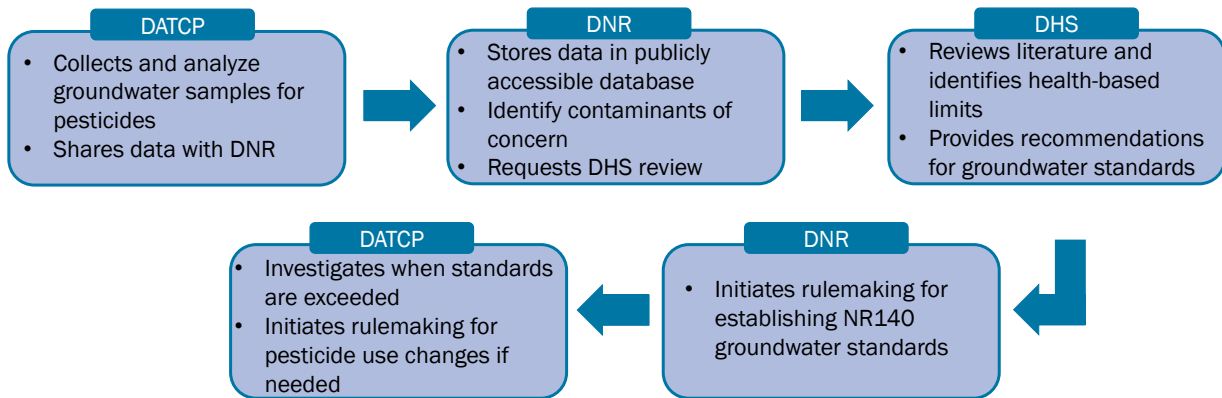
NR 140 Cycle 11 DHS Recommendations for Groundwater Quality Standards for pesticides

Substance	Recommended Enforcement Standard (ES)	Recommended Preventive Action Limit (PAL)	Detected in WI Groundwater? (including remediation sites)?	Detected above proposed ES or established health advisory level (HAL) ?
Chlorantraniliprole	16 mg/L	3.2 mg/L	Yes	No
Flumetsulam	10 mg/L	2 mg/L	Yes	No
Fomesafen	25 µg/L	5 µg/L	Yes	No
Hexazinone	400 µg/L	40 µg/L	Yes	No
Metalaxyl	800 µg/L	160 µg/L	Yes	No
Saflufenacil	460 µg/L	46 µg/L	Yes	No

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Roles of each agency



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