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Please Note

This review document includes draft material being considered by the Wisconsin PFAS Action Council (WisPAC).

Once approved by WisPAC, a final draft version of the PFAS Action Plan will be made available for public review and comment.

You can learn more about WisPAC and the PFAS Action Plan at the following website:

<https://dnr.wi.gov/topic/Contaminants/WisPAC.html>

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Wisconsin

PFAS Action Plan

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Table of Contents

List of Acronyms.....	i
Index.....	ii
Executive Summary.....	v
PFAS: The Basics.....	1
Current Agency Responses to PFAS	3
Introduction to WisPAC	10
Building the Plan	12
Timeline.....	12
Public Input to the Plan.....	14
Using the Input from Advisory Groups and General Public.....	18
Recommendations	20
Principles for All Actions	20
Actions Items	23
1.1 Establish Science-Based Environmental Standards for PFAS.....	24
1.2 Develop Recommendations for Management of PFAS-containing Landfill Leachate	28
2.1 Expanding PFAS Site Identification Using GIS Mapping	30
2.2 Facilitate Timely Collection of Environmental PFAS Data.....	34
2.3 Standardize PFAS Sampling Methods and Support Statewide Implementation	36
2.4 Test Public Water Systems for PFAS	38
3.1 Partnering with Firefighting Associations & Municipal Airports on PFAS.....	40
3.2 Amend Firefighting Foam Law, Wis. Stat. § 299.48	43
3.3 Develop and Apply Best Management Practices (BMPs) for Proper Handling of PFAS-containing Waste	47
3.4 Identify PFAS Sources and Reduce Discharges to Wastewater Facilities	51
4.1 Develop PFAS Risk Communication Infrastructure	53
4.2 Facilitate Environmental Justice and Health Equity in Wisconsin Communities	56
4.3 Develop and Promote New Partnerships to Increase Understanding of PFAS.....	59
4.4 Develop Exposure Reduction Recommendations for Public Sector Employees.....	62
4.5 Enhance Collaboration Between Wisconsin and Federal Agencies on PFAS Relating to Military Installations	64
5.1 Collaborate on and Implement Research	67

DRAFT

5.2 Monitor Background Levels of PFAS in the Environment	74
5.3 Collect Data on Drinking Water Treatment and Costs.....	81
6.1 Develop and Support Product Stewardship Mechanisms to Reduce PFAS Use	83
6.2 Minimize the state’s purchase of PFAS-containing products	88
7.1 Provide Support to Wisconsin Veterans to Address PFAS-related Health Risks.....	90
7.2 Launch a Collection & Disposal Program for PFAS-containing Firefighting Foam	93
7.3 Provide Financial Tools for Local Governments.....	96
8.1 Improve Efficiency in Development of Long-Term Water Supply Solutions.....	100
8.2 Develop New Tools to Address PFAS Contaminated Sites.....	103
Appendix A: Public Comments.....	A1
Appendix B: Public Advisory Group Gap Analysis	B1
Appendix C: Local Government Advisory Group Recommendations	C1
Appendix D: Citizens Advisory Group Recommendations	D1
Appendix E: Glossary.....	E1

List of Acronyms

PFAS	Per- and poly- fluoroalkyl substances
WisPAC	Wisconsin PFAS Action Council
AFFF	Aqueous Film-forming firefighting foam
CDBG	Community Development Block Grant Program
CERCLA	Comprehensive Environmental Response and Cleanup Liability Act
DEHCR	Division of Energy, Housing, and Community Resources
ECOS	The Environmental Council of the United States
FAA	Federal Aviation Administration
GLTF	Great Lakes Task Force
NDAA	National Defense Authorization Act
OGW	Office of Great Waters
ORD	Office of Research and Development
USGS	United States Geological Survey
WAMA	Wisconsin Airport Managers Association
WSFA	Wisconsin State Firefighters Association
WSFCA	Wisconsin State Fire Chiefs Association

Index

Action Item # →	1.1	1.2	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	6.1	6.2	7.1	7.2	7.3	8.1	8.2
AFFF & Foam																									
Air																									
Biosolids																									
Consumer Steward.																									
Drinking Water																									
Education																									
Env. Justice																									
Equity, Health																									
Firefighting																									
Funding																									
Ground Water																									
Landfill																									
Leachate																									
Legacy & Hist. Sites																									
Military																									
Methodology & BMPs																									
Outreach & Comm.																									
Partnership & Collab.																									
Product Steward.																									
Regulation, Rulemaking, & Legislation																									
Research																									
Sampling																									
Soil																									
Standards, Environmental																									
Standards, Lab																									
Standards, Industry																									
Surface Water																									
Wastewater																									
Wildlife																									

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Standard Setting

- 1.1: Establish Science-Based Environmental Standards for PFAS
- 1.2: Develop Recommendations for Management of PFAS-containing Landfill Leachate

Sampling

- 2.1: Expanding PFAS Site Identification Using GIS Mapping
- 2.2: Facilitate Timely Collection of Environmental PFAS Data
- 2.3: Standardize PFAS Sampling Methods and Support Statewide Implementation
- 2.4: Test Public Water Systems for PFAS

Pollution Prevention

- 3.1: Partnering with Firefighting Associations & Municipal Airports on PFAS
- 3.2 Amend Firefighting Foam Law, Wis. Stat. 299.48
- 3.3: Develop and Apply Best Management Practices (BMPs) for Proper Handling of PFAS-Containing Waste
- 3.4: Identify PFAS Sources and Reduce Discharge to Wastewater Facilities

Engagement, Education, and Communication

- 4.1: Develop PFAS Risk Communication Infrastructure
- 4.2: Facilitate Environmental Justice and Health Equity in Wisconsin Communities
- 4.3: Develop and Promote New Partnerships to Increase Understanding of PFAS
- 4.4: Develop Exposure Reduction Recommendations for Public Sector Employees
- 4.5: Enhance Collaboration Between Wisconsin and Federal Agencies on PFAS Relating to Military Installations

Research and Knowledge

- 5.1: Collaborate on and Implement Research

DRAFT

5.2: Monitor Background Levels of PFAS in the Environment

5.3: Collect Data on Drinking Water Treatment and Costs

Phase Out

6.1: Develop and Support Product Stewardship Mechanisms to Reduce PFAS Use

6.2: Minimize the State's Purchase of PFAS-Containing Products

Future Investments

7.1: Provide Support to Wisconsin Veterans to Address PFAS-Related Health Risks

7.2: Launch a Collection and Disposal Program for PFAS-Containing Firefighting Foam

7.3: Provide Financial Tools for Local Governments

Identifying and Addressing Historic Discharges

8.1: Improve Efficiency in Development of Long-Term Water Supply Solutions

8.2: Develop New Tools to Address PFAS-Contaminated Sites

Executive Summary

In 2019, Wisconsin Governor Tony Evers issued Executive Order No. 40, to address the public health risks of environmental contamination by per- and polyfluoroalkyl substances (PFAS) in Wisconsin. Executive Order No. 40 outlined the potential hazards that Wisconsin communities may face due to PFAS pollutants and, in the absence of federal action, instructed the Wisconsin Department of Natural Resources to establish and lead a PFAS Coordinating Council. The E.O. states

“The Council shall be staffed by the Department of Natural Resources, with assistance provided by other agencies. Membership of the Council shall include a representative from each agency seeking to participate. The Secretary of the Department of Natural Resources or the Secretary's designee shall serve as chair of the Council and may select additional members.”

Governor Evers tasked this council with producing a PFAS Action Plan, including a comprehensive set of recommendations from local government and the general public with regard to addressing PFAS contamination in our state. This plan would offer a blueprint for how state agencies can tackle the problem.

In 2020, the Department of Natural Resources founded the Wisconsin PFAS Action Council, or WisPAC, to fulfill this order. Through a series of public meetings, a public survey and the input from two advisory groups, and a thorough plan review process – the details of which are all included later in this document – WisPAC has assembled a PFAS Action Plan that includes recommendations in two forms.

First, the plan highlights several general principles that should be considered in the implementation of any specific action to address PFAS.

Second – and perhaps most importantly – the plan includes a series of Action Items that outline proposed actions that state agencies, with input from the public, have identified as priorities. These action items identify whether additional financial or staffing resources are

necessary; whether legislation is required; or if they can be undertaken with existing resources and authority. These provide background, initial details and proposed actions that represent a coordinated statewide approach to addressing PFAS priorities. The Action Items make up the bulk of the plan and are organized into the following eight themes:

1. Standard Setting
2. Sampling
3. Pollution Prevention
4. Engagement, Education and Communication
5. Research and Knowledge
6. Phase Out
7. Future Investments
8. Identifying and Addressing Historic Discharges

The Wisconsin PFAS Action Plan is a starting point for WisPAC's continuing role in supporting a coordinated response to PFAS in Wisconsin. Individual Action Items will be the source of further work, especially where implementation is possible sooner rather than later.

PFAS: The Basics

PFAS are a group of over 5,000 manmade chemicals that were invented in the 1930's. They were introduced into industrial manufacturing and commercial use in the 1940's, with peak production occurring between 1970 and 2000.

PFAS are particularly useful due to their characteristic carbon-fluorine bonds, which make them temperature resistant and water and oil repellent. These chemicals have been used in products ranging anywhere from nonstick cookware, waterproof clothing, and stain-resistant textiles to Aqueous Film-Forming (AFFF) firefighting foam and food packaging. They are also exceptionally resistant to degradation and, when discharged into the environment, linger for prolonged periods of time and may bioaccumulate in fish and wildlife.

What are PFAS?
PFAS are a group of human-made chemicals used for decades in numerous products.
Products that may contain PFAS: stain-resistant carpet & fabric, non-stick cookware, firefighting foam, fast food packaging.

What is Wisconsin Doing About It?
Additional efforts include a PFAS Action Committee (WisPAC) and a PFAS Technical Advisory Group.
Activities: establishing PFAS health standards for drinking water, groundwater and surface water; soil & water testing; researching fish & wildlife; listening & feedback sessions; state collaboration.

Why Should I Care?
PFAS persist in the environment and the human body for long periods of time. Recent findings indicate that exposure to certain PFAS may have harmful health effects in people.
Health risks: certain types of cancers, developmental delays, thyroid & heart issues, infertility & low birth weight.

What You Can Do...
Test Your Water: dnr.wi.gov/w/?q=177
Check State Fish Advisories: dnr.wi.gov/w/?q=176
Learn More About PFAS Health Risks: dnr.wi.gov/w/?q=175

Visit dnr.wi.gov, search PFAS.

PFAS have been discovered in groundwater, surface water and drinking water, as well as animal and fish tissue. Ingestion through contaminated water and contaminated food are the primary pathways through which they enter the human body.

In recent years, it has been discovered that PFAS substances bioaccumulate in the human body and certain PFAS substances pose a number of risks to human health, including developmental problems in fetuses and infants, certain types of cancer, reduced antibody

response and kidney disease. 98% of Americans have measurable levels of PFAS in their blood.

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Current Agency Responses to PFAS

The recommendations presented in this plan are a blueprint to follow for new, coordinated actions to tackle PFAS in the short and long term; however, while the plan looks to the future, before and during the time it was developed, state agencies were already at work. As PFAS emerged as a growing environmental and public health concern, here are some (but not all) of the ways the state of Wisconsin has responded:

Department of Agriculture, Trade and Consumer Protection

- DATCP continues to track developments from federal partners including FDA, ATSDR, and EPA for the latest in PFAS science, guidance, and standards. DATCP will partner with any Wisconsin agricultural producer with products found to be contaminated with PFAS in order to coordinate source identification and mitigation strategies with appropriate state agencies.

Department of Health Services

- **Groundwater Standard Recommendations:** In June 2019, DHS recommended to the DNR groundwater standards for PFOA and PFOS, as well as 25 other non-PFAS substances. These recommended standards are set to protect human health. DNR is currently in the process of developing administrative rules to propose these recommendations. DHS has participated in several advisory group meetings to describe the basis for the recommendations. DHS is also actively working to develop groundwater standard recommendations for additional PFAS. We anticipate that these recommendations will be complete in fall 2020.
- **Site-specific Health Assistance:** DHS has worked with state and local partners to assess health risks in response to PFAS sites in Marinette/Peshtigo, Rhinelander, and Madison. In response to public concerns, DHS evaluated risks from multiple scenarios including exposures from groundwater, drinking water, surface water, biosolids, plants, livestock, and wildlife. The findings directly inform PFAS exposure reduction

recommendations, which are shared in outreach materials, presentations, and direct conversations with stakeholders.

- **General Outreach and Education:** DHS has participated in a number of stakeholder engagement activities to increase awareness of health implications of PFAS contamination in the environment. Through outreach events, DHS has engaged a variety of audiences on PFAS, including public health and environmental science professionals, emergency responders, Tribal organizations, and legislators (e.g., Speaker’s Task Force on Water Quality), sharing health information to support risk management and policy decisions based on sound science.
- **Milwaukee Biomonitoring Study:** DHS conducted a biomonitoring study to identify exposure patterns among Burmese immigrant populations in the Milwaukee area. Observed PFAS concentrations in blood samples revealed significantly higher PFAS levels in the blood of Burmese immigrant angler populations than would be expected based on national reference levels. The study provided valuable insights for future efforts to evaluate and communicate about environmental health risks with Burmese immigrant populations in Wisconsin.
- **Great Lakes Collaboration:** DHS has worked with US EPA and health and environmental agencies from the Great Lakes states and provinces for many years to develop, coordinate and harmonize guidance on the consumption of sport fish from the Great Lakes. When results from the testing of fish tissue from inland waterways in Wisconsin revealed the presence of PFAS compounds in fish in Dane County, DHS worked with DNR and local health officials to develop the state’s first fish consumption advisories for PFAS in early 2020.

Department of Justice

- **DOJ Comment Letters:** DOJ co-drafted or signed onto the following PFAS-related letters:
 - DOJ co-drafted, and the Attorney General signed onto, a multistate comment letter regarding an EPA proposal to regulate PFOS and PFOA under the federal Safe Drinking Water Act. <https://www.doj.state.wi.us/news-releases/ag->

[kaul-leads-22-state-coalition-urging-epa-protect-drinking-water-toxic-%E2%80%9Cforever%E2%80%9D](#)

- The Attorney General signed onto a multistate comment letter regarding an EPA advance notice of proposed rulemaking on the listing of PFAS on the Toxics Release Inventory.
- The Attorney General signed onto a multistate comment letter regarding an EPA significant new use rule proposal for PFAS under the Toxic Substance Control Act. <https://www.doj.state.wi.us/news-releases/ag-kaul-reacts-proposed-epa-rules-pfas-amid-nationwide-concerns-about-%E2%80%9Cforever>

Department of Military Affairs

- **Foam Use:** Prior to 2006, the WI National Guard used C8-based AFFF in both the fire crash vehicles and fire protection systems in aircraft hangars. By 2009, when the EPA issued its initial health advisories for PFOS/PFOA in drinking water, most of the hangar fire protection systems in the Department of Military Affairs (DMA) had been changed to using High Expansion Foam (HEF). In 2015, the National Guard Bureau (NGB) directed that all C8-based foam usage be for emergencies only (no training or testing). By 2016, the WI National Guard had converted to C6-based AFFF while still only using it for emergencies.
- **Environmental Assessments:** By 2017, funding was available to do a site inspection for PFAS contamination. Per Wisconsin law, the results of the site inspection were submitted to the DNR resulting in the issuance of a “responsible party” (RP) letter. In response to the RP letter, the DMA worked with the DNR to fund a remedial investigation (RI) for all four (4) DMA sites affected by PFAS discharges. We will complete the RI plans and use the results to work with the DNR in seeking funding to address contamination resulting from AFFF discharges.

Department of Natural Resources

- **E.O. #40:** In response to Governor Evers’ Executive Order No. 40, the DNR created the Wisconsin PFAS Action Council (WisPAC) and committed to addressing PFAS

contamination in Wisconsin. The WisPAC PFAS Action Plan calls upon all member agencies to leverage resources and personnel to address issues across impacted institutions, communities and local governments. WisPAC conducted a survey to ascertain the chief priorities and concerns of the public and established a public comment period for the WisPAC PFAS Action Plan in advance of its final draft and submission to the Governor. All WisPAC meetings have been open to the public and are available to view online.

- **PFAS Rulemaking Efforts:** The DNR has advanced several rulemaking efforts:
 - **Firefighting Foam** Wis. Stat. § 299.48, effective September 1st, 2020, prohibits the use of PFAS-containing firefighting foam, with exceptions only for its use in emergency firefighting operations or for testing purposes in a facility equipped with proper treatment, containment and disposal measures. Per the conditions of 2019 Wisconsin Act 101, the DNR is currently working to promulgate emergency and permanent rules (Wis. Admin § NR 159) that establish these measures.
 - **Drinking Water Standards:** Wis. Admin. § NR 809 is also undergoing revisions. This rule establishes safe drinking water standards in Wisconsin. The agency has proposed maximum contaminant levels for PFOA and PFOS.
 - **Groundwater Standards:** The DNR is revising Wis. Admin § NR 140 to include groundwater standards for PFOA and PFOS, and has requested that the Department of Health Services provide recommended groundwater standards for an additional 34 PFAS compounds in the future.
 - **Water Quality Standards:** Lastly, the DNR is in the process of updating Wis. Admin § NR 105 to include surface water standards for PFOA and PFOS, and any other PFAS which the DNR determines may be harmful to human health.
- **Firefighting Foam Survey:** Partially associated with the addition of Wis. Stat. § 299.48 and with resources from the 2019-21 state budget, the DNR has taken several steps to assist and educate the firefighting and foam testing community on proper storage, containment, and disposal of PFAS-containing foams. This included the development of a survey for fire departments that helped identify the general use of and disposal needs associated with PFAS-containing foam throughout the state, DNR

has developed a frequently asked questions document, a poster for fire departments, and is developing a BMP document on foam use and proper management.

- **Great Lakes' States PFAS Taskforce**: In response to the Great Lakes St. Lawrence Governors & Premiers PFAS Strategy Coordination Resolution dated June 14, 2019, the DNR initiated the development of the Great Lakes PFAS Task Force. The Task Force includes groups of directors, subject matter experts, and three topical expert sub-groups from various states that are sharing information and experiences and coordinating requests for future research and funding needs.
- **General Outreach**: The DNR continues to make every effort to engage the community and provide opportunities for public input. This includes listening sessions, accessible through web conferencing during COVID-19, and solicitation of public input related to rules, WisPAC, and other PFAS-related activities. In areas that are in proximity to known contamination sites, the DNR works to support residents and solicit feedback and concerns through listening sessions and direct community engagement.
- **Environmental Assessment and Response**: The DNR is conducting site-specific investigations into environmental contamination by PFAS, including testing of fish and wildlife around Marinette and Peshtigo, groundwater and surface water testing in areas of concern, and testing public and private water supplies when deemed appropriate.

Department of Revenue

- The DOR creates proactive programming to assist water and wastewater facilities to eliminate PFAS from streams. The DOR is discussing options with the public and private sector to determine funding alternatives that could assist in these partnerships.

Department of Safety and Professional Services

- DSPS works to minimize occupational exposure to PFAS for public sector employees. This work includes a partnership with the DNR and the firefighting community.

Department of Transportation

- The DOT requested the Wisconsin Airport Management Association (WAMA) to articulate and represent airport PFAS use challenges to the DNR. WAMA is engaged and working directly with DNR. As part of this, DOT is:
 - Participating in AFFF inventory workgroup.
 - Evaluating PFAS foam containment system acquisition options for Commercial Service Airports. We have found three retrofit equipment options for the airports. All meet FAA requirements. The type of equipment the airport has will determine the best retrofit option. In addition, WisDOT Bureau of Aeronautics (BOA) has implemented a funding program to assist airports in acquiring the equipment they need.
 - Ensuring FAA commercial service certification requirements are achieved. This is more dependent on the relationship each airport has with their FAA regional certification inspector. However, we are engaged with the FAA on this issue on behalf of the airports as a whole.
 - Encouraging collaborative approach between the State of Wisconsin and the National Association of State Aviation Officials (NASAO) to encourage the Federal Aviation Administration (FAA) to change PFAS requirements and/or encourage new product development (perhaps via Department of Defense) for commercial service airport application. See additional notes below.
 - DOT and DNR PFAS Meetings: Applying DOT/DNR Interagency Cooperative Agreement principles and began quarterly PFAS topic coordination meetings. (7/29/20 Meeting #1)

University of Wisconsin System

- **PFAS Research Projects:** Researchers from at least seven campuses in the UW System are currently working on PFAS or have research interests that align well. Ongoing research projects include environmental fate of PFAS; novel treatment, separation, and detection technologies; health impacts of PFAS; and social aspects of PFAS contamination in impacted communities.

Wisconsin State Lab of Hygiene

The WSLH lead or participated in the following:

- **PFAS in serum**: Method development nearly complete. Discussion of interpretation and availability with the DHS has been initiated.
- **Accreditation**: Drinking water certification has been granted. Other matrices and methods are under development.
- **Air deposition**: The NADP (National Atmospheric Dep. Program) work has progressed (data previously presented).
- **PFAS in wastewater**: Analytically the lab is ready. Project logistics and sampling plans need to be finalized and worked out.
- **Other miscellaneous work**: Efforts ongoing such as ways to increase capacity, considering ways to efficiently screen for broader suite of compounds, fish work continues.

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Introduction to WisPAC

Wisconsin Governor Tony Evers declared 2019 the Year of Clean Drinking Water, and issued Executive Order No. 40, calling upon state agencies to address environmental contamination by PFAS in Wisconsin. The Department of Natural Resources assembled the Wisconsin PFAS Action Council (WisPAC), comprising representatives from over a dozen different state agencies in Wisconsin. The current members of WisPAC are listed below (former or alternate representatives are listed behind, where applicable).

Darsi Foss

Department of Natural Resources

Mike Friis

Department of Administration

Angela James (Jay Nielsen)

Department of Agriculture, Trade and Consumer Protection

Steve Krallis

Department of Corrections

Mark Werner (Chuck Warzecha)

Department of Health Services

Brad Motl

Department of Justice

Col. Kevin Philpot

Department of Military Affairs

Victoria Ryberg

Department of Public Instructions

John Dickert

Department of Revenue

Bradley Johnson

Department of Safety and Professional Services

Bob Pearson (Patricia Trainor)

Department of Transportation

Mary Kolar

Department of Veteran Affairs

Tim Cornelius (Olivia Hwang)

Department of Public Affairs

Denise Schmidt

Public Service Commission

Dr. Christina Remucal

University of Wisconsin

Missy Hughes

Wisconsin Economic Development Corporation

Dr. James Schauer (David Webb)

Wisconsin State Lab of Hygiene

The council was charged to do the following:

- Develop a multi -agency PFAS action plan for the State of Wisconsin.
- Develop protocols to effectively inform, educate, and engage the public about PFAS.

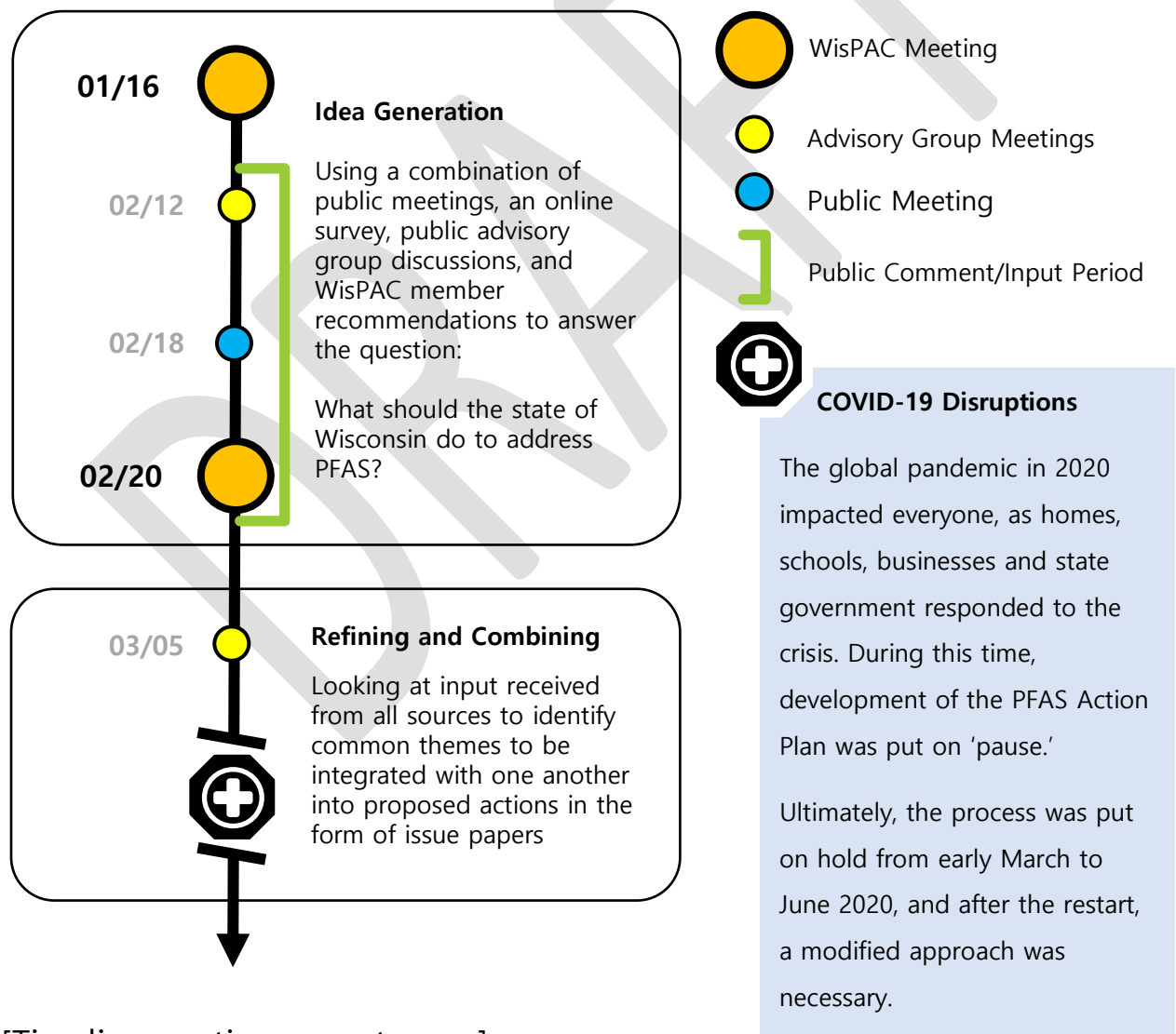
- Identify and prioritize likely known PFAS sources and incorporate this information into the PFAS action plan.
- Evaluate the public health risks of PFAS in addition to any impacts to Wisconsin's natural resources, agriculture, wildlife, and fisheries.
- Develop best practices and protocols for identifying PFAS sources to ensure that the materials are managed in a way that protects natural resources and human health.
- In partnership with stakeholders, develop standard testing and treatment protocols that are both cost-efficient and effective.
- Engage academic institutions and experts to identify and collaborate on joint projects, and further identify technical resources necessary to implement a PFAS action plan.
- Explore avenues of funding for the state, local governments, and private parties to aid their effort to address PFAS.

This report represents the Action Plan deliverable listed above and the recommendations presented provide a foundation from which the goals of the executive order may be accomplished. Many other actions are being taken by state agencies, local governments, businesses and citizens to address PFAS throughout the state, at all levels. WisPAC's recommended actions are those that require high-level coordination of government resources, through administrative, financial, operational or other types of change.

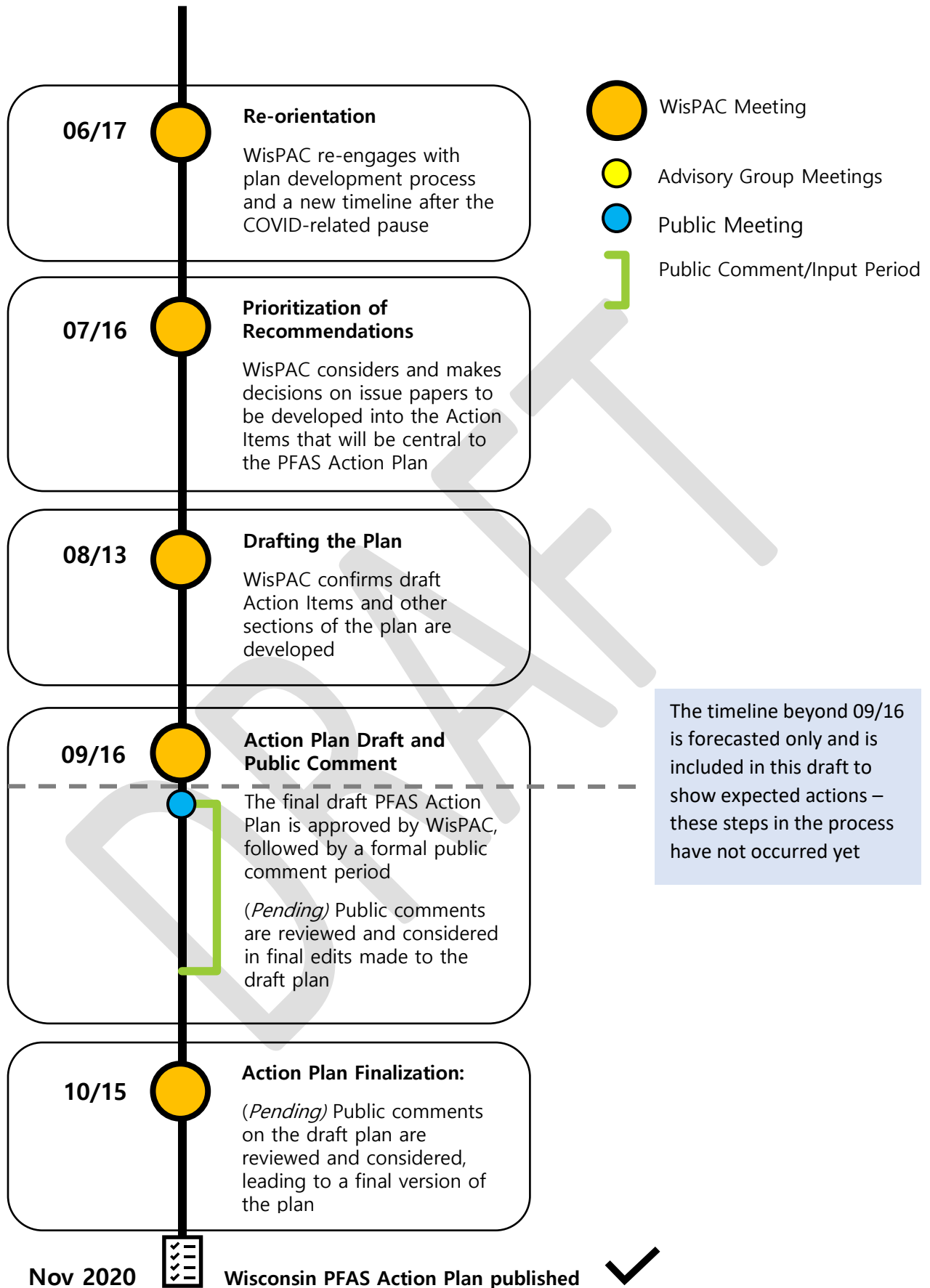
Building the Plan

Timeline

In October of 2019, representatives from state agencies were invited to participate in WisPAC and an introductory meeting was held in November. From that point on, development of the Action Plan proceeded as outlined below:



[Timeline continues next page]



Public Input to the Plan

Given the broad implications of PFAS for all Wisconsinites – from private citizens to local governments and businesses – input from a broad audience was important in the development of the recommendations presented in this plan. WisPAC state agency members were directly involved in plan development and their input was collected in various ways over the course of the process.

To pull in other perspectives and points of view to consider, WisPAC sought input from two main sources: two external advisory groups and the general public.

WisPAC Advisory Groups

Two advisory groups were convened to provide educational and feedback forums for the introduction of PFAS and WisPAC, and to explore how to respond to PFAS from two main perspectives:

- Citizens/Public Policy
- Local Government

The advisory groups were co-chaired by invited representatives from several external groups and interested parties (see box). Additional state agency co-chairs were assigned to support the engagement efforts and act as liaisons between the advisory groups and WisPAC.

Citizen/Public Policy Group Co-chairs		Local Government Group Co-chairs	
Lynn Morgan <i>Business Representative</i>	Ned Witte <i>Private Sector Attorney</i>	Lawrie Kobza <i>Private Sector Attorney</i>	Paul Kent <i>Private Sector Attorney</i>
Bart Sponseller <i>Department of Natural Resources</i>	Chuck Warzecha <i>Department of Health Services</i>	Jim Zellmer <i>Department of Natural Resources</i>	John Dickert <i>Department of Revenue</i>

the advisory group co-chairs' primary role was twofold:

1. Facilitate public meetings to solicit comments from interested parties focused on identified group
2. Produce a summary of all input received during the public meetings and forward this information on to WisPAC for consideration in the development of the Action Plan

The individuals acting as advisory group co-chairs played an important facilitation role in collecting input from others and forwarding this on to WisPAC. While these groups' input was included, their involvement in the process does not imply approval or endorsement of the recommendations that came out of the advisory group process.

As shown on the timeline displayed previously, each advisory group met in person twice – first to brainstorm ideas, and then to consolidate and refine these initial thoughts into more clear recommendations. The co-chairs fulfilled the second part of their charge when they delivered a set of issue papers for WisPAC to review and consider for inclusion in the draft action plan.

WisPAC's guidelines for Advisory Groups:

- All meetings of the WisPAC advisory groups are open to the public.
- Agendas and logistics will be posted a week before each meeting, to the WisPAC web page.
- There is no formal membership in any of the PFAS advisory groups other than the two public co-chairs and two state co-chairs.
- Minutes summarizing meetings will be taken by state agency staff and posted to the WisPAC web site. Minutes will be shared with WisPAC members.
- Main focus of advisory committee meetings between January and June 2020 will be to solicit input on the state's PFAS action plan and feedback on state's ongoing PFAS initiatives.
- Advisory committees will solicit input from the public on the four PFAS action categories approved by WisPAC.
- Recommendations from the advisory committees will be forwarded to WisPAC for consideration, per the schedule and format approved by WisPAC.
- Advisory committee members and public recognize that WisPAC may adopt, reject, or modify any recommendations proposed by an advisory workgroup.
- Advisory committees will continue to meet on a regular basis after the WisPAC Action Plan is completed to continue providing feedback to the state.
- Advisory committees may invite guest speakers to present during a committee meeting.

The full version of these submissions may be found in appendix B and C, available at the end of this plan [final version will have appendices posted online, not in report].

Read on to the “Using the input” section to learn more about how these issue papers were considered by WisPAC.

General Public

While the two advisory groups were designed to provide some sideboards or structure to the discussion of how to respond to PFAS from local governments and other interested parties, broad input from the general public was collected in other ways:

1. Public, On-Line Web Survey: Suggestions for the Wisconsin PFAS Action Plan
 - Survey open from February 3 – February 21, 2020
 - Submission of responses was possible via an online form or in hardcopy
 - Survey summary shown on next page
2. Public Listening Session in February 2020
 - Held at UW Oshkosh – Fond du Lac Campus on February 18th
 - PFAS and WisPAC 101 presentation
 - Q&A session and public comment opportunity
3. Opportunities for public comment during WisPAC meetings
 - Started as in-person opportunities, transitioned to virtual comments once process restarted after initial COVID-19 pause.
 - 2019: November 18
 - 2020: January 16, February 20, June 17, July 16, August 13, September 16
4. Draft PFAS Action Plan public comment period (pending)
 - *To be held over 2-3 weeks in September and October 2020*

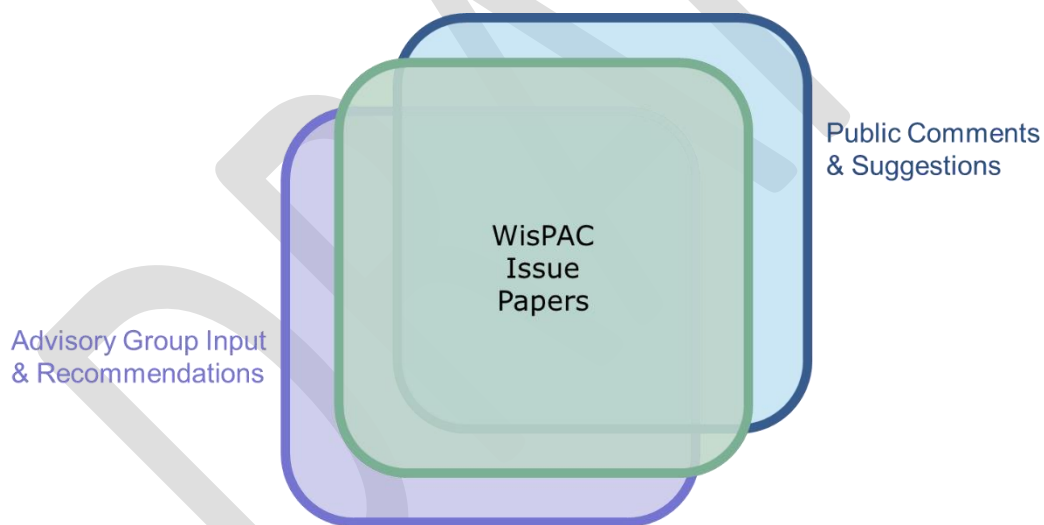
Public Input Survey Results

- Main questions in survey:
 1. Briefly describe the problem or issue related to PFAS that you think needs to be addressed by the state of Wisconsin
 2. If you have a suggestion for how the issue or problem above could be addressed, please share that with us here
- 230 total responses were identified. Not all questions were answered on every submission
- A qualitative analysis was performed to help identify potential topic areas for WisPAC to consider in the development of the PFAS Action Plan
- Using the set of themes that Action Items are now organized by (and two other general categories shown with an “*”), here is a high-level breakdown of what the public was most interested in addressing when it comes to PFAS:

Themes (comments were tagged to the theme that fit best, but may have applied to other themes as well)	Number of Comments	Percent of total
Phasing Out (or Banning) PFAS in Products	54	23%
Site-Specific Concerns*	38	17%
Sampling	33	14%
General Comments*	27	12%
Research & Knowledge	21	9%
Engagement, Education & Communication of PFAS & Public Health	19	8%
Standard Setting	16	7%
Identifying & Addressing Historic or Legacy PFAS Discharges & Exposures	12	5%
Pollution Prevention	6	3%
Future Investments	4	2%
Grand Total	230	100%

Using the Input from Advisory Groups and General Public

Early in the plan development process, WisPAC members were asked to develop an initial set of issue papers to capture ideas for how to best address PFAS. Next, WisPAC evaluated input from the advisory groups and the general public by comparing the input to existing WisPAC's issue papers. In many cases, there was general overlap on the general PFAS issues being identified by WisPAC, the advisory groups and the public. There was overlap in many but not all the WisPAC, advisory groups' and public recommendations on how to address the PFAS issues that were identified as challenging to Wisconsin.



WisPAC reviewed the PFAS issues identified and the recommendations on how to address those from the public, and where gaps were evident they were reviewed, considered and addressed in the following manner:

1. Edits or additions to action items or recommendations proposed by state agencies that related to the issue being raised;

2. New action items or recommendations developed to be considered by WisPAC for inclusion in the action plan; or
3. No specific action taken (typically where no specific, actionable issue was identified).

Look for the “Additional Information” at the bottom of each Action Item writeup in the next section of this plan. There you can see excerpts from the advisory group feedback that relate to the WisPAC Action Item. Also, check out Appendix B for a few items suggested by the advisory groups that did not fit with any of the final Action Items for the Wisconsin PFAS Action Plan, but might represent an opportunity for others to engage in.

DRAFT

Recommendations

Principles for All Actions

Many of the Action Items WisPAC has identified to respond to PFAS in Wisconsin are relatively distinct from one another – there is a clear and defined scope. In other cases, there is a recognized need to apply or embrace a general approach or “principle” that should be considered across all actions. The following “principles” were highlighted as being of particular importance for consideration in how any single Action Item might be implemented.

Environmental Justice

State Executive Agencies’ Commitment to Environmental Justice

The EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys: the same degree of protection from environmental and health hazards, and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.” According to national studies, PFAS has disproportionately impacted communities of color and low-income communities.

Equity and justice are central to the Evers Administration as well. From Executive Order #1, which reinforced Article I, Section 1 of the Wisconsin Constitution that declares, “All people are born equally free and independent, and have certain inherent rights” to Executive Order #3, which declared “to ensure that current and future generations of Wisconsinites thrive, the State of Wisconsin must promote the wellbeing of individuals and their communities” and “must address acute health disparities”.

The Evers Administration also issued Executive Order #18, which reinforces the partnership with the 11 federally recognized Tribal Nations within Wisconsin.

Executive Order #40, which established WisPAC and set the expectations for this action plan, did so because “all Wisconsin residents deserve access to safe drinking water and clean natural resources”.

Health Equity

The CDC defines health equity as “when everyone has the opportunity to be as healthy as possible.” It is “achieved when every person has the opportunity to “attain his or her full health potential” and no one is “disadvantaged from achieving this potential because of social position or other socially determined circumstances.” Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment.”

Executive Order #17 required the formation of Wisconsin’s Health Equity Council, which must develop a comprehensive strategy to address public health issues to improve health outcomes and reduce disparities. The Council’s charge “includes assessing and improving all determinants of health including ... the physical environment”. The Council may create such subcommittees as are necessary to achieve this mission”; a subcommittee could intentionally address physical environment inequities or link with the work of WisPAC.

Possible Tools and Actions Across Issues

- Accessibility of Information
 - Low literacy
 - Culturally and linguistically relevant/appropriate – e.g., always include Spanish, Hmong resources
 - Data to action – ensure resources are available for communities to use to understand
- Risk Assessments
 - Make it easier to request, understand, utilize (health) risk assessments
- Data and Mapping
 - Ensure data and mapping are done at the census tract level (as possible), or zip code level (at a minimum)


- Allow communities to search for whether (and in what medium?) PFAS is in the community
- Community Resources
 - Ensure services are available for communities (and developed with/by communities) to help address inequities and determinants of health
- Community Participation
 - Formation of an environmental justice advisory group
 - Formation of a representative community advisory group for PFAS/WisPAC

Pollution Prevention

Much of the PFAS work underway across the country and in Wisconsin has focused on mitigation and treatment downstream. There is also interest in reducing and preventing the introduction of PFAS at all. PFAS pollution prevention will require collaboration and additional outreach, education, resources, and innovation. Several of the action items contained in the report address halting or mitigating the use and discharge of PFAS through educating businesses, government agencies and consumers that the products they purchase, and use may contain PFAS. Many businesses and consumers are unaware of the environmental and human health concerns from certain PFAS substances. They are also unaware of the choices they may have about purchase and use of products that do not contain PFAS. Many states are enacting laws governing the manufacture and use of PFAS-containing products in their states. The federal government continues to work on voluntary reduction of certain PFAS by businesses in consumer products, as well as establishing deadlines for the military and other to move to PFAS-free firefighting foams.

Actions Items

A guide for how to navigate the writeup templates below:

<h2>Background</h2> <p><i>Background information such as historical context or relevant legislation and local regulation(s) on the nature of the issue and the concerns with which it is associated.</i></p>	
<h2>Action</h2> <p><i>Recommendation(s) from WisPAC to resolve the issues and concerns.</i></p>	
 <p>Time to initiate</p>	<p><i>An estimate of how long it will take to implement this action based on steps started prior to the submission of the Action Plan or needed additional steps after the submission to initiate the stated action.</i></p>
<p>Proposed lead agency:</p>	<p><i>State agency(ies) primarily responsible for implementation.</i></p>
<p>Proposed partnerships:</p>	<p><i>Anticipated partners in implementing this action: these are typically other state agencies but may include other federal or local agencies or entities.</i></p>
<p>Type of action <i>Resulting type of change(s)</i></p>	<p>Budgetary: <i>Change in budget: reallocation in funds or acquisition of additional funds.</i></p>
	<p>Legislative: <i>Proposed legislation or modifications to current legislation.</i></p>
	<p>Administrative (Rulemaking): <i>Adoption of new rulemaking within agency</i></p>
	<p>Administrative (Operations): <i>amendments/changes to current processes or policies.</i></p>
	<p>Research: <i>Proposed research projects and/or collaboration with other agencies to develop new techniques, technologies, and breakthroughs in PFAS understanding.</i></p>
<p>Other: <i>Communicative actions, educational actions, or other actions that do not coincide with the above listed types of actions.</i></p>	
<p>Reason for Action:</p>	<p><i>The necessity of the action and how it is beneficial to Wisconsin communities, citizens, developers, the environment, etc.</i></p>
<p>Anticipated resource needs:</p>	<p><i>Either additional or change in current structure of staffing, funding, input, support, etc.</i></p>
<p>Additional Information: <i>Other items relevant to the Action Item, including:</i></p> <ul style="list-style-type: none"> <i>Related feedback WisPAC advisory groups and the general public</i> <i>Additional background and reference material</i> <i>Relevant examples</i> 	

1.1 Establish Science-Based Environmental Standards for PFAS

Background

As part of the state's groundwater law, the Wisconsin Department of Natural Resources (DNR) is required to maintain a list of substances that have been discovered in groundwater or have a reasonable probability of entering groundwater, and to routinely provide those lists to the Wisconsin Department of Health Services (DHS) for groundwater standard recommendations. In March 2018, DNR requested that DHS provide a groundwater enforcement standard for two of approximately 4,000 PFAS substances: PFOA and PFOS. In April of 2019, the DNR requested groundwater enforcement standards for an additional 34 PFAS substances.

Having clear, consistent and science-based environmental standards is a DNR priority for the protection of public health safety, welfare, and the environment for the citizens of the State of Wisconsin. The DNR establishes science-based environmental standards as part of its mission, including standards for:

- Safe drinking water in NR 809
- Groundwater in NR 140
- Water quality, and possibly biosolids, in NR 102-211
- Soil standards in NR 720
- Development of emission standards for hazardous air contaminants in the NR 400 rule series
- Site-specific sediment standards in NR 722

Action

WisPAC recommends that state agencies take pro-active and consistent action towards establishing science-based environmental standards for PFAS. Standards should be developed to address the expanding number of PFAS compounds of emerging concern in a variety of environmental media and substances.

The DNR should routinely send PFAS substance recommendations to DHS, consistent with ch. 160, Wis. Stats., the state's Groundwater Law. Upon receiving the groundwater enforcement standard recommendation, DNR should also simultaneously begin rulemaking for PFAS standards for those substances in surface water, and drinking water. In addition, DNR should update the ch. NR 720 soil direct contact and soil-to-groundwater cleanup standards as well as establishing guidelines through rule or guidance for land application of biosolids. Further, DNR should work with the U.S. Environmental Protection Agency's (EPA) Office of Research and Development, academia, other states, stakeholders and Department of Defense to identify a model for calculating a ch. NR 720 soil standard for PFAS substances that would be protective of groundwater. Finally, the DNR should continue to work with EPA on the implementation of a federally approved stack testing method and monitoring method, technical information to consider when evaluating best available control technology and the development of federal air toxics standards for PFAS.



Additional supporting actions include:

- Evaluating the necessity of establishing PFAS standards for biosolids, solid waste, and sediment.
- Evaluating the necessity of adding PFAS to the list of hazardous constituents under the ch. NR 600 rule series.



Time to initiate

Parts of this action are already underway. The Rulemaking process has started for PFOA and PFOS for groundwater, surface water and drinking water with approximately 30 months to complete.

	Additional work is required and would be implemented on an ongoing basis, driven by future DNR requests for PFAS substance groundwater standard recommendations from DHS, and DHS providing those health-based recommendations upon which other media-specific standards would be developed.		
Proposed lead agency:	DNR		
Proposed partnerships:	DHS, EPA (Office of Research and Development) academia, other states, stakeholders and Department of Defense)		
Type of action	Budgetary \$	Legislative 	Administrative (rulemaking) 
Reason for Action:	Having science-based standards provides the regulated community and the public with a clear benchmark on what level of PFAS in the air, land or water is protective or actionable under state law. This allows the regulated community and brownfields redevelopers to determine how to address the contaminated media and the costs of those actions. Establishing standards for PFAS removes regulatory uncertainty for municipalities, businesses, and the public.		
Anticipated resource needs:	It is expected that additional funding and staff for rule writing, toxicity research, sampling to develop economic analyses are required to support full and efficient implementation of this action in the long term.		
Additional Information: The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group: <ul style="list-style-type: none"> “The WisPAC Action Plan should <u>include expedited state action</u>, such as emergency rule development or executive order, to develop interim statewide clean-up standards for soil and groundwater.” 			

- “The WisPAC Action Plan should direct state researchers to gather and assess data on chemical toxicity and environmental exposures for PFAS of highest concern; health impacts...”

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- “Provide greater flexibility in code/statute to address additional compounds (e.g., water quality values) as knowledge base increases.”
- “Expand toxicology understanding.”
- “PAG participants expressed a desire for clearer definition of the proposal to “expand” our understanding of PFAS toxicology. This could be through encouraging the U.S.EPA to address toxicology, as one of the pillars of the February 2019 federal PFAS Action Plan, more quickly.”
- “Evaluate legislative solutions to allow local government/municipalities to set and implement more restrictive standards to address local PFAS issues and concerns.”
- “Consider impacts of federal or state preemption of state or local standards, respectively.”
- “A PAG participant suggested that municipalities should set more stringent standards than state law.”

Establishing environmental standards for PFAS was one of the most commonly addressed topics received from the public during WisPAC’s initial public outreach via an online survey in February 2020.

1.2 Develop Recommendations for Management of PFAS-containing Landfill Leachate




Background

Due to the historical prevalence of PFAS in consumer products, these products - and the waste generated from their manufacture have been disposed of in Wisconsin landfills for many years. Over time PFAS can be released in leachate and could enter or has impacted groundwater. Current landfill design requirements, in place since the early 1990s, include liner and leachate collection systems to protect groundwater from contamination by leachate. The primary method by which landfills in Wisconsin manage the leachate they collect is to utilize wastewater treatment plants (WWTPs), including publicly owned wastewater treatment (POTW) facilities. Landfills also serve WWTPs by accepting biosolids for disposal when land application is not an available option.

Action

WisPAC recommends the following:

- The Wisconsin Department of Natural Resources (DNR) develop a comprehensive strategy in collaboration with key public and private stakeholders such as WWTPs and landfills to explore recommendations on how to safely manage PFAS in leachate, to minimize or eliminate impacts to WWTPs, waters of the state and biosolids.
- These recommended management options should be summarized in an external document to be shared with various stakeholders.

 Time to initiate	Can be initiated 1-6 months from now
Proposed lead agency:	DNR
Proposed partnerships:	Solid Waste Landfill Stakeholders, WWTPs, Local Government
Type of action	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Legislative</p>  </div> <div style="text-align: center;"> <p>Administrative (operations)</p>  </div> </div>

<p>Reason for Action:</p>	<p>Landfills receive consumer and business waste that may contain PFAS compounds. Waste materials containing PFAS disposed of at these locations will continue to enter the waste stream so long as they continue to be manufactured and disposed of as part of general household and commercial waste. There is also a recognition that, even though the domestic use of PFAS compounds such as PFOA and PFOS may cease, international trade may continue to be a pathway for these compounds to enter the environment. Shorter-chain PFAS substances are still used in many products and found in landfill waste.</p> <p>Other states are looking for ways to help solve the issue of elevated levels of PFAS in landfill leachate. Michigan is partnering to look at the age and type of waste, leachate management, operations, and landfill design. The Vermont DEC has issued guidelines for POTW acceptance of leachate. The New Hampshire DES and New York DEC require landfill operators with elevated PFAS levels to test neighboring private drinking water wells; landfill operators may be required to provide alternate sources of drinking water and install treatment systems.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that some additional staffing is required to implement this action, including collaborating with stakeholders, developing a laboratory standard for leachate analysis, developing acceptable levels, and communicating those levels.</p>
<p>Additional Information: None</p>	

2.1 Expanding PFAS Site Identification Using GIS Mapping

Background

PFAS are a widespread and large class of chemicals used in hundreds of industries. While there are likely several sources of PFAS contamination in the State of Wisconsin, most of these potential sources have not been identified. In addition, we have a growing understanding of what the most significant or concentrated sources of PFAS contamination are and how the various PFAS compounds and uses enter and impact the environment and human health. While these scientific details continue to evolve daily, relative exposure and risk can be identified by broad categories of uses, including:

- Direct manufacture of PFAS raw materials
- PFAS directly used in industrial applications (e.g. direct application of AFFF at airports, Department of Defense facilities, petroleum/oil refineries, etc.)
- PFAS used in the manufacturing process
- Secondary sources of PFAS (landfills, wastewater treatment plants, etc.)
- Emergency response situations, such as chemical fires
- Industries with potential PFAS use where less is known about the location and operations

Identification of potential exposure and risk to PFAS chemicals can serve as a valuable first step in screening potential sources and prioritizing receptors for sampling. The Wisconsin Department of Natural Resources (DNR), with funds provided in the 2019-21 biennial budget, has contracted with a consultant to analyze the prevalence of PFAS in Wisconsin. This information will help Wisconsin continue to identify and summarize potential sources of PFAS and help build a geo-database and conceptual site models. Locating these areas of contamination can also prevent future exposure during construction, well-drilling, or redevelopment, and help map potential sources should contamination be discovered in the future.








For those sources of PFAS contamination that have already been identified, the degree and extent of contamination often expands beyond one property and one media and is sometimes known to affect human receptors. It is important that these known areas of contamination are effectively communicated to the public, along with any health advisories issued for drinking water, fish or wildlife consumption. Up-to-date information regarding one's own property is critical, but also data that is searchable by county, municipality and parcel is important for property acquisition, environmental assessments, infrastructure design and construction, and public information.

Action

WisPAC recommends that the DNR should continue to build upon the prioritization model that they are working to complete, as initially funded by the 2019-21 state budget. Implementing the screening and prioritization protocol developed for the state, and continuing to analyze incoming data from contaminated sites, POTWs, drinking water wells, and health advisories the state can map and prioritize locations for sampling in a process that is well-documented, transparent and reproducible.

As part of this effort, the DNR has also begun building a database that will feed into a geospatial viewer and interactive public map. The database combines known PFAS sources (e.g. contaminated sites and wells) and base layer information of interest (e.g. PFAS impacted waterways, fish consumption advisories, parcel data), as well as the potential source information and risk analysis. The DNR should continue to build upon this database with input and collaboration from the EPA, USGS, DOD, Wisconsin Public Service Commission (PSC) and local governments, in order to ensure a "one-stop-shop" for all PFAS-related environmental impact data for the public and for risk and exposure analysis for WisPAC to maintain.

A companion interactive online mapping system for the public would provide up-to-date information on sites impacted by PFAS around the state in a story map format. This interactive map would provide a "snapshot" of impacts, links to complete data for each media affected, and a link to a website with more information about the source site (for selected sites with ongoing efforts). Similar systems have been implemented at the

<p>Michigan Department of Environment, Great Lakes and Energy, and the California State Water Resources Control Board. Additional base layers, like the state-wide digital parcel map developed and funded by the Wisconsin Land Information Program together with existing hydrology and Wiscland data, could be added to interactive map to provide the public with greater searchability over time.</p>						
 Time to initiate	<p>Already underway, but requires additional resources before finalized, and will require upkeep.</p>					
Proposed lead agency:	<p>DNR</p>					
Proposed partnerships:	<p>Department of Military Affairs; Department of Agriculture, Trade and Consumer Protection; Department of Justice; Department of Transportation; Department of Administration; US Geologic Survey, Wisconsin Land Information Program; PSC, EPA, DOD</p>					
Type of action	Budgetary 	Legislative 	Administrative (rulemaking) 	Administrative (operations) 	Research 	Other 
Reason for Action:	<p>Knowledge of PFAS use and presence is expanding rapidly, and the state must utilize all available data to identify the extent of PFAS contamination and inform the appropriate response. By creating a database of potential sources and utilizing spatial analysis tools to prioritize sites for responses and risk management, the state can focus limited resources. The same tools will also allow the state to inform the public of known PFAS issues through an interactive mapping feature. This will allow them to make informed health-and financial-related decisions.</p>					
Anticipated resource needs:	<p>It is expected that additional staff and funding and may be needed to implement the protocol (including collecting, analyzing, and presenting/summarizing data), as well as for development and upkeep of the database and online GIS system. In addition, funding will be needed to sample at prioritized sites.</p>					

Additional Information:

The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:

- "The LGAG recommends that the WisPAC Action Plan include guidance LGUs may use to identify entities discharging PFAS to wastewater systems or disposing of PFAS at landfills or other waste disposal sites."
- "The WisPAC Action Plan should include a plan to assist LGUs in proactively identifying PFAS sources in their community..."
- "The PFAS policy goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health. This requires differentiating high concentration sites from background concentrations."

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- "One suggestion was that State could consider utilizing available funding to broaden the explanation of PFAS use and industries that handle PFAS to better understand potential receptors."
- "Consider additional measures to develop means for inventorying PFAS exposure risks."
- "Identify which PFAS chemicals and which PFAS uses and sites are a priority."






2.2 Facilitate Timely Collection of Environmental PFAS Data

Background

While our body of knowledge regarding PFAS is growing, there are still a significant number of unknowns, and our limited capacity for sampling and testing is an impediment to data collection. In addition, under the current regulatory processes related to PFAS site investigation and cleanup, there can be a significant amount of time between the discovery of a probable discharge and initiation of environmental sampling by the responsible party. The timely collection of environmental PFAS data is necessary to identify contamination and initiate site cleanup quickly and efficiently, thereby mitigating prolonged exposure and preventing adverse health outcomes in Wisconsin communities.

Action

WisPAC recommends that the state explore ways to facilitate timely collection of PFAS data, which will in turn inform appropriate measures toward effective risk communication, mitigating exposure and making sound health-protective decisions in the short-term. This could be accomplished through legislation, rulemaking, and/or funding for collection of samples outside the typical site investigation process.

 Time to initiate	To be determined, based upon more specific implementation planning (funding, rulemaking, and/or legislation)				
Proposed lead agency:	Wisconsin Department of Natural Resources (DNR)				
Proposed partnerships:	Wisconsin Department of Health Services (DHS), Wisconsin State Laboratory of Hygiene (WSLH), Local Public Health Agencies, Tribal Organizations				
Type of action	Budgetary 	Legislative 	Administrative (rulemaking) 		Other 
Reason for action:	Investigating better, cheaper and more accessible techniques for PFAS sampling and testing will improve data collection and ensure that impacted communities have more information sooner				

	<p>about their proximity and exposure to PFAS contamination, thereby supporting their capacity to implement necessary health-protective interventions.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that <u>substantial</u> finances are required to fully implement this action, possibly including:</p> <ul style="list-style-type: none"> • Zone contracts with environmental consultants; • Partnerships with local health departments, the State Lab, state agencies for fee-exempt environmental sample analysis akin to current Basic Agreement set up. <p>Note: The current resources in the DHS Basic Agreement with the Wisconsin State Laboratory of Hygiene are insufficient to support PFAS testing for public health investigations.</p>
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • “The WisPAC Action Plan should include a plan and funding for additional studies to identify and alert Local Government Units of PFAS contamination. PFAS sampling should be part of site investigations near probable PFAS sources. PFAS sampling should be included in routine monitoring of rivers and lakes. Sampling should be conducted sites where historical information indicates PFAS was used in industrial or manufacturing processes.” • “The most significant action we need to take today is to remove these chemicals of emerging concern from commerce and pursue cleanup and remediation at contaminated sites and waterbodies.” <p>Timely and adequate collection of environmental PFAS data was one of the most commonly addressed topics in comments received from the public during WisPAC’s initial public outreach via an online survey in February 2020.</p>	




2.3 Standardize PFAS Sampling Methods and Support Statewide Implementation

Background

PFAS testing efforts may involve collection of environmental samples by a number of entities, including state agencies, local government agencies, tribal organizations, contractors, businesses or residents. PFAS sampling is complex due to the presence of these compounds in many everyday consumer products. Unclear or non-uniform sampling protocols increases the risk of cross-contamination that would invalidate test results, and ultimately lead to inaccurate conclusions and costly resampling.

Action

WisPAC recommends that the State identify standard protocols for environmental sampling for PFAS to ensure consistency across private and public entities when samples are collected. Outreach and training from the State of Wisconsin on proper PFAS sampling would ensure individuals and organizations in Wisconsin would be well-equipped to conduct PFAS sampling as needed.

 Time to initiate	Can be initiated 1-6 months from now
Proposed lead agency:	Wisconsin Department of Natural Resources (DNR)
Proposed partnerships:	Wisconsin Department of Health Services (DHS) and Wisconsin State Laboratory of Hygiene (WSLH) (co-lead with DNR); Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP); local public health agencies and tribal organizations
Type of action	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: black; width: 30%; height: 40px;"></div> <div style="text-align: center;"> Administrative (operations)  </div> <div style="background-color: black; width: 30%; height: 40px;"></div> <div style="text-align: center;"> Other  </div> </div>
Reason for action:	Implementation of this recommendation will result in increased confidence in PFAS test results from samples collected by entities across Wisconsin and decrease "false positives." It will also

	<p>promote more timely response to PFAS issues by increasing the capacity of a broader range of entities, such as local public health agencies, to contribute to PFAS-related environmental and public health investigations. As an example, the State of Michigan has produced several guidance documents on PFAS sampling, based upon environmental media (e.g., soil).</p>
<p>Anticipated resource needs:</p>	<p>It is expected that some additional staffing or funding is required to implement this action, including compiling information, writing and facilitating review of the documents, and training.</p>
<p>Additional Information:</p> <p>Michigan’s sampling guidance could be reviewed and adopted as is, or serve as a solid foundation for the identification of Wisconsin’s guidance.</p> <p>Existing relationships and routine interactions (e.g., conferences, continuing education opportunities) with local government agencies, environmental consultants, and others could facilitate dissemination of the protocols among likely users.</p> <p>The following comment or proposed action related to this action was forwarded through the Citizens external advisory group:</p> <ul style="list-style-type: none"> • “A PAG participant suggested that establishing sampling and analysis protocol should be a priority.” 	

2.4 Test Public Water Systems for PFAS

Background



Between 2013 and 2015, the U.S. Environmental Protection Agency (EPA) monitored large municipal public water systems (population of 10,001 people or more) and a representative number of small public water systems for 6 PFAS substances under the Unregulated Contaminant Monitoring Rule 3 (UCMR3). Three large Wisconsin municipal water systems: La Crosse, Rhinelander and West Bend, detected PFAS in drinking water well systems. La Crosse and Rhinelander removed wells with elevated PFAS from service to protect public health. The Wisconsin Department of Natural Resources (DNR) is evaluating the detection of PFAS in the West Bend well.

Since 2013, approximately 30 sites with PFAS groundwater, soil contamination have been reported to DNR at other locations around the state. DNR is working with the responsible parties to ensure proper investigation and remedial action at these sites. In addition, while the Madison Water Utility did not detect PFAS during UCMR3, subsequent voluntary sampling has detected PFAS in all 21 of its in-service, drinking water wells. These detections are mainly due to improvements in laboratory testing methodologies and lower detection levels since the UCMR3. The DNR laboratory certification program is now certifying laboratories to analyze 36 PFAS in drinking water and other media.

EPA has committed to propose additional PFAS monitoring in the UCMR5 cycle utilizing newer methods to detect more PFAS and at lower reporting levels than what was possible under the UCMR3. EPA expects to publish the final UCMR5 rule by December 2021. The sampling would ensue in the three years following enactment of the rule, meaning that new sampling results from municipal water supplies would not be available until 2025 or later.

Action

WisPAC recommends that the state conduct statewide drinking water testing, following suit of Illinois, Indiana, Michigan, Minnesota, and Ohio. The testing would include all municipal systems, as well as some other priority community and non-community water

<p>systems. The data collected would help develop a base of environmental and economic information for new PFAS drinking water and groundwater standards. If sampling occurs, the systems will be required to public notice if the PFAS exceed a state or federal health advisory levels. These systems will be required to monitor for specified PFAS substances and public notice once public drinking water standards are established.</p>	
 Time to initiate	Ready to implement with sufficient resources
Proposed lead agency:	DNR
Proposed partnerships:	Wisconsin Department of Health Services (DHS), Wisconsin Public Service Commission (PSC), EPA
Type of action	Budgetary 
Reason for Action:	<p>PFAS occurrence information is crucial to complete an accurate economic analysis of PFAS drinking water standards for rulemaking. The monitoring will assess current public health impact and will lead to information that will reduce exposure.</p> <p>Statewide testing of public drinking water systems is essential to maintain quality of drinking water at or below proposed standards.</p>
Anticipated resource needs:	It is expected that additional state funding (\$750,000) will be required to fully implement this action, including the federal funds the DNR received in 2020.
<p>Additional Information:</p> <p>The following comment or proposed action related to this action was forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • LGU: We need to better understand the complex science of PFAS total exposure and impacts, verifiable analytical methods, and real-world risk before providing common health standards. 	

3.1 Partnering with Firefighting Associations & Municipal Airports on PFAS

Background

PFAS-containing firefighting foams are used to suppress and extinguish high-hazard flammable liquid fires, which are typically referred to as class B fires. Most Wisconsin fire departments, and all commercial service airports, currently have and use PFAS-containing foams. There are approximately 830 fire departments in Wis., and at least 8 aircraft rescue and firefighting (ARFF) units at commercial service airports.

In January 2020, DNR initiated a survey of all state fire departments and airports asking about their use and storage of PFAS-containing foam. As a result of developing and conducting the survey, informal partnerships have been established with leaders of the Wisconsin State Fire Chiefs Association (WSFCA) and the Wisconsin State Firefighters Association (WSFA), as well as the Wisconsin Airport Managers Association (WAMA). DNR has also worked with the UW Technical College System's Fire Service Training Center director, the Fire Safety program at DSPS, and the Bureau of Aeronautics at DOT.




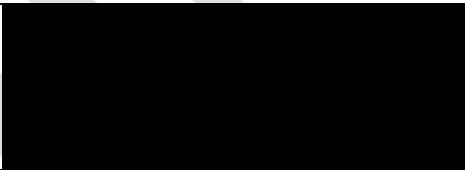

Action

WisPAC recommends that the state establish and enhance two formal, collaborative partnerships with leaders and key members of: (1) state's firefighting community and (2) municipally owned airports to sustain relationships with these firefighting partners, and help minimize environmental and personal exposures to fluorinated compounds, and to help them as they develop new processes, protocols, and best management practices for Class B type fires.

These partnerships could develop outreach materials for education of fire departments and others impacted by s. 299.48, Wis. Stats., pertaining to the regulation of testing,

containing, treating, storing or disposing of firefighting foam with intentionally added PFAS. Like other states, such formal partnerships could establish joint training sessions, establish best management practices and could work on evaluation of personal protective and necessity of it containing PFAS. Work with researchers, fire departments and others on protective, PFAS-free alternatives for personal protective equipment for first responders.

These collaborative groups could also explore recommendations for funding for local government and volunteer fire department purchase of non-fluorinated foam and training for using such non-PFAS foams.

 Time to initiate	Fall 2020			
Proposed lead agency:	Department of Natural Resources with DOT and DHS			
Proposed partnerships:	Wisconsin Fire Chiefs Association, Wisconsin Fire Fighters Association, Wisconsin Airport Managers Association, fire departments and other interested members of the public.			
Type of action	Budgetary 	Legislative 		Other 
Business Case:	Greater collaboration and understanding of the concerns of using PFAS-containing foams will result in: (1) reduced use and thus exposure to PFAS-containing firefighting foams and health risks for firefighters, and (2) reduced discharges of PFAS-containing foam to the environment, thus preventing costly environmental cleanups. Sustained collaboration with fire chiefs, firefighters, trainers, municipal airports, other agencies, foam manufacturers, military, researchers, and more will help everyone understand the key issues from multiple perspectives and greatly increase the likelihood of mutual success.			
Anticipated resource needs:	Funding for replacement of PFAS foam with non-fluorinated foams, as well as training with those non-PFAS foams.			
Additional Information:				

The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:

- "Develop a H&S Plan: Minimizing firefighters and community risk of exposure to AFFF products; Develop education and information regarding fluorine free foam (FFF); Develop education and information on PFAS foams that are being marketed as "safe" or "safer"."

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- "Provide information and assistance to aid manufacturers, fire departments and other PFAS users to transition to products and processes that avoid harmful PFAS compounds"
- "Develop better education on how to prevent future PFAS discharges"
- "Push forward suggestions on steps people can take to...safely discard PFAS containing products...and respond to foam in waterways, for example."
- "Build awareness of actions that individuals, businesses and institutions can take to prevent future PFAS discharges. For example, empowering consumers to avoid products containing PFAS will influence manufacturers to phase out their use."
- "Ensure that potential risks, such as to users of fluorinated firefighting foam or wastewater treatment plant workers, are identified and communicated to the affected populations."

3.2 Amend Firefighting Foam Law, Wis. Stat. § 299.48

Background

It has been common practice since at least the 1970s to use PFAS-containing foams to fight flammable liquid (Class B) fires. PFAS-containing foams are extremely effective in this application and are an important firefighting tool. Most Wisconsin fire departments, and all commercial service airports, currently have and use PFAS-containing foams. However, the discharge of these chemicals into the environment during testing, training and live-emergency firefighting operations responses is a major source of PFAS contamination, which may pose risks to human and environmental health.

The federal government establishes standards for firefighting foam containing PFAS through the Federal Aviation Administration (FAA) and Department of Defense (DOD) for military installations and commercial airports. In the 2020 Defense Authorization Act, the federal government directed that the DOD find an adequate replacement of PFAS-containing foam with fluorine-free foam at military installations. After October 1, 2024 the military is prohibited from using firefighting foam containing PFAS, except for use on ships, in emergencies and in limited testing and training circumstances. The FAA Reauthorization Act of 2018 also directed the FAA to stop requiring the use of PFAS in aircraft firefighting foams within three years. States, like Washington, have passed laws prohibiting the use of PFAS-containing foams, except for the federal agencies required to use them for emergency response. However, once a non-fluorinated foam is approved by DOD and FAA for their use, states have the opportunity to prohibit the use of PFAS foam with no exceptions, even for emergencies or testing.

Wis. Stat. § 299.48, went into effect in February of 2020, and limits the use of PFAS-containing foams to testing and emergency situations. The law requires the Department of Natural Resources (DNR) to adopt emergency rules that establish appropriate




containment, treatment and disposal or storage measures for firefighting foam testing facilities by September 1, 2020.

The National Defense Authorization Act also establishes guidelines for the proper disposal of firefighting foam at military sites and directs the military to develop guidance to address these issues. Specifically, all incineration of firefighting foam containing PFAS chemicals must be conducted at a temperature range adequate to break down PFAS chemicals, while also ensuring the maximum degree of reduction in emission of PFAS chemicals and must be conducted in accordance with the Clean Air Act at a facility permitted to receive the waste. The Act requires the Environmental Protection Agency (EPA) to publish interim guidance on the destruction and disposal of PFAS substances and materials, which is expected before the end of 2020.

The Federal Aviation Administration (FAA) Reauthorization Act of 2018 was passed on October 5, 2018 and states that no later than three years after the date of enactment, the FAA shall no longer require the use of fluorinated chemicals (found in PFAS) to meet the performance standards accepted under federal regulations. As a result of this change, the FAA and FAA-regulated facilities will no longer be required to use firefighting foams that contain PFAS.

Action

WisPAC recommends amending Wis. Stats. § 299.48 pertaining to use of firefighting foam with intentionally added PFAS to include a deadline for the total prohibition of PFAS firefighting foam that would coincide with the federal government's deadline for prohibiting the use of PFAS foam. Legislation should prohibit using any surplus, PFAS-containing foam to coincide with the federal government phase out deadline. The state should assist fire departments with funds to transition their foam inventory to non-fluorinated foams.

 <p>Time to initiate</p>	<p>In the next legislative session, work to amend state law, similar to the state of Washington’s law, phasing out all PFAS foam with the federal deadline.</p>
<p>Proposed lead agency:</p>	<p>DNR with DMA, DOT and DHS</p>
<p>Proposed partnerships:</p>	<p>Airports (including WAMA), WSFA, WSFCA, fire departments and other interested members of the public.</p>
<p>Type of action</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: black; width: 100px; height: 100px;"></div> <div style="text-align: center;"> <p>Administrative (rulemaking)</p>  </div> <div style="text-align: center;"> <p>Administrative (operations)</p>  </div> <div style="background-color: black; width: 100px; height: 100px;"></div> </div>
<p>Reason for Action:</p>	<p>PFAS-containing foam is one of the most clearly identifiable and accessible sources of potential contamination by PFAS. Greater collaboration and understanding of the concerns of using PFAS-containing foams will result in: (1) reduced use and thus exposure to PFAS-containing firefighting foams and health risks for firefighters, and (2) reduced discharges of PFAS-containing foam to the environment, thus preventing costly environmental cleanups.</p> <p>This action and supporting work are in alignment with the current trajectory of laws and regulations dealing with PFAS-containing foams at the state and federal level.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that some additional resources will be needed for training and outreach.</p>
<p>Additional Information:</p> <p>The WI State Fire Chiefs Association has indicated a significant need for a list of Class B foams that are verified to be effective and PFAS-free</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p>	

- "Develop a H&S Plan: Minimizing firefighters and community risk of exposure to AFFF products; Develop education and information regarding fluorine free foam (FFF); Develop education and information on PFAS foams that are being marketed as "safe" or "safer"."

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- "Provide information and assistance to aid manufacturers, fire departments and other PFAS users to transition to products and processes that avoid harmful PFAS compounds"
- "Develop better education on how to prevent future PFAS discharges"
- "Push forward suggestions on steps people can take to...safely discard PFAS containing products...and respond to foam in waterways, for example."
- "Build awareness of actions that individuals, businesses and institutions can take to prevent future PFAS discharges. For example, empowering consumers to avoid products containing PFAS will influence manufacturers to phase out their use."
- "Ensure that potential risks, such as to users of fluorinated firefighting foam or wastewater treatment plant workers, are identified and communicated to the affected populations."

3.3 Develop and Apply Best Management Practices (BMPs) for Proper Handling of PFAS-containing Waste

Background

Due to their widespread use, and the approximate 5,000 individual chemicals within the PFAS group, these chemicals have many and varied pathways into waste streams and environmental media (e.g., groundwater and soil).

Determining the appropriate method for ultimate disposal, treatment, storage and containment methods for solid wastes and contaminated media (e.g., soil or groundwater) containing PFAS is a complex issue due to their varied volatility, solubility, and environmental mobility and persistence. Examples of PFAS waste includes contaminated soil, wastewater and groundwater, but also includes consumer products such as certain nonstick cookware, personal care products, grease-resistant papers, stain-resistant carpeting, textiles and furniture as well as industrial byproducts from PFAS use in manufacturing.

PFAS compounds can be found in either solid or hazardous wastes, or environmental media such as soil or sediments. It can be determined that a waste includes PFAS by waste generator knowledge, industry standards and safety data sheets, sampling and analytical information, or a combination of information sources. Presently, soil contaminated with PFAS is considered a solid waste, but not a hazardous waste. While other types of solid waste or contaminated media may have regulations that manage the materials from cradle-to-grave, given the emerging nature of PFAS those regulatory safeguards generally have not been put in place on a national or state level for PFAS.




Newly enacted Wis. Stat § 299.48 prohibits training with firefighting foam with intentionally added PFAS as of September 1, 2020. Further, it requires those that test PFAS-containing firefighting foam to have appropriate containment, treatment and disposal or storage measures to prevent discharges of foam to the environment. The Department of Natural Resources (DNR) is required to promulgate emergency and

permanent administrative rules to “determine the appropriate containment, treatment, disposal or storage measures for testing facilities... to prevent discharges of foam to the environment”.

Action

WisPAC recommends that guidance and best management practices be developed for generators of PFAS containing solid waste, and environmental media including wastes from manufacturing, water treatment systems and environmental cleanups, on proper disposal, storage and treatment methods that contain, destroy or permanently keep PFAS out of the environment. Once there is enough experience with those BMPs and EPA research has addressed several of the waste treatment and disposal issues, the DNR should amend the relevant portions of DNR’s administrative rule series to include standards for PFAS testing, sampling, lab certification, treatment, storage, disposal and transportation.

To ensure that resulting BMPs and any administrative rule amendments comprehensively address the handling of PFAS-containing waste and include practicable measures, consultation and collaboration with a broad set of partners is important. Early input from those who will use or be impacted by application of the BMPs and ultimately administrative rules is crucial to their successful development and implementation.

 Time to initiate	Aspects of this action item are already underway, but requires additional work to be fully implemented, including administrative rule amendments.		
Proposed lead agency:	DNR		
Proposed partnerships:	Regulated community, other states, EPA, local governments, consultants, university researchers, businesses, other states, and other stakeholders		
Type of action		Legislative 	Administrative (rulemaking) 
Reason for Action:	As noted above, this effort is meant to prevent further discharges and exposures by containing and managing waste properly. Until		

	<p>safe alternatives to PFAS are developed, these compounds are continuing to become part of the waste stream, leading to potential downstream environmental and health impacts.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that additional resources are required to fully implement this action, potentially including a specific biennial budget request for funds for staff and research.</p> <p>Additional staff time is needed to focus on collecting, analyzing, and presenting/summarizing data. Continuing staff time will be needed for public engagement, and to gather new information over time as more research results become available. Minimal funding may be needed for publications and roll out of information.</p>
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • “The WisPAC Action Plan should include a focused effort from regulators to develop guidance, BMPs and regulation specific to PFAS, including handling and disposing of PFAS waste from contaminated sites.” • “The WisPAC Action Plan should include development of Best Management Practices for biosolids landspreading and disposal options for PFAS-containing waste and wastewater.” • “The WisPAC Action Plan should require state agencies to... focus resources on research needed to better understand...and treatment and disposal.” <p>The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:</p> <ul style="list-style-type: none"> • “Develop better education on how to prevent future PFAS discharges” • “Research and develop best management practices for all parts of PFAS lifecycle (including treatment, disposal and destruction), including leachate and biosolids” • “Management of POTW/WWTP sludges and biosolids is a significant concern which may not yet be fully understood.” 	

- "Push forward suggestions on steps people can take to...safely discard PFAS containing products..."
- "Develop outreach to assist manufacturers in identifying and potentially avoiding materials and processes throughout the supply chain that may contribute to PFAS releases."

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3.4 Identify PFAS Sources and Reduce Discharges to Wastewater Facilities

Background




Wastewater treatment facilities, as built in the last several decades, were not built to treat or destroy PFAS contaminants to the levels that would otherwise be considered protective. For the most part, PFAS is not treated or destroyed in a wastewater facility; more likely PFAS substances simply pass through by bio-accumulating in the solids of the facility or being discharged to surface waters with little or no reduction in concentration. PFAS-containing biosolids are dewatered and applied to farm fields in compliance with standards that were not developed to address safe application of PFAS. As a result, there are concerns about impacts of these PFAS-containing biosolids to groundwater, drinking water, surface water, sediment and soil, and the resultant impact on humans and the environment.

First and foremost, it is important to educate businesses that dispose of wastewater via a Wisconsin Pollutant Discharge Elimination System (WPDES) permit and the municipalities that accept it regarding the need to know the products and by-products they are dealing with, and whether they contain PFAS. For those businesses that must rely on PFAS-containing products, efforts are needed to use pre-treatment to minimize or eliminate the discharge of PFAS to the wastewater facility. Lastly, wastewater treatment facilities may need to sample their influent to determine which businesses may be contributing unintended levels of PFAS to the Wastewater Treatment Plant (WWTP).

Action

WisPAC recommends the following actions, in order of priority (higher to lower):

1. Work with municipalities, WPDES holders and businesses to identify PFAS substances in their products and processes, and to minimize or eliminate those sources to the extent possible.

<p>2. Sample the influent from those businesses to the WWTP to identify sources, and to work with them on changing processes, products or eliminating PFAS discharges.</p> <p>3. Work with municipalities to evaluate the primary PFAS sources contributing to the WWTP, identify those and take educational or regulatory measures to address those discharges.</p>		
 Time to initiate	Can be implemented immediately	
Proposed lead agency:	Department of Natural Resources	
Proposed partnerships:	Municipalities, WPDES permit holders, businesses	
Type of action	Budgetary 	Legislative 
Reason for Action:	Minimizing the amount of PFAS that goes into a wastewater treatment plant and effectively treating the remainder will help mitigate the inadvertent discharge of PFAS contaminants through land spreading of biosolids or discharge of PFAS containing effluent.	
Anticipated resource needs:	It is expected that <u>additional</u> budget needs are required to fully implement this action, including funding for sample analysis	
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> The Action Plan should also include investigation of regulatory tools local governments and/or the DNR could use to reduce the volume of PFAS pollutants discharged into sewer systems. This could include the development of model ordinances for implementation of those regulatory tools, where practicable. The Action Plan should also include development of a model Industrial User Survey, which would assist POTWs in identification of potential sources of PFAS that contribute to the sewerage system. 		

4.1 Develop PFAS Risk Communication

Infrastructure






Background

Comprehensive and proactive risk communication through accessible channels to impacted businesses and communities is a key variable in supporting Wisconsin across both the economic and public health impacts of PFAS contamination. The need for effective risk communication was called out by Governor Evers in Executive Order #40, where he requested that the state develop a public information website specific to PFAS.

Action

WisPAC recommends that the state undertake measures to develop PFAS risk communication and public education infrastructure. This includes the following items:

- Construct and launch of a central PFAS website supported by all relevant state agencies;
- Create a unified, multi-agency communication strategy that will outline the development and implementation of targeted messaging and communication materials to engage the public, local governments and businesses;
- Engage state agencies, school districts and boards to share PFAS-related educational materials with K-12 programs, modeled after standing initiatives like Green & Healthy Schools Wisconsin;

<ul style="list-style-type: none"> Involve the public in legislative decisions and rulemaking through listening sessions, public comment periods and other opportunities for active engagement, hosted through accessible virtual platforms such as Zoom web conferencing. 							
 Time to initiate		Can be implemented 7-12 months from now					
Proposed lead agency:		DNR					
Proposed partnerships:		Department of Health Services (DHS); Department of Public Instruction (DPI); School Districts; Local Government (including Local Health Departments); Local Media; Community Organizations; Stakeholder Groups					
Type of action		Budgetary 	Legislative 		Administrative (operations) 		Other 
Business Case:		Communication and education are important steps toward building an empowered and informed public that can self-advocate and work within individual communities or industries to assess and understand risks, work to solve problems and grow new and better infrastructure.					
Anticipated resource needs:		It is expected that <u>some additional</u> staff and financial resources are required to implement this action, including: <ul style="list-style-type: none"> Staff time dedicated to participating in a task force, building a website and creating a communication strategy and associated materials Funding for the creation and dissemination of information through multiple channels 					
Additional Information:							
Risk communication was one of the most common themes addressed in comments received from the public during WisPAC’s initial public outreach via online survey in							

February 2020. Comments fielded in the public survey identified a lack of consistent, accessible, accurate and up-to-date information as a significant impediment to assessing risk and enabling families and communities to make decisions. Additionally, survey submissions as well as comments offered in the local government and citizen advisory group meetings pointed to the need for general outreach efforts to be undertaken with an awareness to the challenges that underprivileged and minority communities face in gaining access to information, including language barriers. WisPAC was also advised by these groups to be mindful of the sovereignty of our tribal partners and to offer them the information and resources they need to manage the impacts of PFAS contamination in their communities as they see fit.

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4.2 Facilitate Environmental Justice and Health Equity in Wisconsin Communities

Background








While health studies have determined that PFAS substances are detectable in the blood of 98% of the human population, further studies have shown that communities of color and low-income communities are disproportionately impacted by PFAS contamination. In Executive Order #40, Governor Evers emphasized that PFAS is widespread and has been “detected in several counties, cities, villages and towns throughout Wisconsin”, “including in drinking, ground, and surface water and the tissue and blood of fish and wildlife”. In the “absence of federal enforceable regulatory standards” there is a “need for unified response from the executive, state agencies, and the legislature to protect public health and state natural resources.” It is the responsibility of the state government to be mindful of systemic bias and to ensure that the allocation of information and resources is equitable between impacted communities.

Action

WisPAC members recommend the following actions can be taken to better address environmental justice and health equity.

- *WisPAC* – Environmental Justice and Health Equity Advisory Group
 - Create an Environmental Justice and Health Equity Advisory Group with members from WisPAC agencies that is representative of communities of color, low income communities, and those working to reduce disparities and improve outcomes
 - Coordinate with the Governor’s Health Equity Council as appropriate
- *All Agencies* – Community Participation
 - Ensure opportunities for community participation through listening sessions, advisory bodies, etc.
 - Specific outreach to and engagement with:
 - Youth
 - Low-income communities

- Communities of color
- Tribal Nations
- *All Agencies* – Accessible Information
 - Ensure more information is available and there is a better understanding of areas and populations impacted
 - Use US Census tract data whenever possible; zip code next best option
 - Assure information is accessible and written in plain language
 - Assure culturally and linguistically accessible and informed resources
- *All Agencies* - Community Resources
 - Ensure services are available for communities (and developed with/by communities); e.g., water access when wells are deemed unusable, food alternatives when consumption advisories are issued, etc.
- *DHS in partnership with Relevant Agencies* – Community Risk Assessments
 - Make it simple and convenient for communities to request and receive a (health) risk assessment
- *DOJ* – Legal Action
 - Take appropriate legal actions for companies responsible for PFAS discharges

 Time to initiate	Immediate and ongoing					
Proposed lead agency:	All Agencies					
Proposed partnerships:	Community organizations, general public					
Type of action	Budgetary 	Legislative 	Administrative (rulemaking) 	Administrative (operations) 	Research 	Other 
Reason for Action”	Clean water, natural resources and public health for all are an imperative for the Governor, the legislature, and the people of Wisconsin. We share one Wisconsin and we need to be united in the pursuit of healthy communities.					

	<p>Systemic and structural racism have made communities of color and low-income communities more vulnerable to pollution. These communities often have fewer resources to help mitigate known problems, especially as communities are often required to pay for the testing and clean-up.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that <u>additional</u> staffing/budget/training/other are required to fully implement this action, including:</p> <ul style="list-style-type: none"> • Funding for potential new projects, additional resources to projects that are underfunded; additional resources for translation and additional outreach • Training for existing staff; potentially additional staff resources needed to support additional outreach to and engagement with communities (e.g., advisory bodies, citizen groups, etc.) • Translation and interpretation services
<p>Additional Information:</p> <p>Submissions through the public survey identified a need to address environmental racism and disproportionate harm to underprivileged and minority communities caused by PFAS contamination.</p> <p>Other states have leveraged funds derived from environmental litigation to support communities that have been impacted by PFAS contamination.</p>	

4.3 Develop and Promote New Partnerships to Increase Understanding of PFAS

Background

While our understanding of the environmental occurrence and impacts, human exposures and health risks, and valid mitigation and remediation approaches associated with PFAS in Wisconsin continues to grow, there remains much to learn. Wisconsin has a strong history of collaboration among state agencies, academic institutions, and other organizations on multidisciplinary approaches to understanding and addressing complex, technical challenges inherent to environmental issues, like PFAS.

Action




WisPAC recommends that new partnerships be formally created that draw from all levels of Wisconsin's government, academic organizations and other stakeholders to expand our understanding of PFAS in Wisconsin and advance solutions to the complex challenges they pose to society.

The partnerships, comprised of varied interested parties, could take the form of:

- Topical workgroups focused on addressing specific PFAS-related issues (an example of which might be implementation teams focused on Action Items within this plan)
- Information and knowledge sharing forums
- Applied research and innovation incubators used to bring new technical solutions into use
- Collaborative communications hubs that ensure the availability of consistent and comprehensive information on PFAS
- Coordinated regional collaboration across the Great Lakes states
- Volunteer groups – focused within communities or more broadly – enabled to be a part of information gathering and sharing, propose and implement solutions, and engage with PFAS across agencies and partnerships

WisPAC is the “PFAS coordinating council” established by Governor Evers’ Executive Order 40, and as such is well positioned to bring together interested parties to help build these partnerships, and to provide a form of sponsorship. These partnerships should ensure the State is well-positioned to pursue funding opportunities that will contribute to these sustained efforts.

Partnership is the key to success in learning about and addressing PFAS in Wisconsin. Establishing shared goals and understanding each partner’s ability to contribute to those goals is central to that success.

 Time to initiate	<p>This action is already underway but requires additional and continuing work to fully implement.</p> <p>There are already ongoing conversations between some WisPAC member agencies (UW, WSLH, DHS, DNR) about enhanced collaboration to address research needs, and other partnerships are expected to form out of the implementation phase of this plan,</p>
Proposed lead agency:	DHS
Proposed partnerships:	All levels and branches of government, academic organizations, private sector, NGOs, and the public
Type of action	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="background-color: black; width: 150px; height: 40px;"></div> <div style="text-align: center;"> Administrative (operations)  </div> <div style="background-color: black; width: 150px; height: 40px;"></div> <div style="text-align: center;"> Other  </div> </div>
Business Case:	<p>Implementation of this recommendation will result in PFAS contamination concerns in Wisconsin being more comprehensively understood and responded to appropriately, protecting Wisconsin communities and ensuring solid science and data underlie public health assessment and environmental clean-up decisions.</p>
Anticipated resource needs:	<p>It is expected that some additional financial or in-kind support from some WisPAC member agencies, where appropriate, may increase the chances of securing funding through federal grant opportunities. Additional resources may be needed to ensure</p>

	accessibility to all partners, including through enhanced virtual connections and translated information and resources.
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Additional Information:

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- Encourage information sharing from and with Wisconsin DNR regarding remediation technologies

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4.4 Develop Exposure Reduction Recommendations for Public Sector Employees








Background

Certain occupations may lead to a higher chance of exposure to PFAS. For example, fire fighters (along with foresters and military personnel) may be exposed to PFAS from many sources including certain foams used during emergency operations, coatings used to make their turn out gear waterproof and amongst the many toxins emitted during a structure fire. A study by a United Nations Independent Panel of Experts concluded a PFAS study revealing that there is "unequivocal evidence" that firefighters using chemicals containing PFAS to fight fires have high levels of toxic chemicals in their blood in comparison to the general public.

Action

WisPAC recommends that DSPS, in conjunction with partner agencies, develop a working guideline to increase awareness around PFAS for certain higher-risk public sector employees and to reduce their overall risk of exposure.

A priority is to address first responders – specifically those in firefighting operations – in this guidance. Over time, guidance for other types of workers will be developed. The guideline(s) will need to be modified as appropriate to reflect advances in research as they become available.

 Time to initiate	Already underway – but requires additional work.			
Proposed lead agency:	DSPS			
Proposed partnerships:	DHS, DOA, WANG, DOD,			
Type of action	<table border="1"> <tr> <td data-bbox="509 1715 974 1879"></td> <td data-bbox="974 1715 1279 1879"> Administrative (operations)  </td> <td data-bbox="1279 1715 1432 1879"> Other  </td> </tr> </table>		Administrative (operations) 	Other 
	Administrative (operations) 	Other 		

<p>Business Case:</p>	<p>Protecting the state’s first responders from preventable exposures will benefit the individuals, their families and communities that they serve.</p> <p>Many states have already implemented either full or limited prohibitions and bans on the use of PFAS-containing firefighting foam; and there are fluorine-free foams being used in Europe, England and Australia.</p> <p>In the 2020 NDAA, there were many provisions that emphasized the importance of transition and development of AFFF alternatives.</p>
<p>Anticipated resource needs:</p>	<p>No special funding is necessary. A single staff person can prepare initial guideline with assistance from partner agencies. Expansion to consider a more comprehensive list of emergency and other types of professionals might require additional resources.</p>
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • Develop a H&S Plan: Minimizing firefighters and community risk of exposure to AFFF products; Develop education and information regarding fluorine free foam (FFF); Develop education and information on PFAS foams that are being marketed as “safe” or “safer”. • The most significant action we need to take today is to remove these chemicals of emerging concern from commerce <p>The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:</p> <ul style="list-style-type: none"> • Ensure that potential risks, such as to users of fluorinated firefighting foam or wastewater treatment plant workers, are identified and communicated to the affected populations. 	

4.5 Enhance Collaboration Between Wisconsin and Federal Agencies on PFAS Relating to Military Installations

Background

There are several military installations in Wisconsin where there are known or suspected PFAS contamination concerns. The Wisconsin Department of Natural Resources (DNR) and Wisconsin Department of Health Services (DHS) have positive working relationships with the Department of Defense (DOD), United States Geological Survey (USGS), and Wisconsin Air National Guard (WANG), in the Department of Military Affairs (DMA), on addressing traditional contaminants at their sites, such as petroleum and volatile organic compounds. With the passage of the National Defense Authorization Act (NDAA) in 2020, all parties would benefit from enhanced collaboration on PFAS and improved understanding of the resources in, and expectations set forth in, the 2020 NDAA to successfully investigate and cleanup impacted sites in Wisconsin.

Action

WisPAC recommends that the state of Wisconsin, including the DNR, DHS, and WANG should establish a formal working group with the relevant military service branches of the DOD and, as appropriate, the USGS to enhance collaboration on and implementation of PFAS initiatives in Wisconsin. There are many resources and tools identified in the 2020 NDAA, that could be initiated in the state. This group should explore which tools would aid in collaboration on PFAS policies, and ultimately how this would help the public and governmental entities with addressing PFAS contamination at military sites and national guard installations.

Specifically, the 2020 NDAA establishes several initiatives that are required of certain federal agencies, pertaining to PFAS. This information is beneficial to the public, as it provides tools, resources and deadlines for limiting and phasing out the use of PFAS in firefighting foams and conducting research and developing guidance on PFAS use and cleanup. The NDAA establishes deadlines and limitations on training and testing with


PFAS-containing. In addition, it contains opportunities for state and DOD collaboration, such as:

- SEC. 332. COOPERATIVE AGREEMENTS WITH STATES TO ADDRESS CONTAMINATION BY PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES. (a) COOPERATIVE AGREEMENTS.— (1) IN GENERAL.—Upon request from the Governor or chief executive of a State, the Secretary of Defense shall work expeditiously, pursuant to section 2701(d) of title 10, United States Code, to finalize a cooperative agreement, or amend an existing cooperative agreement to address testing, monitoring, removal, and remedial actions relating to the contamination or suspected contamination of drinking, surface, or ground water from PFAS originating from activities of the Department of Defense by providing the mechanism and funding for the expedited review and approval of documents of the Department related to PFAS investigations and remedial actions from an active or decommissioned military installation, including a facility of the National Guard.
- SEC. 7333. NATIONWIDE SAMPLING. (a) IN GENERAL. — The Director shall carry out a nationwide sampling to determine the concentration of highly fluorinated compounds in estuaries, lakes, streams, springs, wells, wetlands, rivers, aquifers, and soil using the performance standard developed under section 7332(a). (b) REQUIREMENTS.—In carrying out the sampling under subsection (a), the Director shall— (1) first carry out the sampling at sources of drinking water near locations with known or suspected releases of highly fluorinated compounds; (2) when carrying out sampling of sources of drinking water under paragraph (1), carry out the sampling prior to and, at the request of the Administrator, after any treatment of the water; (3) survey for ecological exposure to highly fluorinated compounds, with a priority in determining direct human exposure through drinking water; and (4) consult with— (A) States to determine areas that are a priority for sampling; and (B) the Administrator— (i) to enhance coverage of the sampling; and (ii) to avoid unnecessary duplication.



Time to initiate

To be determined, based on more specific implementation planning.

Proposed lead agency:	DNR		
Proposed partnerships:	DHS, DMA including WANG, Federal DOD, and USGS		
Type of action		Administrative (operations) 	
Reason for action:	There are several federal and state military installations that have confirmed or have the potential for PFAS contamination that requires investigation and cleanup in Wisconsin. Establishing a more formal, collaborative partnership that maximizes the resources and tools established in the 2020 NDAA and other sources will accelerate the cleanup of these sites, increase the transparency of all parties' efforts and clarify the environmental standards that apply to the sites.		
Anticipated resource needs:	It is expected that additional staffing or reallocation of staff time is required to fully implement this action.		
Additional Information:			
Cooperative agreements will be more effective with the promulgation of enforceable standards for groundwater that are currently being developed.			

5.1 Collaborate on and Implement Research

Background

PFAS are a class of emerging contaminants. While it is known that some PFAS have significant prevalence, stability, toxicity, and mobility concerns, the degree and extent of these properties in various media and various PFAS compounds are still poorly understood. This limited understanding has resulted in the following unique issues:

- **BASELINE DATA:** Since PFAS sample collection and analysis is an emerging science, there is limited information on PFAS concentrations state-wide for all environmental matrix types. Knowing these PFAS baseline concentrations is required to move forward and make informed decisions about monitoring and regulation. The Wisconsin Department of Natural Resources (DNR) is in the process of developing standards for groundwater, drinking water, soil, and surface water, but generally only for two (PFOA and PFOS) of the over 5,000 known PFAS compounds. There is a need to expand toxicological information for more of the commonly detected PFAS, as well as document their presence in other media such as air, fish and wildlife tissue, sediment, human blood, or landfill leachate.
- **VARIABILITY:** As a result of their significant mobility, persistence, and prevalence, PFAS are detected in almost all the above-referenced media. There is a need to better understand the variability of PFAS concentrations that can exist in such media and the factors that enhance or limit PFAS migration between media. Otherwise it can be difficult to interpret sampling results from potential source areas.
- **REMEDICATION:** The significant general mobility and toxicity of PFAS, limited understanding of their fate and transport, significant differences between individual PFAS compounds, and highly stable chemical structures (PFAS are extremely difficult to degrade or remediate and do not degrade naturally), have resulted in issues associated with treatment and disposal of PFAS-impacted media. At this time, PFAS are difficult to remove from these media and known PFAS-impacted media are all disposed at out-of-

state locations. There is also a need to better understand which types or suites of PFAS are associated with specific industries.

- **ANALYTIC CAPACITY:** While the DNR currently offers laboratory certification for a suite of 36 PFAS compounds and may adopt an expanded suite once the Environmental Protection Agency (EPA) finalizes its new method, this list only includes a small fraction (albeit the most common) of the over 5,000 known PFAS compounds. Even with this limited list of analytes, PFAS analyses are expensive and time consuming compared with many other types of analyses.
- **COORDINATION & COLLABORATION:** While PFAS-associated research is being done by the University of Wisconsin System, Wisconsin State Laboratory of Hygiene (WSLH), private entities, US EPA, other states and other groups outside the State of Wisconsin, there are significant challenges associated with obtaining research funding, tracking research, and avoiding duplication of efforts.

While limited research has been conducted, significantly more is needed in order to address these issues, and likely others in the future.

Action

WisPAC recommends several activities that falls within three categories: 1) Wisconsin-Specific PFAS Research, 2) General PFAS Research, and 3) Collaboration

Wisconsin-Specific PFAS Research: State of Wisconsin entities (DNR, Department of Health Services (DHS), UW System (including the various campuses, UW Sea Grant, and WSLH), Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), etc.) are well poised to focus on issues that are specific to the State of Wisconsin. This includes the collection of samples from various media (soil, sediment, surface water (including wastewater and surface water along the Great Lakes), air, groundwater, biosolids, landfill leachate, fish and animal tissue, and human blood) throughout the state to gain a better understanding of the typical spatial distribution of PFAS concentrations in these media and between sub-media (e.g. groundwater from different types of aquifers or leachate from different types of landfills). The sampling will also likely reveal previously unidentified source areas so that they can be properly remediated or otherwise addressed.

General PFAS Research: The State of Wisconsin also benefits from PFAS-related research that is widely transferrable and generally conducted by university researchers both inside and outside the State of Wisconsin, or Federal agencies within WI working at regional or national levels.

Some areas of general PFAS research that have been identified as priorities include, but are not limited to, the following:

- Fate and Transport: A better understanding is needed of how different PFAS compounds migrate within and between environmental media such as air, surface water, sediment, wastewater, stormwater, groundwater, soil, biosolids, fish and animal tissue, and humans. These migration patterns are complex because they depend upon the type of PFAS compound, the type of media, and the specific chemistry of that media. This fate and transport understanding will partially guide the development of future standards for the various media.
- Fingerprinting: Specific manufacturing processes and the timeframes linked to those processes are associated with specific suites of PFAS compounds that vary between media. However, these correlations are poorly understood at this time. Fingerprinting research will enable regulators to identify potential primary (e.g. direct discharge by manufacturers or from firefighting foams) and secondary (e.g. landfills, biosolids and compost spreading sites, and wastewater treatment plants) sources based upon the relative concentrations of various PFAS compounds and remediate those sources. Fingerprinting will also help identify the standard and/or site-specific suite of PFAS compounds that DNR needs to require for laboratory analysis.
- Remedial and Treatment Technologies: The DNR's Remediation & Redevelopment Program regulates several sites with PFAS impacts. The degree and extent of remediation conducted at these sites depends largely upon the feasibility of various remedial methods, per Wis. Admin. § NR 722.07(3). A better understanding of the availability of remedial technologies and their effectiveness dependent upon the various PFAS compounds (e.g. short chain vs. long-chain PFAS compounds) and media is needed in order to facilitate the maximum degree of remediation, treatment of drinking water, and proper disposal of PFAS-impacted media. This will be an ongoing area of research as new PFAS remedial technologies are constantly being developed, tested, and




implemented. A better understanding of remedial technologies will be particularly important for potentially impacted potable water sources. Other possible benefits of remediation and treatment advancements include reducing the spread of PFAS away from source areas and reducing the total mass of PFAS that is circulating in the environment, which is important because PFAS do not degrade under naturally occurring conditions.

- Source Reduction: A better understanding of which consumer products contain PFAS and the necessity of those PFAS compounds or availability of substitute compounds in the manufacturing processes would allow the State of Wisconsin and other entities within the state reduce their own discharges.
- Laboratory Analysis: With over 5,000 known PFAS compounds, it is not currently possible to include every single PFAS compound on the standard analyte list. Furthermore, laboratory analytical standards do not exist for most PFAS, making quantification of these substances not currently possible. The DNR certifies laboratories for PFAS analysis, based partially upon the list of analytes reported. While this list may continue to be expanded or refined based upon better understandings of the most common PFAS in various situations, currently available technology does not make it possible to analyze for every individual PFAS compound. The identification and implementation of various PFAS screening tools (e.g. new measurements of total organic fluorine) for different situations (by WSLH or external entities) that are both accurate and cost effective could lead to efficiencies in other areas of research. The WSLH's integration with a major research university is rare among environmental laboratories. As a result, it is in a unique position to advance laboratory screening methods (e.g. efficient analyses of "total organic fluorine") that may not be deployed by EPA. The State of Wisconsin and rest of the nation would benefit from the development of new and better screening methods.

Collaboration: Research will require significant funding and the various entities will need to collaborate in order to identify priorities, avoid duplicating efforts, and leverage funding for those priorities. WisPAC is therefore recommending the establishment of an interagency research group with appropriate representatives from the UW system and state agencies that will collaborate on research opportunities, share and discuss the results of PFAS-related research conducted within and outside the State of Wisconsin, and discuss how those results should be applied within the State of Wisconsin. The UW system and/or Wisconsin

Groundwater Coordinating Council could serve a major role in this coordination, or used as a model for a more formal research group. This interagency workgroup should share a database that identifies UW System researchers, their expertise, and equipment in order to facilitate partnering and pursuing large external funding opportunities. The database could also include a list of entities that could assist with sampling such as teachers and possibly students. The cost of PFAS analysis may be prohibitive at smaller campuses, since PFAS analysis requires specialized analytical devices that are not available in all labs. The State of Wisconsin would benefit from additional funding, sharing of equipment, and/or discounted analysis rates at WSLH since obtaining funding is a slow and very competitive process.

This collaboration will also need to include external entities such as the Great Lakes PFAS Task Force, Environmental Council of the States (ECOS), United States Geological Survey (USGS), and EPA Office of Research and Development (ORD) as the PFAS-related research accelerates in future years. For example, the USGS will be collecting samples from various media throughout the state for PFAS analysis as part of the 2020 National Defense Authorization Act (NDAA). The planning and results of these sampling efforts will require significant collaboration and information sharing.

 Time to initiate	To be determined, based on more specific implementation planning.		
Proposed lead agency:	DNR		
Proposed partnerships:	WSLH, UW System, DHS, and DATCP		
Type of action	Budgetary 		Research 
Reason for action:	PFAS contamination throughout the State of Wisconsin is prevalent and can therefore be a significant threat to human health and the environment. A better understanding of PFAS properties and source types in general, as well as their abundance and prevalence at sites in Wisconsin, is vital in order to identify sources, establish appropriate health-protective interventions, minimize exposure to		

	<p>humans and ecosystems, mitigate historical discharges, and limit future discharges. Efficiently obtaining and tracking the vast amounts of PFAS-related information and obtaining research funding will require significant collaboration and communication between entities both inside and outside the State of Wisconsin.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that some additional staffing and budget are required to fully implement this action. Funding will be needed to support research efforts and access to PFAS analysis from the WSLH or other laboratories. Additional staff time and funding would also be needed at the WSLH in order to develop, validate, and implement a PFAS screening method and associated instrumentation. An emerging contaminants faculty member (or more) within the UW system would be helpful in order to lead Wisconsin research efforts. Identifying and sharing results of external research will require less funding but will still require significant staff time, particularly as the results of research are implemented into future rulemaking and other policy developments. This would likely result in the need for additional positions.</p>
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • “The WisPAC Action Plan should direct state researchers to gather and assess data on chemical toxicity and environmental exposures for PFAS of highest concern; health impacts, and the effectiveness and cost of different technologies for treating or removing PFAS from different media.” • “We need to better understand the complex science of PFAS total exposure and impacts, verifiable analytical methods, and real-world risk before providing common health standards.” • “The WisPAC Action Plan should require state agencies to inventory existing research, identify gaps and focus resources on research needed to better understand toxicity of discontinued PFAS (e.g. PFOA and PFOS) and 	

replacement compounds (e.g. GenX and PFBS), occurrence, laboratory analytical methods, and treatment and disposal.”

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- “Research and develop best management practices for all parts of PFAS lifecycle (including treatment, disposal and destruction), including leachate and biosolids.”
- “Expand toxicology understanding.”
- “Management of POTW/WWTP sludges and biosolids is a significant concern which may not yet be fully understood.”
- “One suggestion was that State could consider utilizing available funding to broaden the explanation of PFAS use and industries that handle PFAS to better understand potential receptors.”
- “A PAG participant suggested that establishing sampling and analysis protocol should be a priority.”
- “Encourage information sharing from and with Wisconsin DNR regarding remediation technologies.”

Research was one of the most commonly addressed topics in comments received from the public during WisPAC’s initial public outreach via an online survey in February 2020.

5.2 Monitor Background Levels of PFAS in the Environment

Background

PFAS are persistent, water soluble, semi-volatile and bio-accumulative contaminants with physical properties that make them ubiquitous in the environment and highly mobile among various media (e.g., soil, groundwater & air). They are widely used in everyday products and packaging, as well as being present in a wide variety of industrial applications.



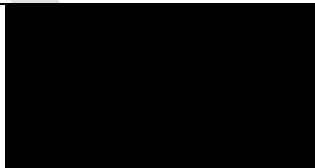


The Wisconsin Department of Natural Resources (DNR), Wisconsin Department of Health Services (DHS) and Wisconsin State Laboratory of Hygiene (WSLH) Lab, in partnership with researchers across Wisconsin, have been conducting PFAS monitoring for the past few years. However, most of these investigations have focused around known or suspected contaminated sites. There are likely numerous sources of PFAS contamination across the State of Wisconsin, and the background – or ambient – levels across all media (e.g., air, surface water, wastewater, biosolids, drinking water, groundwater, foam, soil, sediment, fish and stormwater) remain undetermined. Many states, such as Minnesota and Michigan, have and are undertaking statewide sampling of soil, drinking water, surface water and other media to understand the prevalence of these compounds in our environment, including fish and wildlife.

Action

WisPAC recommends that background PFAS concentrations be measured across a variety of environmental media, so that a baseline can be established against which potential contamination levels can be evaluated. Environmental monitoring and targeted research are required to enable an understanding of ambient concentrations of PFAS in all media across Wisconsin and any broad geographic trends. In the past, DNR has done such ambient sampling to determine ambient or background levels of arsenic, lead, PCBs and mercury. Assessments should be made of the following environmental media:

- Air
- Surface water
- Wastewater
- Biosolids
- Drinking water
- Groundwater
- Soil
- Sediment
- Fish
- Wildlife
- Other Biota

The specific approach(es) by which each medium listed above would have ambient PFAS levels examined is provided in the “Additional Information” section at the bottom of this action item.

 Time to initiate	The collection of ambient samples can be initiated 1 – 6 months from now			
Proposed lead agency:	DNR			
Proposed partnerships:	DHS, Environmental Protection Agency (EPA), United States Geological Survey (USGS), University of Wisconsin (UW), WSLH			
Type of action	Budgetary 		Administrative (operations) 	Research 
Reason for action:	Wisconsin citizens will benefit from the knowledge of ambient background PFAS concentrations across the state in relation to where they live, work and recreate. Investigating ambient background concentrations in different media will allow for the identification of locations that are relatively free of PFAS. Further, the ability to compare these locations with more contaminated areas could result in a greater understanding of their relative			

	impacts to human health and the environment, and to identify sources.
Anticipated resource needs:	<p>It is expected that additional budget and staff resources are required to fully implement this action, including:</p> <ul style="list-style-type: none"> • State and federal funds to support the necessary research and analysis of field samples • Additional staff and staff time to collect, analyze, and summarize data

Additional Information:

How ambient levels could be assessed for specific media:

- **Air:** PFAS are semi-volatile compounds, and deposition chemistry of such compounds is complex and influences their rate of atmospheric deposition to land and water surfaces. In addition to ambient deposition monitoring, Wisconsin is among the states that need to better understand atmospheric deposition and, potentially, volatilization rates. The DNR’s Air Management program is learning from legal actions in other parts of the country and working through existing partnerships, defined processes and legal authority to determine a comprehensive plan to support greater understanding of the air pathway of PFAS exposure.

Specifically, the DNR is working with the Wisconsin State Laboratory of Hygiene and EPA Office of Research and Development testing the viability of ambient air monitoring methods (wet and dry deposition) while gaining an understanding of background PFAS concentrations in Wisconsin. Additionally, combined with department efforts across other media, air expects to provide broader understanding of the air contribution to PFAS contamination in Wisconsin.

- **Surface water:** The Long-Term Trend (LTT) Rivers network watersheds cover 80% of the total land area of Wisconsin, as such these sites cover broad geographic and land use conditions. Adding PFAS chemistry data to these sites would allow the estimation of ambient PFAS concentrations in Wisconsin’s large rivers and identify watersheds that are contributing higher than average conditions. Adding additional

sampling (seasonal) or waterbody types (lakes) would increase our confidence in discerning ambient conditions from contamination that requires further investigation.

- **Wastewater:** Data on PFAS concentrations in both influent and effluent to and from industrial and non-industrial/municipal facilities will allow the department and permittees to make informed decisions on prioritization of interim efforts to address PFAS contamination and to accurately project economic impacts of current rulemaking efforts. Such data will also allow the department to identify which industrial categories are most likely to be PFAS sources, allowing other programs to better prioritize efforts as well. It is important to characterize both influent and effluent concentrations to support development of effective treatment and source reduction strategies and determine necessity of effluent limits.
- **Biosolids:** The DNR's Water Quality program needs to gather data on the concentrations of PFAS in biosolids from both POTWs (Publicly Owned Treatment Works) receiving industrial wastewater and those that do not receive industrial wastewater. Data on PFAS concentrations of industrial waste landspread by industries is also of interest. This data will inform prioritization of department actions and will allow the department to assess the impacts of any future policies or limitations on PFAS concentrations/loading rates of landspread biosolids or industrial waste. Also of interest is data and research on the fate and transport of landspread PFAS compounds, primarily focused on mobility and potential to leach to groundwater.
- **Drinking water:** The DNR Drinking Water Program needs information on background concentrations of PFAS attributable to the source water used for drinking water supplies, it's impact to public health, as well as the potential for plumbing materials and fixtures as a potential source of PFAS.
- **Groundwater:** Multiple state agencies and DNR programs need more information on the potential of PFAS levels in precipitation and air deposition from sources, both within and outside of Wisconsin, that may lead to some level of

"background" in groundwater not attributable to activities regulated in WI. When PFAS are detected in groundwater, we will need to be able to determine if a regulated activity needs to take action, or if an exemption is warranted under NR 140.28. For example, Wisconsin needs to gain an understanding of whether, or to what extent, PFAS is leaking from landfills, including older unlined landfills, construction and demolition landfills, and designed landfills with liners and leachate collection systems, into groundwater. A list of highest priority landfills for monitoring would be developed and the characterization of groundwater around highest priority landfills would be needed.

- **Soil:** The DNR's Remediation and Redevelopment Program needs soil samples in urban and rural areas with no known source activities present in order to determine background levels of PFAS. Additionally, current research suggests that PFAS behaves differently depending on the individual characteristics of a soil (e.g. pH, total organic carbon in the soil, percentage of clay in soils/grain size distribution); thus, in addition to sample collection in 'rural' and 'urban areas,' soil samples must be collected across a variety of soil types representing the types of soil present in Wisconsin in order to adequately characterize ambient PFAS levels in soils across the state. PFAS soil concentrations reported from areas with no proximal sources of contamination will help to distinguish between sources that are from contamination versus those that are background.
- **Sediment:** PFAS has an affinity for certain sediments and sediments may be an ongoing source of PFAS to surface water and groundwater contamination when PFAS is present. Further study is required to determine the background levels of PFAS in sediment in areas across the state with no known source activities. PFAS in sediment as a source to surface water and groundwater hinges on components of the hydrologic cycle (e.g. whether streams are gaining or losing or if they are intermittent or continuous flow); thus these studies would likely also include hydrologic characterization efforts (e.g. precipitation levels, determination of gaining or losing reaches) alongside PFAS analyses. In addition, as with soil, total organic carbon and grain size determine, in part, the sediment's affinity to hold or

release PFAS so total organic carbon and grain size should be included in any sediment assessment for PFAS.

- **Fish:** Eight inland lakes where 2020 fish contaminant sample collections are planned will also have water samples collected to be analyzed for PFAS. These paired fish and water chemistry data will be used to calculate statewide PFOS and PFOA bioaccumulation factors and is not specifically designed to monitor ambient or background PFAS concentrations. However, these sites may be less contaminated and may provide further data to assess ambient PFAS levels. Beginning in 2020, all fish sampled for contaminant monitoring purposes will also be analyzed for PFAS, which will help to determine concentrations in fish from both contaminated locations and locations with no known source activities.
- **Stormwater:** The Stormwater management program needs to determine the 'background' and/or current levels of PFAS-related compounds in urban stormwater runoff and sources of the PFAS-related compounds to identify whether, and what types of, Best Management Practices are necessary to meet protect water quality and meet requirements in ch. NR 216. Watershed Management is tasked with managing agricultural and stormwater runoff and associated water quality across the state, and has similar needs to the Water Quality and Office of Great Waters in understanding PFAS fate and transport.

The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:

- "PFAS sampling should be included in routine monitoring of rivers and lakes."
- "Higher levels (of PFAS) can be found in water and fish near facilities that manufactured, disposed or used PFAS. This requires differentiating high concentration sites from background concentrations."
- "The PFAS policy goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health. This requires differentiating high concentration sites from background concentrations and taking action to regulate and mitigate concentrations at high use sites."

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- "A PAG participant noted that determining background concentrations is important."

DRAFT

5.3 Collect Data on Drinking Water Treatment and Costs

Background


As a result of known and potential future PFAS detections in the public water supply, some utilities may need to adopt additional water treatment measures that result in capital investment and/or additional operating costs. At present, unless a utility creates separate subaccounts, information about utilities' treatment costs and plant values are reported as aggregate numbers on Annual Report financial and operating pages (Public Service Commission (PSC) is the primary agency responsible for regulating this reporting). In other words, it is challenging to assess and characterize financial need to respond to PFAS, yet this information would help water utilities secure financial support from the state in the face of tight budgets and new health and safety requirements.


Action

WisPAC recommends that PSC work with the Department of Natural Resources (DNR) to identify information gaps and determine appropriate approach for collecting data regarding PFAS treatment options and associated costs, as well disseminating this information broadly in a transparent and accessible manner.

Other efforts such as ongoing treatment research, public drinking water sampling, and the development of a guidance document by DNR regarding treatment options will help inform the magnitude of the issue and appropriate treatments to be addressed.

Options of ways to implement this action include revising appropriate PSC Annual Report pages and support materials, conducting a survey of utilities or undertaking other similar actions to develop this information and make it available.

 Time to initiate	Ready to implement now
Proposed lead agency:	PSC
Proposed partnerships:	DNR

Type of action		Other 
Business Case:	<p>Better understanding of drinking water utility costs could help develop a baseline of current treatment costs and activities.</p> <p>Additional data may help better dimension the statewide scope of financial challenges facing drinking water utilities in meeting emerging regulatory requirements and could potentially be used to direct federal funding to Wisconsin in the future.</p>	
Anticipated resource needs:	<p>It is expected that no specific additional resources are required to fully implement this action.</p>	
Additional Information: None.		

DRAFT

6.1 Develop and Support Product Stewardship Mechanisms to Reduce PFAS Use

Background

The manufacture of products containing PFAS is widespread – including textiles in clothing and furniture, nonstick cookware, personal care items, and grease resistant food and non-food paper packaging.

The use of PFAS compounds in industrial manufacturing occurs in the United States, but these compounds also appear in products imported from elsewhere. PFAS compounds are extremely effective toward their intended purpose, but there is concern that their continued use poses a risk to public health and the environment. PFAS-containing products also often enter the environment resulting from end-of-life disposal of consumer products through landfilling or composting.

Many consumers believe they are not given enough guidance on which products are safe to use, and which are not. Others would like to minimize the purchase and use of PFAS-containing products. There are currently no clear PFAS labeling standards and manufacturers are not required to divulge proprietary compounds which contain PFAS. The issue of consumer protection and end-of-product-life management of PFAS has raised questions about where and when these compounds can be permitted in manufacturing, and what standards or regulations should be put in place for product labeling.

PFAS-containing paper products are a heightened concern. There are approximately 25 paper companies operating mills at over 30 locations in Wisconsin. There are also approximately 200 converters that operate facilities in the state. Converters take paper produced at a mill and change it to a finished product. These products are as varied as art paper, food packaging, tissues and towels, medical papers, industrial papers, and printing and writing paper.

While some long-chain PFAS have been recently regulated or phased out of production, these substances have been replaced with shorter-chain PFAS that also may affect human health and the environment. Even when some of these longer-chain PFAS have been regulated or phased out, many recycled products potentially contain the longer-chain PFAS from both older recycled products and from products imported from other areas of the world. Additionally, the equipment and infrastructure (e.g., drains and piping) at these facilities may be contaminated with longer-chain PFAS (e.g., PFOA or PFOS), even though the facility no longer uses that type of PFAS substance.

As of July 31, 2020, the US FDA has announced the voluntary 3-year phase-out of some short-chain PFAS compounds found in grease-proofing agents on paper and paperboard food packaging.








Action

WisPAC recommends that the state of Wisconsin, working with other interested states, interested parties and the US EPA, determine essential, non-essential and substitutable uses of PFAS in manufacturing. Wisconsin and interested states should also develop a strategy to engage the federal government, product manufacturers and the waste industry in conducting a comprehensive analysis of the life cycle of PFAS products, from cradle to grave. Based on this information, the Wisconsin legislature should pass laws requiring responsible product stewardship and comprehensive and informative labeling to ensure that consumers are sufficiently informed to make healthful and environmentally sound purchasing decisions. The [Toxics in Packaging Clearinghouse](#) has draft model legislation available, based off of and already utilized by other states, to add PFAS as among regulated or banned chemicals.

More information and collaboration are needed to assist businesses that may be manufacturing or recycling products that contain PFAS. The State of Wisconsin should support companies as they look for alternative products or methods of manufacturing. This assistance could take the form of research and outreach by DATCP, DNR, and WEDC regarding the concerns associated with PFAS-containing products and viable alternative ingredients or products. The State of Wisconsin could also explore funding for businesses

to make equipment changes through grants or revolving loan funds. Small businesses may find it more costly to use alternative materials, particularly if new equipment is required to use the alternate materials.

Legislation could also be enacted to phase-out PFAS when suitable alternatives are identified. As examples, PFAS-containing paper products have been phased out through recent legislation in [Washington](#) and [Maine](#) in European countries like Denmark.

 Time to initiate	Can be implemented 1-6 months from now.					
Proposed lead agency:	DATCP, DNR, WEDC					
Proposed partnerships:	DHS, US EPA, Wisconsin Paper Council, Wisconsin Manufacturers and Commerce, and other states that are also working towards finding alternatives					
Type of action	Budgetary 	Legislative 	Administrative (rulemaking) 	Administrative (operations) 	Research 	Other 
Reason for Action:	<p>Consumers deserve to be able to make informed purchasing decisions that protect them from potentially hazardous substances that may appear in the products they purchase and use. In conducting a thorough analysis of the use of PFAS compounds in manufacturing, the state government will be equipped to ensure that the public is adequately informed and empowered in making healthy purchasing decisions. Businesses (including manufacturers) and governmental entities should have more clear information on the chemicals that make up the products that they purchase and then need to dispose of after the end of their lifecycle.</p> <p>A number of states have already passed legislation that regulates PFAS use in, but not limited to, food packaging, cosmetics, children’s products, and furniture. Some states have also worked to develop purchasing framework to prioritize avoiding toxic substances such as PFAS in state purchases.</p>					

	Federal authorities are also in the process of phasing out and banning the use of PFAS compounds.
Anticipated resource needs:	It is expected that some additional staffing and financial resources will be required to implement this action, including staff that is dedicated to identifying alternatives and work with specialized groups that are also working on this issue.
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • The LGAG recommends that Wisconsin follow the EU lead in developing an evaluation of PFAS-containing products, immediately phasing out “non-essential” PFAS use in products and only allowing continued use of “essential” PFAS in products until alternatives are developed with a deadline of 2030 to use only PFAS-free products • The WisPAC Action Plan should include listing PFAS as potential toxins and set strict product labeling requirements for manufacturers, distributors and retailers. The plan should also include confirmation testing of products to ensure manufacturers are reporting accurate information • The PFAS policy goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health • (Re: the PFAS policy goal) demands both a reassessment of products we produce and use daily, and a realistic assessment of how to control PFAS chemicals already in the background environment • The most significant action we need to take today is to remove these chemicals of emerging concern from commerce... 	

- Source reduction and pollution prevention can serve as the most efficient means of addressing the persistent background presence of PFAS and effectively limit future exposure to PFAS.
- The WisPAC Action Plan should require state agencies to inventory existing research, identify gaps and focus resources on research needed to better understand toxicity of discontinued PFAS (e.g. PFOA and PFOS) and replacement compounds (e.g. GenX and PFBS), occurrence, laboratory analytical methods...

The following comments or proposed actions related to this action were forwarded through the Citizens external advisory group:

- Provide information and assistance to aid manufacturers, fire departments and other PFAS users to transition to products and processes that avoid harmful PFAS compounds
- Consider necessity/value of full PFAS ban
- Provide better/more accessible information to the public on products containing PFAS
- ...empowering consumers to avoid products containing PFAS will influence manufacturers to phase out their use
- Develop outreach to assist manufacturers in identifying and potentially avoiding materials and processes throughout the supply chain that may contribute to PFAS releases.

Banning or phasing out PFAS use and PFAS-containing products was one of the most commonly addressed topics in comments received from the public during WisPAC's initial public outreach via an online survey in February 2020.





6.2 Minimize the state’s purchase of PFAS-containing products

Background

The state of Wisconsin and the University of Wisconsin System are significant purchasers of consumer products for dozens of its agencies. In order to minimize the introduction of PFAS into communities through materials purchased, disseminated or utilized by the university system and state government, Wisconsin should investigate its purchasing systems and contracts, and require manufacturers/suppliers to identify the volume and content of PFAS in those products.

Action

WisPAC recommends that the state and university system establish a policy that agencies should minimize or eliminate the purchase of PFAS-containing products, unless they are a necessity or other non-PFAS containing products are not available that can adequately and cost-effectively substitute. The state should incorporate this policy into the purchasing process and provide training to state employees and vendors.

 Time to initiate	Can be implemented in 7 – 12 months			
Proposed lead agency:	DOA			
Proposed partnerships:	All state agencies, including UW System			
Type of action		Administrative (operations) 	Research 	Other 
Business Case:	Wisconsin should be a leader in minimizing the purchase of PFAS-containing products as well as consumer education about the implications of PFAS products and should minimize or halt their use to the extent feasible.			

Anticipated resource needs:	It is expected that <u>some additional</u> staff time is required to implement this action, including: <ul style="list-style-type: none">• Staff time to create and maintain a list of verified PFAS-free products.
Additional Information: None	

DRAFT

7.1 Provide Support to Wisconsin Veterans to Address PFAS-related Health Risks

Background

The Department of Defense (DOD) began using Aqueous Film Forming Foam (AFFF) in the 1970s to fight fuel fires. The release of these chemicals into the environment during training and emergency responses is a major source of PFAS contamination of ground water on military bases. The DOD is currently conducting several tests of military sites across the nation to determine the extent of contamination and exposure, which has implications for the health of personnel working and living at these sites. In recent years, it has been discovered that PFAS bioaccumulate in the body and may pose a number of risks to human health, including developmental problems in fetuses and infants, certain types of cancer, reduced antibody response and kidney disease.

In North Carolina, Camp Lejeune found contaminants in the water from on-base leaking storage tanks, industrial activities, and an off-base dry cleaner. The wells were shut down in 1987, and the Caring for Camp Lejeune Families Act of 2012 was passed, which provides care and funding to veterans and their family members who lived on Camp Lejeune.

The DOD has identified eight sites in Wisconsin with known or suspected release of PFAS compounds. The main source of these compounds is PFAS-containing foams used in firefighting applications. These sites include:

- Badger Army Ammunition Plant (suspected)
- Fort McCoy
- General Mitchell Air National Guard Base
- Madison Air Support Facility
- Army National Guard




- Truax Field State Air National Guard Base
- Volk Field State Air National Guard Base
- West Bend Air Support Facility (Army National Guard)

Section 707 of the 2020 National Defense Authorization Act (NDAA) provided funding for blood testing for military firefighters. However, the legislation does not address potential PFAS-related issues for military veterans or non-firefighter personnel exposed to PFAS.

Action

WisPAC recommends that a program be implemented for Wisconsin Veterans that is similar to the one established by the Caring for Camp Lejeune Families Act in North Carolina, which afforded health-care provisions for potentially exposed individuals. The program would consist of three components:

- Blood testing for PFAS for Wisconsin military active duty and veterans that have a higher likelihood of significant PFAS exposure based upon their military occupational specialty (e.g. firefighters or other handlers of fluorinated foams)
- Enhanced funding and availability of medical services and disability benefits to address potential PFAS-related health issues for military personnel and veterans with elevated levels of PFAS in blood
- Outreach efforts to make veterans aware of these services

 Time to initiate	Can be implemented 7 – 12 months after funding is available.		
Proposed lead agency:	Department of Veterans Affairs		
Proposed partnerships:	Department of Military Affairs, Wisconsin Air National Guard		
Type of action	Budgetary 		Administrative (operations) 

<p>Reason for Action:</p>	<p>While military firefighters have been provided with some measure of PFAS-related health provisions through the federal government, a gap exists for service members and their families that might have been negatively impacted by the use of PFAS on military bases. Wisconsin veterans and family members might be at increased risk of developing long-term health issues, including cancer, not only because of exposure through their military assignments, but also from living in military housing that utilizes contaminated potable water supplies.</p> <p>The example of the Caring for Camp Lejeune Families Act in North Carolina can be followed as way to close this gap.</p>
<p>Anticipated resource needs:</p>	<p>It is expected that additional staffing and budget resources are required to implement this action. Sources of federal funding should be considered and explored.</p>
<p>Additional Information: None</p>	

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7.2 Launch a Collection & Disposal Program for PFAS-containing Firefighting Foam


Background


PFAS-containing firefighting foams are a significant source of contamination if discharged to the state's air, lands and waters. Many municipal and volunteer fire departments have PFAS-containing foam concentrates that they would like to dispose of but lack financial resources and the technical ability to do so. Other states have worked in collaboration with state and firefighting groups and departments to create a process to identify, collect and dispose of PFAS-containing firefighting foam concentrate in an environmentally protective manner.

Action

WisPAC recommends that the State of Wisconsin create a PFAS-containing firefighting foam concentrate take-back program for local governments, like what was proposed in 2019 Senate Bill 717 and Assembly Bill 792. If similar legislative proposals are reintroduced for consideration by the Wisconsin Legislature in an upcoming session, WisPAC recommends the following amendments to the bills:

- a) Limit the program to foam in the possession of fire departments that are funded by local governments or that are volunteer in nature;
- b) Prioritize the collection and disposal of firefighting foam manufactured prior to 2003, recognizing resource limitations;
- c) Use the recently conducted Department of Natural Resources (DNR) survey of local fire departments to determine the anticipated cost to the state to remove and properly dispose of/destroy PFAS-containing foam on behalf of local fire departments;

 Time to initiate	To be determined; dependent upon legislation and funding.
Proposed lead agency:	DNR

Proposed partnerships:	Department of Agriculture, Trade and Consumer Protection; Firefighting community (individual departments and state associations); local governments		
Type of action	Budgetary \$	Legislative 	
Reason for Action:	<p>Collection of older, PFAS-containing firefighting foams has occurred in several other states. Michigan, Washington, Massachusetts and New York conducted foam collection efforts for local government fire departments for proper disposal. Costs of collecting and disposing of the PFAS firefighting foam ranged in cost from \$600,000 to \$2.5M.</p> <p>In 2020, Wisconsin surveyed over 800 fire departments, with a total 77% response rate (as of August 2020). Of the 596 fire departments that responded, 51% reported having PFAS-containing foam currently on hand that they wished to dispose of; the total volume reported was at least 18,000 gallons and DNR researchers estimated that up to 31,000 gallons of expired PFAS-containing foam might be present across all fire departments in the state. The total amount of PFAS-containing foam stored by fire departments (including expired and unexpired foam) was estimated to be between approximately 36,000 and 51,000 gallons.</p> <p>The program could be implemented most efficiently by a centralized entity since local governments may lack the expertise to efficiently dispose of fluorinated foams or identify an effective disposal method. Landfills within the State of Wisconsin do not typically accept PFAS-containing foams.</p>		
Anticipated resource needs:	It is expected that additional budget and staffing resources would be required to fully implement this action. Funding would need to be allocated in the state budget or through legislation.		
Additional Information:			

The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:

- The WisPAC Action Plan should include an aggressive plan to assist local fire departments manage the existing inventory of PFAS-containing aqueous film-forming foam (AFFF).

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7.3 Provide Financial Tools for Local Governments

Background

PFAS contamination poses health and safety concerns to already financially challenged communities. These financial issues have been accentuated by the COVID-19 pandemic. The ability to address and treat contaminated drinking water, hold or treat municipal biosolids, contain and treat firefighting foam, address legacy contamination at commercial airports or address abandoned contaminated sites for the safety of their citizens can be significant barriers for local governments. New partnerships, financial tools, and preventative planning are needed to reduce the costs on tax- and rate- payers of these forever chemicals.






Action

WisPAC recommends that the state provide financial assistance to municipalities to properly manage, respond to, investigate and address PFAS contamination. Specifically, this assistance should include the following (in order of highest to lowest priority):

1. Create a **municipal grant program** to fund the following: investigate potential PFAS contamination/sources; sample a private water supply; provide temporary emergency water, water treatment or bulk water supply; or remediate PFAS contamination. Check out the Additional Information section below for an example of how this might read in a newly proposed statute.
2. Create a **municipal loan program** to provide infrastructure upgrades or new systems due to PFAS contamination and/or pollution prevention (e.g. water system upgrades, wastewater treatment facilities, solid waste/compost facilities, upgrades to firefighting equipment for testing and containment, etc.). Similar programs have been implemented in [New York](#), [Michigan](#), and [Massachusetts](#). Funding for such a program could come from bonding or state or federal repayments to the Clean Water or Safe Drinking Water Act revolving loans. This was done for brownfields in the 1990's.
3. Utilize **DOA's State Community Development Block Grant Program (CDBG)** to provide clean-up and remediation funding for public facilities (i.e. water systems),

underserved neighborhoods and blighted areas, as well as other areas in need. This program provides federal funding to local governments to support community development through the provision of decent affordable housing, a suitable living environment, and the expansion of economic opportunities, principally for the benefit of persons of low and moderate income.

4. Contract with a state-certified laboratory to offer discounted PFAS lab analysis rates for municipalities. Similar programs have been implemented in Michigan and Vermont.

 Time to initiate	To be determined, based on legislation and more specific implementation planning				
Proposed lead agency:	DNR and WSLH (Items 1, 2 and 4) DOA (Item 3)				
Proposed partnerships:	Local government, fire departments, municipal airports, municipal associations.				
Type of action	Budgetary 	Legislative 	Administrative (rulemaking) 	Administrative (operations) 	
Reason for Action:	Municipalities may not have the financial wherewithal to investigate and clean up these forever chemicals, whether caused by businesses in their communities or through use of firefighting foams. Grant and loan programs for investigation, cleanup and upgrades to infrastructure are essential for addressing these legacy contamination problems. In many cases, local governments are able to address issues specific to their areas more efficiently than the State if they are provided adequate funding.				
Anticipated resource needs:	It is expected that additional budget is required to implement this action, including grants and loans for local governments and funding for laboratory analyses.				
Additional Information: The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:					

- This Action Plan should also identify possible sources of funding for local government resources and staffing.
- The WisPAC Action Plan should...provide guidance and funding for the redevelopment of property affected by PFAS contamination.
- WisPAC Action Plan should include a plan and funding for additional studies to identify and alert Local Government Units of PFAS contamination.

Sample Language for Proposed PFAS Municipal Grant Program:

SECTION 12. 292.66 of the statutes is created to read:

292.66 PFAS municipal grant program.

(1) DEFINITIONS. In this section:

(a) "Municipality" means any city, town, village, county, county utility district, town sanitary district, public inland lake protection and rehabilitation district, sewerage district or metropolitan sewage district.

(b) "PFAS" means a perfluoroalkyl or polyfluoroalkyl substance.

(2) GRANTS. (a) The department shall administer a program to provide grants to municipalities for the purpose of conducting any of the PFAS-related eligible activities under sub. (3).

(b) The department may provide a grant to a municipality if the municipality proposes to conduct any of the eligible activities in sub (3) in response to:

1. The municipality testing or training with a Class B firefighting foam or using a Class B firefighting foam as part of an emergency firefighting or fire prevention operation, if the testing, training, or use occurred, in accordance with state and federal law. In this subdivision, "Class B firefighting foam" means a foam designed for use on a flammable liquid fire and may include a dual action Class A and B foam.

2. The municipality applying biosolids to land, if the land application or discharge was done in accordance with a pollution discharge elimination system permit issued under ch. 283

3. The discharge of PFAS or environmental pollution that is suspected to have impacted or is known to be impacting a municipal or private water supply, and the

person that caused the discharge or environmental pollution is unknown, unwilling or unable to take the necessary response actions.

(3) ELIGIBLE ACTIVITIES. The following activities are eligible for an award of a grant under sub. (2):

(a) Investigating potential PFAS impacts to the air, land or water at a site or facility for the purpose of reducing or eliminating environmental contamination.

(b) Treating or disposing of PFAS-containing firefighting foam containers from a municipal site or facility.

(c) Sampling a private water supply within 3 miles of a site or facility known to have caused the PFAS discharge or environmental pollution of PFAS.

(d) Providing a temporary emergency water supply, a water treatment system, or bulk water to replace water contaminated with PFAS.

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8.1 Improve Efficiency in Development of Long-Term Water Supply Solutions

Background

Along with detections in other environmental media, PFAS have been discovered in groundwater, surface water and drinking water. This has relevance for human health, since ingestion through contaminated water and contaminated food are the primary pathways through which PFAS enter the human body, potentially increasing the risk of certain health issues. Since the relatively recent emergence of PFAS as a health concern, they have been detected in a number of public water supplies, and it is reasonable to think that this will continue. In the event of potentially harmful levels of PFAS being detected, emergency water can be provided, but the ability to deliver safe public water in the long term may require new sourcing, infrastructure, treatment or other large-scale water utility projects.



Current processes and procedures for either expanding municipal service, establishing a new interconnection, creating a new public water utility, or undertaking construction activities related to water supply typically require approval from the Public Service Commission (PSC) and the Department of Natural Resources (DNR). This process is intended to ensure proposed activities result in safe, reliable service at reasonable cost to customers, but it can be a lengthy process. If the provision of emergency water to the public (e.g., bottled and/or delivered water) is to continue until a long-term solution is in place, it is essential that the process moves as quickly as possible, while still meeting all necessary requirements.

Action

WisPAC recommends that proactive steps be taken to ensure that any project related to the delivery of public water supply to areas affected by PFAS contamination can be planned, approved and implemented without undue delay.

A process improvement project should be initiated that builds on existing collaboration in present PSC and DNR activities to identify the specific agency processes, policies and procedures that would make up a complete review for projects involving delivery of public water supply to areas affected by PFAS contamination. These elements should be examined for ways to reduce the total amount of time it takes to complete the planning, review and approval stages of this process.

The Department of Administration (DOA) local government staff should be consulted with as part of the process improvement project.

 Time to initiate	Ready to implement now
Proposed lead agency:	PSC
Proposed partnerships:	DNR, DOA, DHS
Type of action	<div style="background-color: black; width: 100%; height: 100%; display: flex; align-items: center; justify-content: center;"> <div style="background-color: white; padding: 5px; text-align: center;"> Administrative (operations)  </div> </div>
Business Case:	<p>Streamlining can result in cost effective, efficient expansion of municipal service and construction of facilities required to reduce PFAS in drinking water supplies.</p> <p>The cost (regardless of who is paying) and feasibility of providing emergency public water will continue to be an issue as Wisconsin increases PFAS occurrence testing in the state and potentially finds more contaminated sources. The quicker that longer term solutions can be put into place, the better in terms of human and economic health.</p>
Anticipated resource needs:	It is not expected that additional resources are required to implement this action.
Additional Information:	

The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:

- LGU#5: "The most significant action we need to take today is to remove these chemicals of emerging concern from commerce and pursue cleanup and remediation at contaminated sites and waterbodies."

Another comment received from the public during WisPAC's initial public outreach via an online survey in February 2020 centered on the topic of the importance to maintain water quality in the area for all residents.

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8.2 Develop New Tools to Address PFAS Contaminated Sites



Background

There are at least 30 known PFAS sites in Wisconsin that require further investigation and likely cleanup. More sites will likely be found in the coming years, given the heightened awareness of PFAS. At the known PFAS sites, or sites-yet-to-be-discovered, the current proprietors may not be responsible for the contamination, may not have the resources to clean up the contamination, may not be willing to undertake needed actions or a combination of those things. The state should improve its ability to facilitate investigation and cleanup if there were tools available in state law to assist the Department of Natural Resources (DNR) and Department of Justice (DOJ) in doing so. These tools are available in some federal cleanup programs, like the federal Superfund program, or other states may have such tools available as well.

Action

WisPAC recommends that the state government provide DNR and DOJ, through legislation, additional tools to address contaminated PFAS sites, by enacting the following:

1. Requiring responsible parties to establish financial assurance to cover the investigation, cleanup and long-term continuing obligations at a PFAS site if directed by the DNR;
2. Creating a natural resources damage claims provision for PFAS whereby the state could recover from the responsible parties' environmental damages from a contaminated site. This provision should apply to the producer of the product as well as the person that discharged the hazardous substance or created the environmental pollution;
3. Creating a PFAS action fund for moneys collected by DNR for future DNR use related to PFAS.

 Time to initiate	To be determined, based on more specific implementation planning
Proposed lead agency:	DNR
Proposed partnerships:	DOJ
Type of action	<div style="text-align: center;">  <p>Legislative</p> </div>
Business Case:	<p>For a variety of reasons, it is not always clear where responsibility lies for the cleanup of environmental contaminations. However, contaminated sites – including the increasing number of PFAS sites – must be addressed as quickly as possible to limit negative impacts on the environment and public health. The recommendations included in this action have been used in different jurisdictions, and for other types of contamination, to take effective action in investigating and cleaning up sites and paying for this work.</p>
Anticipated resource needs:	It is expected that additional legislation is required to fully implement this action, which would likely include a request for funding and staffing resources.
<p>Additional Information:</p> <p>The following comments or proposed actions related to this action were forwarded through the Local Government external advisory group:</p> <ul style="list-style-type: none"> • Several participants in the public survey emphasized the importance of accountability in addressing PFAS-contamination, particularly in how cleanups were paid for and how public health and environmental impacts could be mitigated or how compensation could be allocated after the fact; • LGU#5: “The most significant action we need to take today is to remove these chemicals of emerging concern from commerce and pursue cleanup and remediation at contaminated sites and waterbodies.” 	

Many comments submitted and received from the public via an online survey during WisPAC's initial public outreach centered around the topic of holding responsible parties from industry accountable for pollution in Wisconsin communities. The comments suggested that regulation and legislation is enacted in order to both stop additional PFAS contamination from those sources, as well as ensure the responsible parties adhere to a comprehensive cleanup.

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Appendices

****NOTE**** The appendices will be removed from the document and posted elsewhere, but for ease of review for the draft they are included here for now

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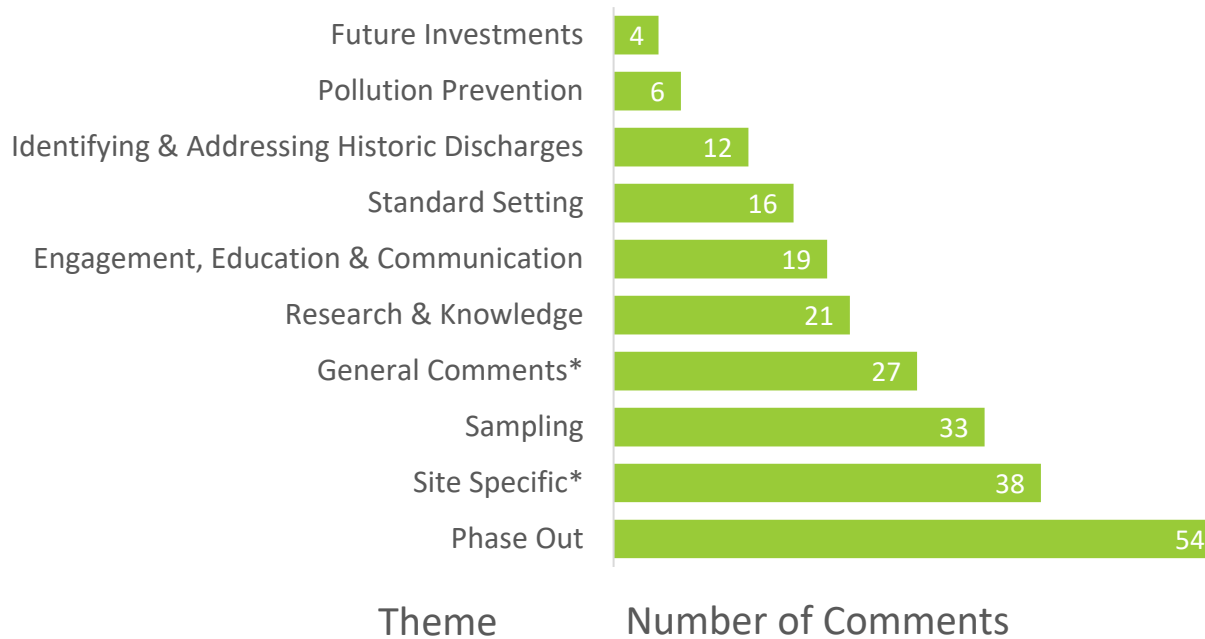
Appendix A: Public Comments

From February 3rd to February 21st a survey was available for members of the public to provide anonymous input on what they thought the state should do to respond to PFAS. The survey was available online and in hardcopy format. Throughout February it was advertised at public advisory group meetings and a public listening session, on the WisPAC and PFAS Action Plan websites and distributed to interested parties through the Wisconsin DNR's GovDelivery system.

A summary of public suggested actions is shown below, including:

1. Breakdown of how many times each theme was the primary focus of a suggested action (chart. Themes marked with an * were general categories used to organize comments – they are not formal Action Item themes used in the report.
2. Detailed cross-walk between the themes and the public comments (table)

Number of comments that "best fit" with each theme



#	Action Plan Theme (best fit with suggestion)	Briefly describe the problem or issue related to PFAS that you think needs to be addressed by the state of Wisconsin.	If you have a suggestion for how the issue or problem above could be addressed, please share that with us here.
1	Sampling	Understanding the breadth of the PFAS issue in Wisconsin when it comes to water quality and the potential impact to human health.	I suggest the State find ways to identify the possible sources of PFAS in water supplies and assist in finding ways to limit the exposure of PFAS in drinking water. I think citizens of our State will be most concerned about ingestion exposure rather than other types of exposure to PFAS.
2	Site Specific	As a resident that lives less than a mile from Truax I am concerned of PFAS being built or par of the construction. I still do not know all the danger of PFAS I feel that a public campaign that is culturally centered has not been done yet.	I wish we had more videos about this danger in various languages and approaches.
3	Sampling	There are several issues that need to be addressed by the State of Wisconsin: 1. Testing of fields spread with biosolids. 2. Testing of plants and food products (like milk, meat, and eggs) grown/raised on the biosolid fields and watered in the proximity of the biosolid fields. 3. Survey of humans in the affected area to look for illnesses known to be linked to PFAS exposure. 4. Legislation from the state that protects humans over the interests of manufacturing.	
4	Phase Out	Contamination of drinking water supplies in multiple communities from past and ongoing practices	Require FAA and airlines and others to not use fire fighting foams containing PFAS. Require the Air National Guard at Truax to clean up contamination and do not approve expansion for F35s. Require cleanup and testing at all contaminated sites.
5	Site Specific	Our water is being polluted wit PFAS. Use should be minimized as much as possible.	An easy first step would be to prevent the F-35 planes from flying so close to residential areas.

6	Site Specific	PFAS levels are too high at Truax Field in Madison.	Conduct a thorough survey at Truax Field to assess the PFAS contamination coming from the base. Site-specific standards are needed for PFAS contamination before further construction at the field.
7	Site Specific	PFAS contamination at Truax Field in Madison and Potential F-35 Impacts.	Survey and assess contamination levels at base prior to construction; create site-specific standards for PFAS contamination.
8	Engagement, Education & Communication	People are regularly eating fish right now from Wisconsin waters that are highly contaminated with PFAS and may have been consuming these for years. We should be making a strong effort to address this now.	Identify bodies of water with high levels of PFAS, especially those with longstanding contamination, and test fish to determine their PFAS levels. Post advisories and do local outreach ASAP.
9	Pollution Prevention	Recycling of equipment that was used with PFAS materials. How should this material be handled? Metal recyclers or disposed of? This should be addressed to provide guidance to facilities that need to replace equipment.	
10	Sampling	Give high priority to remediate locations with high PFAS levels that are rapidly migrating into the environment, like those where large amounts of fire fighting foam has been released over long periods (e.g. Truax airfield, Madison). We need to slow and stop the spread of PFAS from these sites.	Survey historical records to determine these locations, followed by preliminary sampling to determine levels. Immediately perform site characterization followed by steps to mitigate transport ASAP, followed by cleanups. PRIORITIZE FUNDING TO ADDRESS THESE SITES.
11	Identifying & Addressing Historic Discharges	mitigation of current contamination	

12	General Comments	The plan should consider the redevelopment issues associated with older manufacturing sites where PFAS was used. PFAS contamination of equipment and building structures fall in a gap as buildings and equipment are not addressed under the DNR's R&R program. The presence of such contamination can be a barrier to redevelopment of the property.	The issue is being explored by the Brownfield Study Group with assistance of the Department of Natural Resources. However under current state regulatory authority there are limitations on addressing building and equipment contamination. These are more local issues. However, the coordination of local authority with the DNR's program is a gap and creates an impediment to redevelopment. There needs to be a gap analysis of regulatory authorities and recommendations on how to address in a way that promotes redevelopment. The Brownfields Study Group is an available resource to assist.
13	Pollution Prevention	Wisconsin residents may be contributing to PFAS contamination around the state by improperly disposing of PFAS-containing products.	DNR or DHS should announce recommendations for proper disposal of products that include PFAS, such as non-stick cookware, dental floss with PFAS, cans of stain resistant sprays containing PFAS, or furniture coated with those sprays. In addition, DHS should provide guidelines and explain what treatment technologies are available if a person's drinking water has PFAS concentrations above the DHS's recommended standards.
14	Engagement, Education & Communication	Wisconsin residents may be exposed to PFAS contamination by fishing in Wisconsin waters, without their knowledge of that contamination.	DHS and DNR should use the best available science to provide a recommendation of how many fish per week a member of the public should consume in known contaminated waters and should indicate whether that advisory depends on whether the person eats the entire fish or just the fillets. This advisory should be easily understandable and distributed to local news outlets, social media venues, community centers, and places where anglers gather.
15	Engagement, Education & Communication	Wisconsin residents may be unknowingly exposed to PFAS contamination.	DHS and DNR should issue health advisories now to communities that live near waters and areas of known or likely PFAS contamination and where members of the public are known to fish or swim. DNR should issue health advisories to areas near historic landfills where testing has not yet confirmed that PFAS are not contaminating wells or other water sources used by nearby residents. All of those health advisories should be issued and posted in all

			languages spoken by those who frequent the area and should be distributed to local news outlets, social media venues, community centers, and places where those who frequent the area gather.
16	Phase Out	There is not yet a ban on PFAS production in the state.	Wisconsin should not allow PFAS to be manufactured in the state, including through GenX technology.
17	General Comments	It is likely that PFAS is emitted as air pollution in Wisconsin.	The existing trash burners in Wisconsin likely discharge PFAS as air contaminants based on the materials they are burning in their facilities. PFAS are only successfully destroyed at very high temperatures and trash burners may not incinerate at a temperature high enough to destroy all PFAS compounds, if any. DNR should regulate airborne PFAS under its existing authorities, designate them as air contaminants, and seek to limit PFAS exposure by requiring incinerators in Wisconsin to reduce or eliminate PFAS emissions from their activities.
18	Standard Setting	There is an opportunity for comprehensive and effective regulation in the current PFAS rulemaking efforts.	DNR currently has the authority under its existing surface water quality standards scope statement to regulate PFAS other than just PFOA and PFOS. DNR and DHS should review existing science on whether other PFAS are harmful to human health and begin the groundwork for those future PFAS rulemakings, even if it ultimately only finalizes rulemakings for PFOA and PFOS under the current scope statement.
19	Standard Setting	PFAS are not yet regulated under CERCLA, which means that certain legal tools are not available to remedy PFAS contamination.	Wisconsin should join recent citizen calls to petition to the EPA to list certain long-chain PFAS compounds as hazardous wastes under RCRA, which would trigger their designation as a listed compound under CERCLA. CERCLA provides for the cleanup of abandoned hazardous-waste sites and would provide broad federal authority to respond to PFAS contamination.

20	Pollution Prevention	Wisconsin agencies should clearly address what fire-fighting foams are to be banned.	In its regulations promulgated pursuant to the recently passed bill to address fluorinated fire-fighting foams, 2019 Wis. Act. 101, DNR should clearly define what is meant by “intentionally added PFAS” to ensure that no such foams are used across the state.
21	Pollution Prevention	The public needs clear guidance on how PFAS fire-fighting foams and other PFAS-containing products are to be disposed of.	As part of the new fire-fighting foam law, 2019 Wis. Act. 101, the DNR must “promulgate rules to ... determine appropriate containment, treatment, and disposal or storage measures for testing facilities.” In promulgating rules to govern disposal of fire-fighting foams that contain intentionally added PFAS, the DNR should develop its regulation about disposal with an eye toward developing disposal standards for other products that contain other PFAS. If it recommends incineration as a disposal method, DNR should require that the incinerator that will receive the PFAS-contaminated waste comply be in compliance with its own air permit regulations.
22	Site Specific	State agencies could do more to address known PFAS contamination.	DNR should fully exercise its authorities under the Spills Law and NR Admin Code Ch. 716 to require full site investigations of known contaminated sites. DNR should require a site investigation work plan within 60 days, Wis. Admin Code. NR § 716.09(1), and a commence the field investigation 90 days after that, id. § 716.11(2g). For example, DNR should continue enforcement actions at Truax Field, where it should ensure that any party operating at the airport stop further PFAS contamination and require remediation of known PFAS contamination that is leaching into Starkweather Creek and the lakes surrounding the Madison area.
23	Research & Knowledge	More work needs to be done to understand the best methods for removing PFAS from the environment.	State agencies should continue to work collaboratively with toxicologists and engineers to understand the best methods for removing PFAS from the environment by funding research efforts and by supporting those efforts by publicizing the results of the research. As effective technologies are identified, state agencies should help local entities with PFAS contamination by negotiating bulk purchases of technologies that can destroy PFAS to secure

			competitive pricing for wastewater treatment facilities and other quasi-public entities around the state who need to use the technology.
24	Research & Knowledge	There has been insufficient testing for PFAS.	State agencies should explore the availability of and work to develop low-cost PFAS screening tests that could be adapted to water samples and other media. For example, University of Notre Dame Professor Graham Peasley has developed a test that screens for total fluorine in firefighting foams, which is a PFAS indicator. Use of these low-costs tests would allow resources to be targeted and reduce costs, potentially leading to more frequent and widespread testing to identify and investigate contaminated sites.
25	Engagement, Education & Communication	Transcend victim and blame consciousness	Challenge the people of Wisconsin to take more responsibility for their personal, collective and environmental well-being... acknowledging the power of consciousness (e.g. thoughts, feelings, attitudes, beliefs, choices, decisions) to impact cell biology (in our bodies and our environment)
26	Sampling	WisPAC members are aware that historic landfills have received substantial amounts of PFAS-containing waste and thus contaminant plumes could be emanating from those locations.	State agencies should cross reference databases of historic landfills, such as the DNR's Solid and Hazardous Waste Information System, with databases on private wells, such as DNR's Well Construction Reports, and focus on testing wells near those areas. This would not only provide more information on the full extent of PFAS contamination in Wisconsin but would also increase protections for at-risk rural populations that are not connected to public water supply systems from potentially drinking contaminated water, which is the most prominent exposure pathway.
27	General Comments	PFAS damage our health, environment, and waterways	No more construction in contaminated areas

28	Site Specific	Limiting exposure and new sources of exposure.	We need to stop siting of F-35 at Truax in Madison. We know that will increase exposure. It is a big source. Say no.
29	Research & Knowledge	<p>The full extent of PFAS contamination in Wisconsin remains unknown and further regulation depends on better information. MEA has several recommendations for trying to gather the information even in the absence of regulation. In addition, WisPAC members can act now to address PFAS contamination and limit exposure but have not done all they can with the information they currently possess.</p>	<p>Identifying and addressing historic or legacy PFAS discharges:</p> <ul style="list-style-type: none"> • WisPAC members are aware that historic landfills have received substantial amounts of PFAS-containing waste and thus contaminant plumes could be emanating from those locations. State agencies should cross reference databases of historic landfills, such as the DNR's Solid and Hazardous Waste Information System, with databases on private wells, such as DNR's Well Construction Reports, and focus on testing wells near those areas. This would not only provide more information on the full extent of PFAS contamination in Wisconsin but would also increase protections for at-risk rural populations that are not connected to public water supply systems from potentially drinking contaminated water, which is the most prominent exposure pathway. • State agencies should explore the availability of and work to develop low-cost PFAS screening tests that could be adapted to water samples and other media. For example, University of Notre Dame Professor Graham Peasley has developed a test that screens for total fluorine in firefighting foams, which is a PFAS indicator. Use of these low-costs tests would allow resources to be targeted and reduce costs, potentially leading to more frequent and widespread testing to identify and investigate contaminated sites. • State agencies should continue to work collaboratively with toxicologists and engineers to understand the best methods for removing PFAS from the environment by funding research efforts and by supporting those efforts by publicizing the results of the research. As effective technologies are identified, state agencies should help local entities with PFAS contamination by negotiating bulk purchases of technologies that can destroy PFAS to secure competitive pricing for wastewater treatment facilities and other quasi-public entities around the state who need to use the technology. • DNR should fully exercise its authorities under the Spills Law and NR

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Admin Code Ch. 716 to require full site investigations of known contaminated sites. DNR should require a site investigation work plan within 60 days, Wis. Admin Code. NR § 716.09(1), and a commence the field investigation 90 days after that, id. § 716.11(2g). For example, DNR should continue enforcement actions at Truax Field, where it should ensure that any party operating at the airport stop further PFAS contamination and require remediation of known PFAS contamination that is leaching into Starkweather Creek and the lakes surrounding the Madison area. • As part of the new fire-fighting foam law, 2019 Wis. Act. 101, the DNR must “promulgate rules to ... determine appropriate containment, treatment, and disposal or storage measures for testing facilities.” In promulgating rules to govern disposal of fire-fighting foams that contain intentionally added PFAS, the DNR should develop its regulation about disposal with an eye toward developing disposal standards for other products that contain other PFAS. If it recommends incineration as a disposal method, DNR should require that the incinerator that will receive the PFAS-contaminated waste comply be in compliance with its own air permit regulations. • In its regulations promulgated pursuant to the recently passed bill to address fluorinated fire-fighting foams, 2019 Wis. Act. 101, DNR should clearly define what is meant by “intentionally added PFAS” to ensure that no such foams are used across the state. • Wisconsin should join recent citizen calls to petition to the EPA to list certain long-chain PFAS compounds as hazardous wastes under RCRA, which would trigger their designation as a listed compound under CERCLA. CERCLA provides for the cleanup of abandoned hazardous-waste sites and would provide broad federal authority to respond to PFAS contamination. Inventorying and minimizing current PFAS exposure: • DNR currently has the authority under its existing surface water quality standards scope statement to regulate PFAS other than just PFOA and PFOS. DNR and DHS should review

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existing science on whether other PFAS are harmful to human health and begin the groundwork for those future PFAS rulemakings, even if it ultimately only finalizes rulemakings for PFOA and PFOS under the current scope statement. • The existing trash burners in Wisconsin likely discharge PFAS as air contaminants based on the materials they are burning in their facilities. PFAS are only successfully destroyed at very high temperatures and trash burners may not incinerate at a temperature high enough to destroy all PFAS compounds, if any. DNR should regulate airborne PFAS under its existing authorities, designate them as air contaminants, and seek to limit PFAS exposure by requiring incinerators in Wisconsin to reduce or eliminate PFAS emissions from their activities. • Wisconsin should not allow PFAS to be manufactured in the state, including through GenX technology. Educating and communicating about the risks associated with PFAS: • DHS and DNR should issue health advisories now to communities that live near waters and areas of known or likely PFAS contamination and where members of the public are known to fish or swim. DNR should issue health advisories to areas near historic landfills where testing has not yet confirmed that PFAS are not contaminating wells or other water sources used by nearby residents. All of those health advisories should be issued and posted in all languages spoken by those who frequent the area and should be distributed to local news outlets, social media venues, community centers, and places where those who frequent the area gather. • DHS and DNR should use the best available science to provide a recommendation of how many fish per week a member of the public should consume in known contaminated waters and should indicate whether that advisory depends on whether the person eats the entire fish or just the fillets. This advisory should be easily understandable and distributed to local news outlets, social media venues, community centers, and places where anglers gather. • DNR or DHS should announce

			<p>recommendations for proper disposal of products that include PFAS, such as non-stick cookware, dental floss with PFAS, cans of stain resistant sprays containing PFAS, or furniture coated with those sprays. In addition, DHS should provide guidelines and explain what treatment technologies are available if a person's drinking water has PFAS concentrations above the DHS's recommended standards.</p>
30	Phase Out	<p>We need to start by stopping further contamination. Massive efforts at clean-up before the bleeding is stopped is an exercise in futility.</p>	

31	Phase Out	<p>PFAS compounds are the latest contaminant of concern. They are found throughout the environment and have been much discussed in this and other meetings. From the municipal wastewater treatment viewpoint there are no viable treatment options and currently no EPA approved test method for wastewater or biosolids testing. We do not produce PFAS compounds. We do not use PFAS compounds in our treatment processes. But, we understand they are probably in the wastewater we process and clean, when measured in parts per trillion. We've been through this before with mercury. No viable treatment options. The only viable option was pollutant minimization programs or PMP's. Wastewater treatment plants were tasked with creating and managing the PMP's in an attempt to regulate mercury pollution in a bottom up approach.</p>	<p>Municipalities across the state were all replicating the same programs over and over again at a significant cost to their local ratepayers. Now we're heading down the same path. To efficiently restrict PFAS compounds from entering the environment they need to be stopped at the manufacturing level not at the end of the pipe at a wastewater treatment plant. The best way to accomplish that is to no longer allow the use of PFAS compounds, not by setting unachievable limits. If PFAS limits were to prevent us from land spreading it would cost the city a minimum of \$115,000 in landfill fees, not including transportation costs. Please focus on prevention at the sources of PFAS.</p>
32	Site Specific	<p>I am concerned about existing and future PFAS pollution coming from Truax and the fact that these chemicals have, as far as we know, no real timeline for degrading and they are extremely harmful.</p>	<p>Block construction until there can be a thorough vetting of PFAS contamination coming from the site.</p>
33	Standard Setting	<p>I am concerned that we are just now coming to understand the extent of existing PFAS contamination in our state—especially on Madison's East side—and that we should absolutely make sure not to contribute more of this very harmful pollution to our environment.</p>	<p>Please set stringent site-specific regulations to ensure that we are not adding any of these 'forever' chemicals to the environment.</p>
34	Research & Knowledge	<p>A measured approach to source control informed by peer reviewed health science.</p>	<p>Start with peer reviewed health science. Then act accordingly to where the problematic exposure is occurring.</p>
35	Phase Out	<p>It's obvious. Water quality!</p>	<p>Don't add any more of this to our community and water supply. Try to mitigate the damage which has already been done.</p>
36	General Comments	<p>Construction activities could stir up contaminated soil, allowing PFAS to enter the water supply and the food chain. This appears to be an imminent threat at Truax.</p>	<p>Brownfields should be fully remediated before allowing any new construction at a contaminated site.</p>
37	Site Specific	<p>preventing further contamination of Madison, Dane County and Wisconsin waterways, lakes, streams and wells because</p>	<p>Oppose the construction and installation of the F-35s.</p>

		of massive construction around Truax field needed to support the Air Force installation of the F-35 war planes.	
38	Sampling	The major exposure pathway for humans concerning PFAS released in the environment is through drinking water contamination. However, the DNR and DHS do not have recent and representative PFAS in drinking water data that analyzes majority of Wisconsin's drinking water with low detection levels in public water supplies to be able to assess if PFAS is an issue in Wisconsin drinking water. Wisconsin should conduct a public water supply sampling and analysis study similar to what other states like Michigan, Ohio, and Massachusetts have conducted or have recently allotted funding to conduct.	Allow sound and proven science to be applied in drafting PFAS regulations.
39	Engagement, Education & Communication	PFAs have already poisoned many water sources within Wisconsin. This is more likely to disproportionately impact babies and children who breast feed, people of color and low income folks who rely on natural water sources and the animals that live and drink from those waters. This is environmental racism. I want the State to take a strong state against the continuation of projects that add PFAs to the water ways -- specifically the project intending to bring F35 jets to Truax field in Madison, WI. The lakes in Madison are already poisoned, and these jets will require increased use of fire fighting foams that will leach into the water ways. I want the state to take a bold stance on how it will work to support the lives and humanity of communities of color, low income folks, animals, and the land we occupy by regulating and enforcing accountability to limit and end the use of PFAs including the impact of having F35 jets based near lake Mendota, lake Monona, the Starkweather creek, and Cherokee Marsh.	Please collaborate with and learn from indigenous people who are the keepers of this land and who have sustainably and peacefully lived on and with this land before colonization, militarization, and urbanization. Please choose to uplift the power, voice, and humanity of low income folks, children, and people of color who are most impacted by the degradation of our land and water in all of the state's decision making.
40	Phase Out	Poisoning our household water. Poisoning the watershed.	Make illegal the use of PFAS in the state of Wisconsin.
41	Site Specific	PFAs from Truax Field air base are contaminating Starkweather Creek, Lake Monona, and at least one well in	There needs to be a thorough investigation of PFAs at Truax; how extensive is the contamination, how--or if--it can be

		the Madison water system. There are now severe restrictions on eating fish from Lake Monona!	cleaned up, and what steps will be taken to prevent further contamination.
42	Engagement, Education & Communication	Water pollution as PFAs are used so extensively	Start a program that would educate community members including you in the problem and pay them to become environmental stewards
43	General Comments	Cleaning up the current amount already in the environment.	I don't know, it is a big challenge.
44	Site Specific	Truax should clean up the already polluted environment and should not introduce F35 to the densely populated area.	Air Force Funding should go towards clean up of currently contaminated environment.
45	Phase Out	Stopping all activities that introduce PFAS in to surface and ground water supplies, especially in densely populated areas.	Ban on all firefighting foams that contain PFAS. Perform remediation on contaminated soils in areas where foams were used.
46	Phase Out	There are unsafe levels of PFAs in Lake Monona and Starkweather Creek and a few municipal wells. It's no secret how the chemicals got there. The Truax Field Air National Guard Base has been using them and spraying them into our waterways for decades.	Discharge of PFAs into our environment should be immediately halted. The people and organizations responsible for the pollution of our waterways need to be held accountable and forced to clean up their mess.
47	Research & Knowledge	I live next to Starkweather Creek, and am highly concerned about the safety of our groundwater and about the dangers to disadvantaged anglers who depend on local fish for food. But I am equally worried about the effects of PFAS on wildlife. How are fish, turtles, insects, birds and mammals endangered by PFAS?	A long term study of PFA impacts on local wildlife should be undertaken. Not just the lives of humans, but the larger biosphere of Starkweather Creek, may suffer these impacts.
48	Site Specific	Because I live on the NE side of Madison, I know the most about the contamination of Starkweather Creek. Especially if there are plans for construction at the source of the contamination, the airport, remediation needs to be done before more disturbance of the land. There are a number of hot spots and each one effects people in different ways. A comprehensive plan with specific remedies or standards needs to respond to each site wih urgency. There shouldn't be one cookie cutter plan.	See above.

49	General Comments	Contaminates in our waters and products we use daily should be a concern to everyone. We are better than that; we have the ability to put an end to this but for some reason our legislators succumb to special interest groups who are more interested in making a profit or taking the easy way out, and ignore the quality of life issues that impact their constituents.	Make it a priority for our legislature and impacted state agencies to address and act on. Give them a deadline of 12 months.
50	General Comments	Please protect our ground water	
51	Site Specific	Water and water table contamination and cleanup, especially at Truax field where the National Guard is. Plus PREVENTION of further contamination	Do not station the F35s at Truax Field!
52	Sampling	Not enough monitoring and restrictions	
53	Site Specific	Please, no more construction at Truax Airforce Base! Please clean up the PFAS problem that already exists there. Starkweather Creek and Lake Monona are already infected...many of our Madison residents are eating fish from those to bodies of water. Please, no more construction. Don't disturb the land at Truax which would release more PFAS into the ground waters.	Please do not let the government, our senators, congress people, or the Airforce bring the F-35 fighter jets to our small regional airport. Please, not more building at Truax. The airport is surrounded by low to middle class citizens that should not be exposed to dangerous chemicals in their water or hazardous sounds where they live and attend school.
54	Engagement, Education & Communication	My PFA is 6 ppt. My city well is contaminated. I am in constant exposure to PFAs from city well 13 in Madison. We do not need any more PFAs in Madison and most assuredly do not want the F35 facility.	determine best practices to remove PFAs from public water systems, put up good signage along the creeks and lakes to deter people from eating fish or swimming on contaminated lakes. Test the sediments south of Lake Monona prior to dredging them out of the water to avoid spreading the contamination down stream to Stoughton and beyond.
55	Site Specific	The issue of PFAS is the amount of those chemicals already found in Madison with potentially having to close more wells from contamination especially with sitting the F-35's at Truax.	Stop the F-35's from being sited here.
56	Site Specific	Need site-specific regulations for Truax field.	Need site-specific regulations for Truax field.
57	General Comments	contamination in the lakes affecting fish(ing) and all the lake inhabitants	
58	Sampling	contamination of drinking water	

59	General Comments	Well contamination	Regulate PFAS and related contaminants, including deicers, at all state airports
60	Site Specific	I am highly concerned with the many negative health effects of PFAS and the exacerbated levels of PFAS in community water ways as a result of the new F-35s and related construction at Truax.	Block construction at Truax until a thorough survey is done to assess the PFAS contamination coming from the base. Use your power to create site-specific standards for PFAS contamination so there is no delay in stopping the intended spring construction.
61	Phase Out	The main problem is the persistence of this in our environment and the negative consequences for humans.	Stop the manufacture and use.
62	Site Specific	We need to understand what state-controlled sources can be stopped before any new construction takes place. For example Truax field/ the Air Force Base.	Put a hold on new projects and construction (no f-35s) until after a full study can be done and the effect on environmental PFAS levels currently coming from the base are fully understood.
63	Site Specific	Now that we are aware of the PFAS and their impact on our ground water I believe that we need to clean up the PFAS that are now currently found in the environment around Truax and the city of Madison and that this must be done before allowing any further possible contamination by industry or the military.	At this time I do not.
64	Site Specific	Halt construction of the F-35 base at Truax until a complete assessment of PFAS contamination due to construction and future use has been done.	

65	Phase Out	Their presence in surface and ground water are disturbing. Controls need to be set in place to limit their use and thus presence in the public domain	A temporary (1 year) moratorium on activities that knowingly use PFAS and allow escape into the environment...such as breaking ground for construction at contaminated sites such as Truax field. until the extent and severity of the presence of known sources is documented and quantified, it would be remiss of DNR or any regulatory authority to allow further contamination to occur.
66	Site Specific	PFAS used at Truax Field has contaminated Starkweather Creek and has been found in Lake Monona.	Before any new construction is approved at Truax Field, require that all topsoil contaminated with PFAS be mitigated.
67	Site Specific	I am very concerned about the contamination found at the Truax air field in Madison. Now the wells in madison, the stark weather creek, and Lake Monona are all polluted, with high levels at PFAS. The fish are dangerous to eat. This is just terrible, a tragedy for the citizens.	Someone needs to hold the military responsible for the clean up of Truax. Also, there needs to be a stop put to the further development of the Truax area, which will result in digging up the land and releasing more PFAS into the water. This means no new construction for the base until this matter is addressed. We do not want to have a situation like Flint Michigan, where people could not use their tap water anymore. This would be a true scandal.
68	Site Specific	Polluted wells in Madison and no plans in place to clean up the wells or to stop the pollution coming from the airport base.	
69	Site Specific	Safety standards are unclear for PFAS pollution. Industry and government polluters may have done and may continue to do significant harm to public resources such as groundwater. It is difficult and costly to eliminate PFAS from groundwater.	The state should err on the side of protecting public health. Further expansion at Truax, the site with the most PFAS pollution in Madison, should be paused until standards are determined and set and existing damage is addressed by the responsible parties. It will not be easier to address groundwater concerns after additional investments have been made in the airport.

70	Site Specific	Clean up the ground and water supply. (I've been drinking from the contaminated well 15 for nearly 25 years. PFAS had built up in my system. Now must I await my cancer??)	We do NOT need MORE pollution which the F35 brings on top of the problem that exists already. We need clean water, soil, and air. This is a "no brainer."
71	Identifying & Addressing Historic Discharges	Water quality for all area residents.	A thorough clean up funded by the folks who committed the offense on our land and environment.
72	Identifying & Addressing Historic Discharges	PFAS are not absorbed into the environment. They are contaminating fish and drinking water. The state needs to take swift, decisive action to clean up existing contaminated sites and to regulate future use to avoid future problems.	The state should adopt regulations that all for site-specific measures and studies. To ensure these can be carried out, the legislature should apportion adequate funds. Further, it would help if communities had greater autonomy over their taxation and bonding powers in order to exercise greater local control, which will best reflect the interests and views of area residents.
73	Site Specific	PFAS in our communities are not being taken seriously by the military. Truax Air National Guard has been polluting Madison's water for decades and has failed to address this.	Further construction at Truax MUST be blocked until the PFAS have been appropriately addressed and cleaned up by the military.
74	Site Specific	The National Guard has polluted our Starkweather Creek and Lake Monona. I swim in Lake Monona along with other adults, children and toddlers. The National Guard is supposed to protect citizens but they are hurting our health. They do not plan on stopping the use of PFAS or to clean up their mess. The military is poised to add F-35's to our airport.	Make the National Guard clean up their mess. Do not let the military add more pollutants and noise with the F-35's. The military has not been responsible to the citizens of Wisconsin.
75	General Comments		
76	General Comments	Clean it up! Clear it out of the wells. Weekly process. Our bodies are already full of forever chemicals. No more!	Don't be so cheap! DO what needs to be done. Can't be poisoning everybody all the time! I mean jeez, this is obvious stuff.
77	General Comments		

78	Phase Out	We need to clean-up PFAS and strive to eliminate the use of these chemicals to protect our waterways and land.	Ban new applications, including siting F35's in Madison.
79	Site Specific	I'm concerned about PFAS entering our drinking water due to the construction at Truax airfield	I think we need site specific action plan to make sure that the PFAS in the soil there is properly remediated
80	Research & Knowledge	What do high levels of PFAS actually mean? (If I have x amount of PFAS in my blood or water, then what?) Also, why has this subject gotten so big over the last couple of years? What do we know now, that we didn't in 2013?	It would be nice to determine what the levels of PFAS in our blood or water actually mean. If I have 500 ppt of PFAS in my blood, and it takes 2-7 years to get out of my system, should I be scared? A boy in Wolverine, MI has levels of 400,000 ppt (highest level known in the U.S.) in his blood and he's still walking around just fine. Instead of scaring the public, maybe provide some more background data on potential side effects.
81	Site Specific	Further construction at Truax airport in Madison should be stopped until the PFAS contamination from the base is more thoroughly investigated.	Site-specific standards for PFAS concentrations, quantifiable requirements for mitigating or eliminating existing pollution before it further contaminates groundwater, and a freeze on any construction until impartial evaluation is complete would be good first steps.
82	Site Specific	Inspection of all wells and land areas affected by PFAS contamination.	It is essential that construction at Truax field be stopped until further research and potential mitigation can be done on PFAS.
83	Site Specific	PFAS contamination at Truax.	Please block all construction at Truax until a thorough survey is done to assess the PFAS contamination coming from the base. Create site-specific standards for PFAS contamination so there is no delay in stopping the intended spring construction.
84	Phase Out	cleanup and monitoring	stop use until issues are addressed

85	Site Specific	Please pull out all the stops to keep Wisconsin Air National Guard from engaging in any construction or modifications at Truax Field, including all preparation for the beddown of F-35s. As you have said yourselves, it is unclear that construction wouldn't exacerbate PFAS contamination in Starkweather Creek and Lake Monona. The neighborhoods most affected by this contamination should not be left to bear a potentially worsening burden via the introduction of F-35s. It's too much to ask of individuals and families, especially when the science is so new and when there are no national standards. Tracking down information that makes sense and feels trustworthy is confusing and frightening. Let's simplify things as much as we can by preventing Wisconsin Air National Guard from polluting even more.	Throw whatever regulatory and/or bureaucratic wrenches into the works that you can. Publicize any steps that you recognize local leaders as having to throw wrenches. Everyone pretends there's nothing they can do and the complexity and obscurity of government functioning allows them to keep up the pretense. Most people won't ever know that they aren't as powerless as they say.
86	Phase Out	The use of fluorinated (PFAS) firefighting foams need to be curtailed in the State of Wisconsin.	There is no regulatory requirement that fire departments must use fluorinated foams. Fluorine-free foams have been used successfully for decades. Large European airports have successfully been using fluorine-free foams on real life incidents.
87	Identifying & Addressing Historic Discharges	groundwater contamination and an unregulated agricultural industry	Stricter regulations/incentives/enforcement mechanisms on polluters
88	Phase Out	Prevent the pollution of more water in Wisconsin with PFAS by stopping the creation of additional PFAS in Wisconsin.	Create state regulations to prevent the manufacture of PFAS or release of PFAS into the environment.
89	Sampling	No one knows what these chemicals are or what sources might be discharging them into our waterways?	Explain what these chemicals are and what common industries use them or discharge them? a map of where these possible sources are located in addition to the closest perennial streams or drinking water treatment facilities.
90	Phase Out	Clean-up water in current unsafe water sources and PREVENT any further PFAS pollution	
91	Research & Knowledge	Understand the scope of contamination - is it localized or widespread, and why? What are the roles of everyday items (Teflon pans, Gore-Tex) vs. higher visibility local issues from manufacturing & fire-fighting foam?	Research and Monitoring

92	Standard Setting	PFAS need to be regulated so we can prevent future issues. There needs to be a standard/limit set for how much PFAS is safe in our groundwater, drinking water, etc.	Set a standard for allowable PFAS levels and place financial responsibility on the companies who are polluting and contaminating
93	Sampling	Health problems related to PFAS: carcinogen, hormone disrupter, neurotoxin, etc. How often wells will be checked? Why local and state taxpayers need to be payers for clean up when the military created the contamination.	
94	Site Specific	The military's role— for example, Truax ANG base in Madison has been polluting the soil and water for years and has REFUSED to take responsibility for their actions.	Force the military to take responsibility for their actions by not allowing Truax to proceed with any construction activity until they clean up their mess.
95	General Comments		
96	General Comments		
97	General Comments		
98	General Comments	listen to the scientists, I am not qualified to explain, but I do not want these chemicals in our soil or water because: Interfere with the body's natural hormones; Increase cholesterol levels; Affect the immune system; and Increase the risk of some cancers.	
99	Phase Out	Use of PFAS based firefighting foams by Municipal and Aviation Firefighting.	Immediate restrictions on the use of PFAS foams in Training and Testing. Progressive transition to SFFF foams similar to Colorado and Washington State.
100	Research & Knowledge	1. Identify the level of PFAS in our drinking water. 2. Figure out where it's coming from. 3. Eliminate further contamination. 4. Figure out how to clean up PFAS.	Science research. Take the problem public so people know about it and understand the urgency and its consequences.
101	Phase Out	Primary source of PFAS contamination in Madison's ground water, wells, waterways and lakes is from firefighting foam used for decades at Truax Air Base.	Do not allow the use of PFAS-producing firefighting foams. Be sure that any substitute does not cause other harmful contamination.

102	Site Specific	F-35 fighter jets are made of military grade composite materials that can require more than 10 times the amount of firefighting foam as aluminum aircraft to put out a fire. Presumably large amounts of foam will be needed for training to put out an F-35 fire as well. Firefighting foams used for training and firefighting at Truax Air Base in Madison are the primary sources of PFAS contamination in our ground water, wells and waterways.	Do not allow F-35 fighter jets to be stationed at Truax. It's in a residential area and if there is a fire on the base, or at take-off or landing (the most likely times a fire may happen), huge amounts of PFAS will be added to the existing contamination.
103	Site Specific	Firefighting foam used for decades at Truax Base is the primary source of PFAS contamination in the Madison area: Starkweather Creek, Lake Monona, and Madison wells. Fish in Starkweather Creek and Lake Monona are also contaminated.	Do not allow any construction at Truax until existing PFAS contamination coming from the base is cleaned up and there are guarantees that construction will not unleash any more PFAS into the groundwater, waterways or lakes.
104	Phase Out	We need to figure out how to help people now whose water supply is contaminated to a point that it should not be used but at the same time we need to be working to prevent more PFAS from entering the environment, and figuring out how to remove them from the environment and what to do with them once they are removed	Identify the major sources of PFAS and begin working with those companies (whether in WI or not) to find alternatives. Institute sufficient authority based in the State's duty to protect public health to provide leverage as needed.
105	Sampling	All four aspects of your action plan are important and need to be done simultaneously.	Work in collaboration with state, city and county agencies. Hold a hard line with the ANG and do not be intimidated or express feeling powerless because it is "the military."
106	Site Specific	The most urgent issue is to prevent further spread of these toxins and holding the ANG responsible for share. Of course eventually, testing, regulation, and remediation, but that will take years. First and foremost right now is to prevent further contamination. This must be done in collaboration between	Do not issue any building permits to the ANG until they have thoroughly tested and remediated all the contaminated soil at Truax.

		the city, county, and state agencies. If there is collaboration happening it has not been evident.	
107	Pollution Prevention	Support at the state level for municipal industrial pre treatment programs with regards to articulating that municipalities operate under the state authority and that any requests made by municipalities to their pretreatment customers are also on behalf of the state and not just the municipality.	the state DNR could put information online and also provide municipalities with an overview of authorization to help support municipalities when starting a pollution minimization program that will as customers to minimize or eliminate PFAS use. In the absence of discharge standards having the state behind such requests will help the municipality not be the only entity asking customers to change operations.
108	Engagement, Education & Communication	Standards for land application of bio solids, septage, industrial sludge, etc. Standards help utilities have certainty in how to conduct operations Standards help utilities communicate with their industrial and agricultural customers as well as customers in the service area around the safety of operations and how human health and the environment are being protected	Put out a scope statement, then Begin the same rule making process that has already been started to promulgate standards for surface water, groundwater, and drinking water. Begin partnering with UW on research related to fate and transport of land applied materials containing PFAS to help inform potential standards Begin communications with the public around the levels of PFAS expected to be in biosolids, septage, industrial sludge, etc. based on the regional inputs to the material (high industry vs low industry inputs)

109	Standard Setting	<p>The compounds PFOS and PFOA have been voluntarily banned by industries; however, certain chemicals that are used in their place degrade to form stable perfluorinated chemicals, including PFOA and PFOS. For example, fluorotelomers are used to replace PFOS. These compounds, including 4:2 FTS, 6:2 FTS, and 8:2 FTS have been deemed acceptable substitutes because they don't bioaccumulate and do not degrade into PFOS. However, the reason they don't bioaccumulate is because they quickly degrade into other chemicals. 8:2 FTS has been shown to degrade into PFOA (Dasu, Liu, and Lee, Environ. Sci. Technol., 2012, 46, 7, 3831-3836). The same thing is true for sulfonamide-containing precursors, such as FOSA and N-MeFOSAA that degrade to form PFOS (overview of PFOS precursors: https://www.eurofins.se/media/1568225/top_precursor_short_facts_170613.pdf). As long as these precursors are still in production, PFOS and PFOA will be continually added to our water resources.</p>	<p>These precursors such as fluorotelomers and sulfonamides need to be taken seriously and should be regulated in the same way as their stable end products: PFOA and PFOS.</p>
110	General Comments	<p>These chemicals are present in our water at too high levels. We need to identify how they are getting there and reduce our exposure to them.</p>	<p>I agree with the PFAS action plan. It should be initiated immediately.</p>
111	Identifying & Addressing Historic Discharges	<p>Lack of laws/rules forcing polluters (including the Department of Defense) to clean-up PFAs from soils subject to runoff into our water supply. Of urgent concern is the need to prevent polluters from contaminating our drinking water and groundwater that is the source of that drinking water. Broader environmental impacts also need to be addressed. Rules should include science-based limits on PFA discharges and exposures.</p>	<p>Science-based rules and adequate resources to identify polluters and enforce the rules/law. Polluters, not the public, need to pay for prevention and clean-up.</p>
112	Phase Out	<p>I think there needs to be a plan to clean up the PFAS before we even think of bringing in more sources of it. I care about the future of our lakes and waterways, and soil.</p>	<p>I am not a scientist, so I don't have the answers, but I have great concern about ignoring the problem.</p>
113	Phase Out	<p>PFAS are harmful to health and people do not realize they are ingesting them.</p>	<p>The military could practice flying their planes with "pretend" coatings. No reason to use the real thing for simple practice flights. Practice application and cleanup with something not harmful.</p>

114	Phase Out	Preventing future ground water contamination & identifying current levels.	Disallow practices that contribute to on-going or new contamination.
115	General Comments	they are toxic	
116	Site Specific	The intensely polluted Starkweather Creek and now Lake Mendoza which are used for recreation and food consumption. The levels are frightfully high.	To prevent further contamination, the area around Truax airfield should be fully evaluated as to the depth and breadth of contamination and cleaned up before it is disturbed for any reason.
117	Phase Out	Address the cause and effect of PFAS. If PFAS is so bad, then why is it allowed to be used and manufactured until October 1, 2024?	Stop manufacturing PFAS. My understanding the natural occurring had a half life, but replaced with manufactured that is forever. Find the source and contain it. Municipal Sewer and Water Utilities are reluctant to participate in sampling. If found, the past practice by the DNR has not been kind with requiring Utilities to go over and above for removal. Only because you can regulate us. "What we don't know, won't hurt us": Is not a good solution. Time to work together!
118	Phase Out	Public and environmental safety.	Restrictions on PFAS production and usage, remediation of polluted sites.
119	Phase Out	Removal from drinking water and banning manufactures from continuing to produce	Treat wastewater and leachate from landfills
120	Sampling	I think current groundwater & soil contamination needs to be addressed & mitigated, while ending future contamination.	I would love to see much cheaper water tests, so everyone potentially affected can afford to test their wells. I also think full disclosure about level & areas of contamination should be made in a way that is easy for all Wisconsinites to access.
121	Engagement, Education & Communication		Clearly articulate and communicate the risk of various media (surface water drinking water ground water wastewater Biosolids) are all different. Partner with University system to address research and knowledge gaps around the exposure and risk pathways for land applied Biosolids. These research questions will answer such knowledge gaps like how does Biosolids move in soil, which PFAS are a concern, some more that others? Certain plants uptake more than others. What is the risk if any to groundwater?

122	Site Specific	I wish the DNR were taking these concerns seriously. The soil and water on the East side of Madison is ALREADY contaminated. Please test multiple sites and make the results public. You need to adapt a standard as the federal government will not do so.	HOLD TRUAX ACCOUNTABLE FOR TESTING AND CLEAN UP COSTS BEFORE YOU INTRODUCE MORE POLLUTION. They have NO RIGHT to treat our part of town as a dumping ground and walk away. Please stop hiding this issue. F35s have no place near our water.
123	Standard Setting	Regulatory direction when it comes to wastewater / biosolids limits, procedures, standard methods (analytical), etc.	source reduction or elimination
124	Research & Knowledge	The main issue is that the affected public is up in arms (understandably due to uncertainty of exposure risks) yet the science is not there yet. We lack methods for other than drinking water. The EPA has ONLY published ADVISORY limits for 2 PGAS analytes, yet WI is trying to regulate 36--or more. The CDC does not even have concrete data at this point that provides a direct cause-effect relationship between PFAS and specific health issues beyond a "possible" connection. And the most significant correlation at this time is with cholesterol level! Hello! The US has become overweight and with that comes elevated cholesterol!	The DNR and the state need to SLOW DOWN. Do not make municipal WWTPs be "the bad guys" in determining who is discharging PFAS. If you suspect an industry, then the STATE should perform the testing, not a WWTP whose costs are passed on to consumers. No decisions on compounds to regulate PFAS in anything other than drinking water should be initiated until there is concrete cause/effect data. Does anyone remember the BPA scare of 2009? Or the hexavalent chromium scare of 2015? Did we not learn that testing performed using methods that have not been ruggedly validated only makes for bad decisions? There needs to be an unbiased education plan that specifies that just because someone in a high PFAS zone, like Marinette, has cancer--or some other ailment-- it does not mean it was caused by PFAS. We also need to be thinking "end game". If PFAS is attributed to health issues, how much of that is related to exposure to things like, dental floss, GoreTex, Teflon pans, Stainmaster carpeting, and stainguard fabric protector in our homes? What do we do with all that? Throw it in a landfill? Where? At what cost? How many new landfills would we need to create. The state is simply not seeing the big picture. By all means, clean up should be required for large spills of ANY chemical!

125	General Comments	Health	Let the public help clean
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126	Phase Out	Remove it's "grandfathered" status with the TSCA and make companies prove it safe BEFORE use.	Precedent shows this is not unreasonable.
127	Phase Out	Threats to human health and the environment need to be addressed by regulation of PFAS.	We need regulations governing the manufacture, use, and disposal of PFAS-containing products that are harmful to human health and the environment.

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128	Identifying & Addressing Historic Discharges	The federal government and corporations like 3M have been poisoning people for decades and decades while they knew the effects. The problem is a lack of accountability. The guilty need to fund the cleanup and research to figure out how to cleanup groundwater and lakes and to stop poisoning creatures.	Set up a fund by the federal government and the manufacturers. Stop the use of these forever chemicals. Ban them.
129	Phase Out	We need to stop contaminating our drinking water and the ground with these chemicals.	Stop using these chemicals. Clean up contaminated areas/water.
130	Phase Out	PFAS and related compounds are a manufactured chemical that is a significant health hazard for humans causing cancer and other health issues, even in minute concentrations. Most humans in the USA have PFAS in their bodies. It travels easily in water and does not break down. It is found in aquifers, streams, fish, humans, everything that uses water. PFAS and related compounds remain in the bodies of humans drinking PFAS contaminated water or eating food containing PFAS. Production of PFAS must be completely stopped, and ways identified to limit PFAS contamination in the environment.	Production of PFAS and related compounds must totally cease. Ways must be found to prevent the spread of PFAS compounds throughout the environment, through containment, prohibiting its legal use for any purpose, and other strategies. Research must be funded to identify effective strategies. Chemical companies manufacturing PFAS must pay for cleanup, research and treatment since its toxicity has been known for many years and ignored.
131	Standard Setting	There is no legal limit on PFAS to require action for government or corporations to remediate or prevent contamination of our land and water. It should be ONE PPT.	Pass an immediately effective law to limit PFAS to 1 PPT. The current proposal is too high to prevent diseases. The 2-3 year delay will allow PFAS to be released in Madison Lakes with Truax Field construction.

132	Engagement, Education & Communication	They need to be taken more seriously. I believe they are contributing to a lot of health issues, like cancer(our family is living the nightmare)	Get more agencies involved in cleaning it up!
133	Sampling	How widespread of a problem is PFAS and its effects on the waters of Wisconsin.	Need to get protocols so you can analyze all waters not just drinking water. How about wastewater, storm water, leachate, and surface waters.
134	Phase Out	disposal of products, contamination, cancer, drinking water	ban future use of products containing PFAS
135	Phase Out	Testing and detection of PFAS is not completed universally; once detected, remediation efforts to clean up PFAS seem limited; funding for remediation efforts is limited; appropriate alternatives to PFAS need to be developed and/or more widely known and used	

136	Engagement, Education & Communication	How it lingers in the environment for almost forever.	Get the public aware of this issue.
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137	Phase Out	The contamination is irreversible and toxic.	Stop all use of products with the contaminants.
138	Standard Setting	Clearly defined regulatory concentration limits.	There are a number of established limits in other states. Use those as a guideline and make a decision.
139	Research & Knowledge	Limited disposal options for PFAs contaminated water. Landfill disposal of PFAs contaminated wastewater treatment media does not solve the problem.	Invest in research and development for treatment options.
140	Phase Out	Risk to drinking water, fish, and wildlife	Hold military accountable, ban use of PFAS

141	Engagement, Education & Communication	Clear information on how best to help ourselves right now.	I was told at a previous meeting given by the DNR that using a BRITA would remove PFA's and a good solution for residents. I believe this should be told to us at future meetings.
142	Phase Out	Immediate action to outlaw these forever chemicals. It doesn't matter if they do come up with an acceptable plan for cleanup. Until we send a very loud message that we will NOT tolerate any company creating a product that is potentially harmful to the public, the greed machine will continue to find and proliferate them.	Instead of aiming at the bottom of the pyramid, we need to aim at the top. Yup, DuPont, 3M, and all who KNEW their product was harmful should be sued by the American people! Anyone whose health was impaired, lives lost, futures lost, income lost, way of life lost should be a party to this. Making a mistake is one thing, trying to cover it up is another.
143	Sampling	Identify current sources, mitigating effects of these sources, and preventing formation of new sources	Hydro geological modeling with well tests...drilling wells as needed to find sources
144	Future Investments	Need to stop blaming. The damage is already done. Need to put a stop to continued contamination. Need to mitigate the risk that's already present. Need to educate the public and municipalities on how to protect themselves and their communities. Need more research!	Mitigate risk in already contaminated aquifers and other sources. Find a way to clean said contaminated aquifers and sources. Need to give pro-active communities resources and funding to deal with PFAS issues. Please use Rhinelander Wisconsin as a place to begin as the community is concerned and wants to be proactive. The Mayor of Rhinelander, Chris Frederickson has made PFAS a focus of his administration and is wide open to address this issue.
145	Standard Setting	Legislation and standards including air.	Currently being working with the CLEAR Act. USEPA is currently working with some eastern states to develop air sampling procedures for PFAS. Wisconsin should also start this process
146	Identifying & Addressing Historic Discharges	There is a manufacturer of PFAS family chemicals in my city and they KNEW ALL ABOUT PFAS FOR YEARS BEFORE INFORMING THE PUBLIC OR AUTHORITIES, THIS IS PREMEDITATED AND SHOULD BE CRIMINALLY PROSECUTED. CULPABILITY FOR OUR PFAS CRISIS IS ON JCI/TYCO/ANSUL AND WE WANT REPARATIONS.	·STATEWIDE PFAS EXPOSURE DISCLOSURE PUBLIC ANNOUNCEMENT AND LABELING ·LITIGATION AGAINST THE POLLUTERS WHO KNOWINGLY AND WILLINGLY EXPOSED WISCONSIN CITIZENS ·PFAS WATER TESTING KITS FOR EVERY HOUSEHOLD TAP IN THE CONTAMINATED AREAS TO FULLY UNDERSTAND THE SCOPE OF THE CONTAMINATION. ·PFAS BLOOD TESTING OF EVERY INDIVIDUAL IN THE AREA TO INCLUDE SCREENING FOR CANCER MARKERS. ·CANCER/ILLNESS EPIDEMIOLOGY STUDY OF THE AREA CITIZENS ·PFAS REMOVAL FROM ALL POLLUTED AREAS IE...WATERWAYS, FIELDS STORAGE SITES

			·ZERO PFAS EMISSIONS FROM PFAS MANUFACTURERS AND CORPORATIONS WHO UTILIZE PFAS IN THEIR PRODUCTS
147	Sampling	It is essential to remove these dangerous chemicals from our water supply & keep them out!!	Increase filtering for these.
148	Sampling	Testing of PFAS levels in municipal water supplies and release of those numbers to the public. Clean water is a human right, and we have a right to know if there is PFAS in our water. EPA method 537 has provided a validated technique to test for PFAS and we should not wait for labs to be certified.	Require water utilities to test for PFAS and release those numbers to residents; the same as utilities do for lead and cadmium.
149	Sampling	It's pervasive, it's been going on for decades, and the issue is much larger than is being reported because communities are not testing their wells due to costs. I think the state needs to help all communities test their waterways and wells to discover the true depth of this issue.	Rhineland is one of the few communities that has been testing its wells for PFAS going back to 2013 (although the reporting hasn't been made public until this year). It would be an outstanding opportunity for the state to work with the city to find solutions through filtration or other means at a city level to eliminate the PFAS in the water being delivered to resident homes, if they can't be eliminated at the source.
150	Standard Setting	No definitive guidelines for communities to follow.	Define what safe levels are (if any).
151	Identifying & Addressing Historic Discharges	Stop the use of PFAS & PFOS. Clean up contamination sites and test wells for contamination of these and other hazardous substances. Establish testing for blood levels of PFAS, especially in highly contaminated sites. Also correlate health conditions that individuals have experienced in these areas. This should be available for others to compare in similar situations.	Look at the studies and findings of DuPont and 3M litigation on teflon and PFAS. Also check how PFAS's are handled in other states and countries.

152	Sampling	<p>The source of PFAS found in urban groundwater/drinking water wells should be established. Other than firefighting foams at well #15 in Madison, the source appears to be leaking sewer lines. It is well established that urine and biosolids contain PFAS.</p>	<p>This issue, and others, can be addressed by testing groundwater near those municipal wells that have low level PFAS detects, for artificial sweeteners, caffeine, aspirin, and/or other sewage tracers to determine whether sewage is entering the wells. Then an action plan addressing leaking sewer infrastructure and municipal well improvements can be created.</p>
153	Engagement, Education & Communication	<p>Many people are still learning about the dangers and concerns about PFAS. Some don't understand just how much of a problem it really is or can be for their health, the health of their farm animals, the health of the fish they pull from local lakes and streams, or the potential effect of using PFAS contaminated water on their crops. There are several "drink at your own risk" springs in various locations in the State, particularly in Northern Wisconsin. In the Town of Crescent, there is a spring that has tested positive for PFAS. The spring has a notification on it that people are using that water at their own risk and that there are dangers due to PFAS contamination of those waters, however people continue to draw water from that spring for personal use.</p>	<p>There needs to be more education so that people understand the dangers of drinking that water, or using it on crops or for other purposes while the water continues to test positive for PFAS. The Town of Crescent is located just outside of Rhinelander, and many Rhinelander residents habitually gather water from the Crescent Spring for drinking and other purposes. As this is a relatively small area, this would be a good location to speak with local residents who continue to draw water from the spring, in spite of the posted warnings, in order to discover what they do and don't know about PFAS. It would also be a good test location for trying different methods to educate people about the dangers of drinking from springs that have tested positive for PFAS. Smaller communities are easier to survey and find what educational methods have a larger impact on different groups. The local community would be a great location for testing whether slide presentations, short films, Q & A sessions, flyers, mailers, etc., would be the best way to get people's attention, as well as being able to follow up on the effect that various presentations have in spreading the news between people, as well as the direct impact of those educational methods.</p>

154	Engagement, Education & Communication	Starkweather creek/Lake Monona Contamination from airport/MATC firefighting training foam. Clean up Starkweather creek to stop the build up in our lakes. We are very concerned with the buildup of PFAS's in the fish.	I would like to see Starkweather creek cleaned up without delay to stop the flow of PFAS into our lakes. Also, I would like to have detailed information on the recommendations for fish consumption from Lake Monona. I have read the information released so far, but there are a lot of questions on how the fish were prepared or cleaned before the testing. I am hearing impaired, so public gatherings dont work for me. It would be great if I could ask some detailed questions and be able to communicate via Email/text or phone. I have a phone setup that works well with my hearing aids. My family and friends do a lot of fishing on Monona and primarily target Perch and Bluegill. I would like to share the method I use for cleaning, and see if that would lower the PFAS in the fillets. Thanks so much, Chuck
155	Future Investments	The employees that worked at Ansul/Tyco for over 30 years. Worked in close proximity of the foam in question.	Testing employees that worked closely with the foam.
156	Future Investments	Remediation that is cost effective to address PFAS. Additionally, a reimbursement program should be set up to help businesses and individual address the costs for the Site Investigation work to address PFAS. The laboratory costs alone are expensive and with no identified remedial pathway to address PFAS, costs can quickly escalate which could compromise small businesses.	Set up a reimbursement program to help individual and companies deal with the costs for PFAS sampling and remediation.
157	Identifying & Addressing Historic Discharges	Historically and currently used PFAS has and is currently contaminating our groundwater and natural areas, and due to the nature of the chemical it will require human intervention to remove the substance which causes undesirable health consequences in humans and likely in animals.	Force historical and current polluters to stop polluting and take responsibility for the contamination that they have caused.
158	Phase Out	These "forever" chemicals have been linked to adverse health outcomes in humans and animals. As they persist in the environment, exposure levels build up.	Phase them out entirely - there needs to be a cradle-to-grave mindset instilled. I cannot understand how history continues to repeat itself...when are those charged with human health and environmental protection going to require that businesses - with the intent on generating profit for their shareholders - not be allowed to create and release substances without scientific evidence demonstrating safety.

			There needs to be a requirement that independent research bodies study the substances and their effects PRIOR TO release upon the world.
159	Sampling	Need to protect the public health and drinking water supplies.	
160	Sampling	I would like a thorough testing of water ways throughout the state to measure the amount of PFAS already in existence. Ways to clear them out of the water should be identified, and funding of doing that should be committed. Then laws against using these substances should be put in place. I am a cancer survivor and I ask the question: How many adults and children need to get sick and/or die from all these contaminants before people take a stand to STOP their use?	see above.
161	Phase Out	Stopping (moratorium) on PFAS usage, immediately (not all 400 PFAS compounds at once, though those readily identified via, i.e. Dupont WVA contamination should be banned from industrial usage!	First, STOP the dilution of framing this issue! 4,000 variants, come on! Anyone with 1/2 a brain is overwhelmed! The highest concentrations/usage of particular variants as found in prior litigation SHOULD BE separated, spotlighted, and immediately removed from further usage, PERIOD. Then the top 24 expedited review, top 100 (by industrial usage across all sectors i.e. total grs, lbs., Kg). JUST BEGIN!!!
162	Phase Out	Legislation to phase out PFAS in packaging and products should be passed ASAP. Then begin cleanup or remediation of sites.	Passage of bill(s) to remove PFAS from products in retail and grocery stores. Phasing it out of firefighting foam if a suitable effective replacement is found.
163	Phase Out	The standards created are baseless given no one really understands the potential consequences of this ppt vs this ppt.	Until we better understand fully the effects these chemicals have to our families and wildlife, our goal should be ZERO. We should ban substances from manufacturing, from operation and fund municipal filtration for those areas most effected, (polluted), and continue researching long term effects of exposure . The worst offending polluters should be forced to contribute financially to clean up costs.

PFAS has decimated the communities of Marinette County: Town of Peshtigo, Porterfield, Grover, Cities of Peshtigo and Marinette. While we have a uniquely horrific situation, other communities are impacted as well, many of whom are unaware at the threat facing them.

STATE STANDARDS at 20ppt or lower!!!! This will unfortunately fall at the feet of politicians...here is some advocacy that I have shared with them... While I don't particularly care for politics, I do greatly value leadership. SB772 and SB773 are a direct result of exceptional leadership, these bills were developed, negotiated, toiled over and born out of bipartisan leadership which reflects the will of the most critical stakeholders... everyday people whose lives have been decimated. In failing to pass these bills you would fail as leaders, I am hopeful that in matters of life and death leadership will prevail over politics. With all due respect, partisan bills SB774 and SB775 fall far short of accomplishing the impactful measures of SB772/773 and quite simply would in no way be found beneficial to those of us facing this battle. The funding structure with its income requirements for grant/loan recipients, its 70ppt standard, its immensely complicated DNR management structure and its federal funding mechanism for municipalities are just a small example of the numerous shortcomings of SB774 and SB775. Upon closer review it actually generates more cause for concern than any hope for real help. In choosing to believe your good intentions toward tackling PFAS, I ask that Senator Cowles, Senator Petrowski, Representative Kitchens, Mursau, Novak and Krug elect to endorse bipartisan bills SB772 and SB773, such leadership would speak volumes and help restore broken faith to so many of us. Our community has been decimated by this disaster, yours is quite possibly next. Fear grips countless households and worse yet, a sense of powerlessness looms over their hearts. Every single day we forge on, facing a David and Goliath battle, overpowered in every arena: PR, financial, legal, manpower, special interests, political etc. but I ask of you...what choice do we have? WE PROTECT US, we do...will YOU? Please use the position you have found yourself in, the authority that comes with your office, the responsibility that you carry with you to protect all

			Wisconsinites to full bare. With respect and a desperate plea - Cindy Boyle
165	Research & Knowledge	More background monitoring needs to be conducted to determine the magnitude of the problem in the environment. Sampling wastewater plants, landfills and surface waters.	Invest in State Lab of Hygiene capacity to allow DNR to sample the environment.
166	Standard Setting	determining a clear monitoring strategy and priority for the analysis of the the different analytes. We need to determine which PFAS compounds we should be focusing on in order to establish concentration levels of PFAS of various types and try to determine the extent of the issue.	

167	Sampling	Ensuring safe drinking water.	Triage approach. Test all public drinking water supplies and concentrate on identifying large suspect sources and sample additional private water supplies. Work way down to lesser sources and test more private wells as needed. Evaluate whether to spend large taxpayer dollars on minor sources not affecting drinking water wells.
168	Sampling	-Military sites -Drinking water and lakes from PFAS -quality of wildlife and -What is the state doing about consumer goods and packages that may contain PFAS?	
169	Standard Setting	Need to identify standards for remediation and approved methods for sample collection/analysis that can be applied to sites that may have impacts from PFAS.	Adopt residual contaminant levels for ALL media.
170	Research & Knowledge	Establish realistic, science-based standards for drinking water, groundwater and surface water that are protective of human health and the environment.	Since there is such a disparity from different groups on what these standards should be, more research and vetting is required.

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171

Research & Knowledge

PFAS is a short-chain compound which, during the process of decomposition, creates or can create PFHxS as a by product contaminant. PFHxS is a long-chain compound which poses different concerns, as it takes even longer to break down and to be eliminated from the human body, as well as from other animals and ecosystems. Filtration of PFHxS is more difficult and the costs associated with filtration are correspondingly higher. As PFHxS is likely to be more prevalent over time as more and more of existing PFAS chemicals begin decomposing, there is a need to study how this chemical is formed, which PFAS compounds are most likely to create PFHxS during the course of decomposition, how to eliminate PFHxS more effectively from ecosystems, whether PFHxS is a compound in its own right rather than merely being a by-product of decomposition, how PFHxS affects human beings and other living creatures, whether PFHxS is a carcinogen and if so, which forms of cancer are likely a result of exposure to PFHxS, what levels of PFHxS in the blood stream are most likely to result in the formation of various cancers, and multiple other concerns about what it likely to be an emerging contaminant.

Obviously, anything that is an emerging contaminant would require studying, and any research would be most effectively studied closest to the point of its initial discovery. As Rhinelander was one of only two locations in the State where Wells were identified as containing PFHxS during testing performed between 2013 - 2015, then Rhinelander would be a prime location for such research to take place. It's a relatively small community with a relatively stable population with residents who have remained in the same location for multiple generations. A community of roughly 7,500 residents would be much easier to study than a larger community. The city is only 8.6 square miles, so any study would be performed in a relatively small geographic area. Cancer rates in Oneida County, where Rhinelander is located, have proven to be among the highest in the State going back as far as 1995, ranking 2nd through 2016 using the most recent available data. This would be an additional reason as to why Rhinelander would be a good location for any testing and studying on the subject of these contaminants and how they affect the general population. Additionally, working with a smaller community would provide an opportunity test potential methods to deal with contaminants at a much lower expense than doing the same in a larger community. Exploring alternative methods for remediation would be simplified due to working on a smaller scale with limited variable factors that could affect any efforts to study the effectiveness of any procedures used. Finally, Rhinelander is a small community with very limited resources. We are not a wealthy community, so it would be very difficult for us to employ any currently available methods for dealing with any of the issues mentioned here. In addition to providing the State with a good test bed, it would be beneficial to the citizens and taxpayers of Rhinelander to assist the State in exchange for whatever financial benefit would be provided as a result of Rhinelander's cooperation in such a project.

172	Pollution Prevention	Protecting public health and natural systems including air, water, soil and biodiversity.	<ol style="list-style-type: none"> 1. Prevent avoidable human exposures, starting with testing all public drinking water supplies. 2. The establishment of enforceable standards that address PFAS as a class or group of subclasses having a similar mode of action. 3. Proactive efforts to stop PFAS at the source (before it reaches sewers, wastewater treatment facilities, fisheries, groundwater etc.) 4. Legislators should secure financial resources to achieve these goals and concurrently pursue cost recovery from the original sources of PFAS such as manufacturers like DuPont and 3M.
173	Research & Knowledge	<p>PFAS, which is a short-chain compound, during decomposition breaks down into PFHxS, among other compounds, which is a long-chain compound. PFHxS presents different problems, since it is a more different compound to filter out of any water system. The current filtration systems that are effective for filtering PFHxS out of any water supply are significantly more expensive than those for PFAS, particularly when used in wastewater treatment plants. The problem with all of these chemicals is that smaller communities do not have the necessary funding to purchase and install the necessary equipment to filter out these bioaccumulators. In some cases, smaller communities aren't even aware that they may have a problem with PFAS, because they haven't done the proper testing to determine whether their water is safe or not. As a result, the residents of smaller communities are more at risk for the problems associated with PFAS chemicals. In Rhineland, which is located in Oneida County, we are a small community with limited financial resources. Our first positive test for PFHxS was in 2013. Additional testing for these chemicals wasn't performed again until 2019, at which time one of our 5 Wells was shut down, due to the high level of PFHxS in Well 7. Subsequent testing of other Wells showed that, as the PFHxS levels in Well 7 dropped, PFHxS levels in nearby Well 8 began to increase until it reached a point where that Well also had to be shut down. If we need to shut down another Well, it</p>	<p>One-time testing in Rhineland in 2013 showed our Well to be contaminated with PFAS chemicals. That test should be used as a baseline for continued research into causes for PFAS in communities where the source of contamination is not fire fighting foam. Our airport has already engaged experts who have determined that it's highly unlikely that our airport is the source of contamination in this area. With that being the case, it makes sense that additional testing and research, both of the local residents as well as the surrounding area, should begin in the location where the problems were initially discovered and catalogued. Since Rhineland is a small area, it would also serve to provide a limited area with limited potential alternative sources for contamination, as well as a smaller population for testing and research. Most residents have lived here for multiple generations, which would again assist in creating a good location for further research.</p>

		<p>could cause major problems for our community and surrounding communities as well. For the past 20 years or more, Oneida County has routinely ranked in the Top 3 counties in the entire State of Wisconsin for cancer diagnoses (https://www.cancer-rates.info/wi/). The counties surrounding Oneida, Vilas and Forest, have similar issues and high rankings in the State. Our community does not have issues with the local airport discharging high quantities of fire fighting foam. As a result, many of the causes being investigated currently do not apply to us.</p>	
174	Phase Out	<p>Manmade chemicals should not be allowed to be in products that are used in the environment before proper study on fate and toxicity. PFAS is chemical group we are now realizing but there may be others in a wide variety of products.</p>	<ol style="list-style-type: none"> 1. Compile a list of all products that contain PFAS chemicals. 2. Evaluate how much and where each product is used and how humans and wildlife may be exposed and intake these chemicals. 3. Reduce the use the most products or clean up deposits that pose the most risk based on these findings with the goal of reducing exposure to humans and wildlife.
175	Future Investments	<p>publicly identifying the extent to which private water supply is contaminated in affected areas provide guidance on limiting exposure/accumulation identify groups most at risk (i.e. adolescent children; women who are, or may become pregnant)</p>	<p>provide test kits and pay/reimburse for water quality analysis develop/provide grant program/low interest loans for private well owners for mitigation if PFAS detected above "safe" level</p>

176	Sampling	A consistent Standard Method for analyzing wastewater and biosolids should be approved nationwide before any mandatory analytical testing is done in Wisconsin.	State environmental regulators should press Federal regulators to work on a Standard Method to be used nationally.
177	Phase Out	Ban the manufacture and use of PFAS if science and toxicology studies provide that recommendation. Provide drinking water contaminant limits that align with the EPA.	The ban would be self explanatory. Use toxicology science and apply standards similar to the Federal government for water.
178	Phase Out	There is too much ground water contamination everywhere all over the state, not just in cities. Please do not forget about the rural areas!	Stop the causes of the contamination. The ground is not contaminating itself.
179	Identifying & Addressing Historic Discharges	- Issue a drinking water standard - Prohibit current use of PFAS in fire fighting foams, etc. - Hold polluters responsible for clean-up efforts	Legislation Secure federal funding or ID WI funds for dealing with clean-up
180	Engagement, Education & Communication	Alerting the public to waters that are contaminated and educating folks about actions to take to consuming those contaminated waters	
181	General Comments	something here	and then there's this
182	Phase Out	Introduction of additional PFAS into the aquifer	Eliminate PFAS containing agents in Wisconsin including fire retardants
183	Engagement, Education & Communication	Risk communication. PFAS is ubiquitous and there is no clear information on the risk pathways and my likelihood of exposure.	Clarity between all source pathways. Drinking water is not the same as groundwater is not the same as wastewater. Understand acceptable levels related to exposure risk in all different categories should be occurring after part of a statewide risk communication plan and outreach
184	Standard Setting	State policymakers should set science-based drinking water standards for PFAS in tap water, reduce ongoing PFAS discharges into water supplies, end non-essential uses of PFAS, require reporting of ongoing PFAS discharges into water supplies, ensure that PFAS wastes are properly disposed of, and expand PFAS monitoring efforts.	Current options for drinking water treatment technologies to remove PFAS include granular activated carbon, ion exchange and reverse osmosis. Of these, granular activated carbon, or GAC, is the most common, with many water treatment facilities already using it to remove other contaminants. The design of the GAC filter and how often the carbon is exchanged can affect performance significantly. Some of the systems tested already use GAC filters, including those serving Ann Arbor, Mich., and the Quad Cities, in Iowa.

185	Phase Out	Is this a true health hazard? The world needs to stop using this product if it is a health hazard. Everyone needs to be accountable in the clean up. The manufacturer, the companies that used the product, the Government, without cost impact to the people.	
186	Standard Setting	Health effects of PFAS and concerns that not all concerning substances are able to be tested for.	Adding a filter at the source.
187	General Comments		
188	General Comments	No problem with these items as they are found all over and used routinely	Leave the issue alone
189	Sampling	I am concerned with WHERE the PFAS are coming from. What is the source? Once we find the source, we need to find out how to decrease the level of PFAS in our drinking water.	
190	Sampling	Clean up at the Air Guard base, airport, waterways affected.	Clean up the mess.
191	Sampling	Lack of accountability for cleanup. Organizations responsible for emissions (e.g. US Department of Defense) should pay for and lead clean-up efforts to minimize public exposure.	
192	Research & Knowledge	The State should allocate more resources toward research positions within DNR in an effort to better characterize the extent and degree of contamination in Wisconsin.	Appeal to those who control budgeting to extend funds for more research into this important, non-partisan issue that affects the health of our invaluable natural resources and our public.
193	Sampling	Identification of all sources; state mandated testing.	State legislature funding for communities to accomplish testing.
194	Phase Out	I grew up almost weekly hearing explosions and watching plumes of smoke rise from the nearby Ansul test facility in Marinette. I know the area has a cluster of people with autoimmune diseases including my sibling's MS. People have been poisoned by the chemicals used there. I know people who used to live there who have died of these diseases. The State of WI must strictly regulate PFAS and other harmful chemicals used there to bring to an end the poisoning, the suffering, and the killing of residents.	Strictly regulate all PFAS and other chemicals used by Ansul/Tyco including banning all found to be hazardous to human health and force the company to clean up contamination from past PFAS discharges.

195	Sampling	I had our well tested for arsenic and other possible contaminants and the results indicated no issues. When I asked the lab about PFAS testing, they had no idea what I was referring too.	I believe there needs to be testing done near and around the confluence of the Wisconsin and Mississippi River.
196	Phase Out	Regulating the disposal of PFAS from manufacturers, determine the appropriate type of containment and disposal to prevent contamination into ground/surface waters, identification/warnings for products containing PFAS which have possibility of contamination of edible foods clothing, etc.	Warning labels on all products containing PFAS, still I am not knowledgeable about ability to remove PFAS components from manufacturing process don't know how storage etc can be maintained. Proper regulations to prevent discharge into waterways, uncontained ground storage systems, and routine oversight of facilities producing using PFAS during manufacturing process.
197	Research & Knowledge	I think there needs to be the inclusion of other/more PFAS compounds in both rule and policy making. Additionally, there needs to be greater sampling to better understand the size of the problem in terms of location and level of contamination.	More funding to better understand the problem involve more pertinent partners, make decisions and adjust as more information is learned.
198	Phase Out	Preventing future use of these chemicals. We are going to find this everywhere, so lets also look to conduct investigation and cleanup at the highly contaminated sites.	I think we focus on the grossly contaminated sites and those that are greatly impacting municipal water systems.
199	Research & Knowledge	HEALTH RELATED ISSUES CONNECTED TO PFAS	EPIDEMIOLOGIC STUDIES (ESPECIALLY MARINETTE AREA)
200	Engagement, Education & Communication	I have two: clean up & prevention and outreach about how pollutants aren't always detectable by smell or taste or immediate reaction (a pepto bismol moment). I live near Rhinelander, where a nearby public well was contaminated, marked as such, but continued to be used until officially closed. Research shows that people expect to be able to smell, taste, or immediately react to any toxin and treat as safe anything that doesn't have obvious and identifiable indicators of pollution. A "what you don't see *can* hurt you" type campaign might be helpful (but risk communication experts will be best to help frame such an outreach campaign).	See above.
201	Research & Knowledge	Right now it appears we don't know much about their affects on humans. Therefore, it'd probably be pertinent to do more research to see how serious the issue is. I always think it is good to try to keep our waterways clean so any action taken	I think the actions you've suggested so far are good ones: more research, address problem areas in the state, go from there. I'd like to know how you remove these substances from waterways, or maybe you can only take preventative

		in that direction is a good one-as long as we don't destroy things in the process.	measures? I like on the ground actions vs changes to policy if there's a choice.
202	Phase Out	Cost to municipal systems.	DNR should go after the point of the problem, and create laws prohibiting the use of any PFAS in companies and make them pay to clean it up.
203	Phase Out	Municipal Drinking water wells with detections.	Make PFAS illegal to produce.
204	General Comments	Lack of information regarding a "problem". Have seen no coverage in the media or other sources. Is this really a "problem" or another artificial "problem" created to divert tax dollars from real issues?	
205	Engagement, Education & Communication	since I do not know about it I am guessing many do not so I would like an education on.	send out a mass pamphlet explaining where it is found.
206	General Comments	Plastics & chemical entering our environment. Focus on those that do no break down naturally	Stricter monitoring of trash pick up Companies and those that litter. I know for a fact that trash collection companies are losing waste from vehicles that are supposed to pick them up. Outlow nonbiodegradable plastic grocery and Dept store bags.
207	Phase Out	Halting current sources of PFAS into the environment and preventing any future release to take place.	
208	Sampling	Water contamination, health risk for exposure, plan to proactively assess and determine extent of contamination in public and private water.	
209	Phase Out	Incompatible with human life	Ban it!
210	Phase Out	In short terms, set laws to protect public health and water resources. PFAS disclosure, measurement, regulations to stop release of these chemicals into environment. In long term, determine extent of contamination. Work with industries and communities to determine cost-effective ways to eliminate new contamination.	Work with Governor Tony Evers to adopt precautionary principle on chemical use as a state.
211	Phase Out	Entry of PFAS into ground water.	Limit or eliminate the use of PFAS.

212	Standard Setting	Health risks to aquatics fish birds and other wildlife as well as to humans	List PFAS as a toxic substance and apply related rules
213	General Comments	Government thinks their agency has or had their residents best interests in mind when it comes to the pfas or other natural resource impacts (other than deer and hunting related efforts)	Tax reduction to residents by reducing the cost to resident for the DNR efforts that have been failing repeatably. Stop assuming your residents think your agencies have, has or had residents best interests in mind, and actually have power and authority to change history or future. Please look at the how we got here before spending bunches of taxpayers dollars to do a political solution. Suggest tax deduction or credit for cost residents are paying to treat or purchase drinking water. Enforce and evaluate your current rules to eliminate the next oops look what we found. Work at getting government out of water treatment of public utility if you can't control the output based on your allowable contamination Slightly agree/suggest you do information program relating to your less educated residents on potential contaminants in water supplies, and how to effectively treat, but understand the political implications' and trust you may loose which is why I could never be a politician. SW Wisconsin keep hearing stuff, but have to take into our own hands so we don't drink poop, and farm chemicals. Carbon block, Reverse osmosis and UV treat inherent problems currently.
214	Phase Out	groundwater contamination impacting private wells, public wells as well as surface water contamination impacting and public fish and wildlife resources.	Eliminate PFAS use where ever possible and clean up existing contamination.
215	General Comments		
216	Sampling	Cleanup of contaminated soils and waters needs to occur to avoid health issues of individuals using and drinking the waters.	Spend money to test the soils, model the transport of the pollutant, forecast the spread of the pollutant, then hold the individuals/companies responsible.
217	Sampling	Can it be removed from our drinking water? Obviously we can't remove it from the water table, but can it be removed from within a home/business by filtering of some sort?	Identify all sources of the chemical(s) and map the pathways. If it is applied on a fire; map the runoff into the storm sewers and/or treatment plant. If it is discharged from a facility using their wastewater system - where does it go from there? The contaminated sludge that is applied to fields -

			stop it immediately and map where it was applied. Was there a permit process in place?
218	General Comments		
219	Sampling	make sure that groundwater is safe to drink	do measurements and prevention
220	Phase Out	PFAS contamination is wide spread, ill understood, and much more harmful than currently acknowledged. There are not limits on its level of contamination, nor a clear understanding of the effects on life and health of humans, animals, the environment, etc.	I want healthy limits on PFAS, clean up plans for areas that exceed healthy limits, filters for water, tests for its presence in products and manufacturing, alternatives to PFAS, and bans on further PFAS contamination.
221	Identifying & Addressing Historic Discharges	Cost of cleaning water and soil. Is there a possibility the companies responsible?	Court order to the responsible parties
222	Research & Knowledge	Studies need to be done to ascertain whether PFAS has any impacts to human health. From what I have read we know that these substances are fairly ubiquitous in the environment, but not much is know about toxicity.	See above
223	Engagement, Education & Communication	health	education for the public
224	Sampling	Ground water contamination and the sources of the contamination.	I would like to have a water testing kit for knowing what is in our water supply of the people who have water Wells. And I would like to know how much of this issue is because of the Amish people dumping their waste into and around our creeks and ponds.

225	Site Specific	<p>PFAs have been impacting the Marinette area dating back into the 1970's starting with the Ansul Company. That has since transitioned to Tyco, and no Johnson Controls. Ansul company used fire fighting foam on testing fields. These individuals who worked with the foam did not wear personal protective equipment and were not advised on the health risks it posed. Many of those individuals who worked with the foams have since died of cancer, had children with birth defects, and have high levels of unprecedented cholesterol levels, specifically triglycerides. They also dumped this foam into our creeks, lakes, and most recently disposed of it in our field in Porterfield WI on the farms where our free range deer eat.</p>	<p>PFAs have been impacting the Marinette area dating back into the 1970's starting with the Ansul Company. That has since transitioned to Tyco, and no Johnson Controls. Ansul company used fire fighting foam on testing fields. These individuals who worked with the foam did not wear personal protective equipment and were not advised on the health risks it posed. Many of those individuals who worked with the foams have since died of cancer, had children with birth defects, and have high levels of unprecedented cholesterol levels, specifically triglycerides. They also dumped this foam into our creeks, lakes, and most recently disposed of it in our field in Porterfield WI on the farms where our free range deer eat. There needs to be specific attention paid to the Marinette Area. Transparency is key. We need regulations on the disposal, clean up, and handling of these foams. I also believe that those who have been affected, need to be identified. The facilities need to be held accountable for what they have done to the communities and their citizens. The people affected need to be recognized and given substantial compensation for their life losses.</p>
226	Phase Out	Resource contamination, both surface and ground water as well as land/soil.	Increased use regulations as well as public awareness campaigns.
227	Sampling	Prevention and developing a regulation and determination of what water supply sources may already be contaminated	required sampling

228	Identifying & Addressing Historic Discharges	Remediating the surface water and groundwater	Implementing a GAC or IX system in creeks that may flow into larger bodies of water and implementing pump and treat stations for groundwater that has been seriously contaminated.
	Research & Knowledge		<p>scope statement.</p> <ul style="list-style-type: none"> • The existing trash burners in Wisconsin likely discharge PFAS as air contaminants based on the materials they are burning in their facilities. PFAS are only successfully destroyed at very high temperatures and trash burners may not incinerate at a temperature high enough to destroy all PFAS compounds, if any. DNR should regulate airborne PFAS under its existing authorities, designate them as air contaminants, and seek to limit PFAS exposure by requiring incinerators in Wisconsin to reduce or eliminate PFAS emissions from their activities. • Wisconsin should not allow PFAS to be manufactured in the state, including through GenX technology. Educating and communicating about the risks associated with PFAS: • DHS and DNR should issue health advisories now to communities that live near waters and areas of known or likely PFAS contamination and where members of the public are known to fish or swim. DNR should issue health advisories to areas near historic landfills where testing has not yet confirmed that PFAS are not contaminating wells or other water sources used by nearby residents. All of those health advisories should be issued and posted in all languages spoken by those who frequent the area and should be distributed to local news outlets, social media venues, community centers, and places where those who frequent the area gather. • DHS and DNR should use the best available science to provide a recommendation of how many fish per week a member of the public should consume in known contaminated waters and should indicate whether

			<p>that advisory depends on whether the person eats the entire fish or just the fillets. This advisory should be easily understandable and distributed to local news outlets, social media venues, community centers, and places where anglers gather. • DNR or DHS should announce recommendations for proper disposal of products that include PFAS, such as non-stick cookware, dental floss with PFAS, cans of stain resistant sprays containing PFAS, or furniture coated with those sprays. In addition, DHS should provide guidelines and explain what treatment technologies are available if a person’s drinking water has PFAS concentrations above the DHS’s recommended standards.</p>
	<p>Research & Knowledge</p>	<p>And unlike Peshtigo, we cannot point to one or two large corporations as the source of our problems and concerns. And again, unlike Peshtigo, we do not have any large corporations that we can require through legislation to pay the costs associated with performing blood tests on our citizens or for cancer studies or for clean up or anything else related to finding causes and solutions for our cancer-related issues.</p>	

Appendix B: Public Advisory Group Gap Analysis

Additional Actions Proposed by External Advisory Groups

While the majority of the actions proposed by the two external advisory groups (citizens/public policy and local government) were either similar (see sections on action papers titled "This action addresses input received from:") or were related to (see sections on action papers titled "Additional information.") components of actions proposed by WisPAC, the following actions proposed through the external advisory groups were not significantly related to any of those actions:

Local Government Advisory Group

- Recommended that the State of Wisconsin require a licensing program for fire departments that includes a requirement to maintain an inventory of PFAS foam and also require that fire departments contract for clean-up and disposal at areas where PFAS is discharged. Discharges that occur as the result of Class B (flammable liquid) fires would be exempt from these contracting requirements.

Citizens/Public Policy Advisory Group

- Consider opportunities for municipalities to exercise emergency powers to address specific concerns.
- There should be clearer guidance regarding when state government or an RP should be liable for addressing historical/legacy discharges
- Provide guidance on how PFAS liability will be managed in Voluntary Party Liability Exemption (VPLE) cleanups.
- Identify what to do with PFAS-impacted building materials & cleanup residue.
- Address gap that exists because PFAS is not currently a CERCLA hazardous substance and thus outside of the scope of a traditional ASTM Phase I Environmental Site Assessment.

The full reports submitted by the external advisory groups can be found in Appendix C and D

Appendix C: Local Government Advisory Group Recommendations

The following pages include the recommendations forwarded to WisPAC from the **Local Government External Advisory Group**. These recommendations were based upon input received at the respective external advisory group meetings.

The following recommendations are organized by four focus areas, which reflects the initial way in which WisPAC had organized the solicitation of input. Subsequently, it was decided that the four focus areas were not sufficiently distinct.

Focus Area 1: Preventing Future Discharges and Exposures

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Evaluate PFAS-containing products and eliminate “non-essential” uses of PFAS in products.

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

Regulating PFAS in our environment (air, groundwater, drinking water, surface water, wastewater, soil, sediment, etc.) is a reactive, rather than proactive, approach to protect human health and the environment. Because PFAS compounds are ubiquitous, including in everyday household products, they are also present in all of our waste streams. There are significant costs and operational feasibility issues that would need to be weighed against the needs of the community for installation of PFAS treatment at public water supplies. Publicly-owned treatment works (POTWs) are not designed to remove these persistent bioaccumulative contaminants from wastewater and it is economically and technically unfeasible to install treatment.

Landfilling is the most common disposal methods for industrial and consumer PFAS-containing waste materials. This creates an ongoing threat of contamination into the environment through discharge of landfill leachate and landfill leakage. While some PFAS chemicals are no longer found in new U.S. products, these chemicals still find their way into landfills after the end of products’ useful life. Unless we can begin phasing out non-essential PFAS compounds, they will continue to be found in our drinking water, wastewater and solid waste.

The LGAG recommends that Wisconsin follow the EU lead in developing an evaluation of PFAS-containing products, immediately phasing out “non-essential” PFAS use in products and only allowing continued use of “essential” PFAS in products until alternatives are developed with a deadline of 2030 to use only PFAS-free products.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. “we need to think about...”, comments on process of how to implement the proposal, etc.

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Create stricter labeling requirements (transparency) for manufacturers of products containing PFAS.

Provide information for consumers on PFAS-containing products and encourage purchase of PFAS-free products.

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include listing PFAS as potential toxins and set strict product labeling requirements for manufacturers, distributors and retailers. The plan should also include confirmation testing of products to ensure manufacturers are reporting accurate information. Results should be used to establish reporting thresholds for PFAS that are lower than the usual federal statutory thresholds for other regulated chemicals due to concerns for their environmental persistence and bioaccumulation potential.

The plan should include more stringent requirements than currently required by Safety Data Sheets (SDS) for all suspected PFAS-containing products manufactured and/or sold in the United States. SDSs are intended to identify workplace hazards for chemical products and must include hazard information for any component at or above the 1% level. Fluorosurfactants are highly efficient, requiring only very small quantities to achieve their intended function. These levels are often well-below SDS reporting thresholds at in-use concentrations.

The current product safety data and technical information sheets often provide limited information. For example, some SDSs identify PFAS-containing ingredients as “C8”, “proprietary” or “trade secret” or may state only the chemical category, such as “partially fluorinated”. Lack of full structure information makes it difficult for consumers to assess environmental fate and toxicity or to assess the relevance of toxicity data for newly developed PFAS substitutes.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. “we need to think about...”, comments on process of how to implement the proposal, etc.

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Provide assistance for Local Government Units (LGUs) to develop a PFAS Pollutant Minimization Program (PMP).

- Standardized industrial user survey
- Information on products for informed public purchasing
- Model ordinances and state enforcement support

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The LGAG recommends that the WisPAC Action Plan include guidance LGUs may use to identify entities discharging PFAS to wastewater systems or disposing of PFAS at landfills or other waste disposal sites.

The Action Plan should also include development of a model Industrial User Survey, which would assist POTWs in identification of potential sources of PFAS that contribute to the sewerage system. This Action Plan should also identify possible sources of funding for local government resources and staffing.

The Action Plan should also include investigation of regulatory tools local governments and/or the DNR could use to reduce the volume of PFAS pollutants discharged into sewer systems. This could include the development of model ordinances for implementation of those regulatory tools, where practicable.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

Focus Area 2: Inventorying & Minimizing Current PFAS Exposures

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Provide assistance and funding to local fire departments to inventory and properly manage PFAS-containing aqueous film-forming foam (AFFF)

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

Aqueous film-forming foam (AFFF) is highly effective foam intended for fighting high-hazard flammable liquid fires. Currently, DOD and FAA-regulated airports must maintain an inventory of AFFF to extinguish flammable liquid fires.

Some vendors are now offering “fluorine-free” foam. However, it may not be easy to tell if the foam contains PFAS since these chemicals are not always reported on a safety data sheets (SDS). A good indicator that the foam contains PFAS is if it mentions fluorosurfactant, fluoroprotein, C6, or the use of “fluoro”, however, not all fluorinated surfactants are made of PFAS. This results in the fire department contacting the manufacturer in writing to see if PFAS is used in its production.

The WisPAC Action Plan should include an aggressive plan to assist local fire departments manage the existing inventory of PFAS-containing aqueous film-forming foam (AFFF).

- Develop a health and safety plan:
 - Minimizing firefighters and community risk of exposure to AFFF products.
 - Develop education and information regarding fluorine free foam (FFF).
 - Develop education and information on PFAS foams that are being marketed as “safe” or “safer”.
- Develop inventory, storage, use and clean-up plan:
 - Require a site inventory of PFAS foam.
 - Develop best practices for storage and use.
 - Develop best practices for clean-up.
- Develop reporting requirements:
 - Require local fire departments to report to DNR when they have discharged PFAS foam.
 - Require fire departments to contract for clean-up and disposal of area where PFAS was discharged.
- Develop exemptions for fire departments that may require to use PFAS foam for high hazard facilities, such as hydrocarbon or ethanol processing and storage.
- Create a licensing program for fire departments that must maintain an inventory of PFAS foam to ensure proper training, use and clean up.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. “we need to think about...”, comments on process of how to implement the proposal, etc.



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Issue/Problem Statement

Brief summary of issue, concerns, etc.

Provide funding to local government units (LGUs) who seek to inventory and address local PFAS sources

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include a plan to assist LGUs in proactively identifying PFAS sources in their community and provide guidance and funding for the redevelopment of property affected by PFAS contamination.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

DRAFT

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Provide guidance on PFAS Best Management Practices for treatment and destruction/disposal

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

In the absence of PFAS regulations, communities are questioning what the most appropriate method of treatment/disposal for is PFAS-containing liquid and solid wastes. The properties of PFAS that make these substances ideal industrial and consumer products subsequently make PFAS-containing products difficult to properly treat and dispose at end of useful life.

PFAS are detected in wastewaters and landfill leachate due to their widespread uses in consumer and industrial products. There are three existing options for removing PFAS from wastewaters: granular activated carbon (GAC), ion-exchange (IX) resins, and high-pressure membrane filtration of nanofiltration and reverse osmosis (RO). All three options require a significant capital investment for installation and operation and, because these processes do not destroy PFAS compounds, produce residual wastes with highly concentrated PFAS.

Landfilling typically serves as a common and accessible disposal method for most PFAS-containing waste, but there is uncertainty of the long-term consequences and management of PFAS in landfill leachate. Some states have begun sampling programs for PFAS in landfill leachate, and a few landfills now refuse to accept PFAS-contaminated soil and groundwater generated from remediation programs at impacted sites.

EPA is currently considering multiple disposal techniques, including incineration, to effectively treat and dispose of PFAS waste.

The WisPAC Action Plan should include a focused effort from regulators to develop guidance, BMPs and regulation specific to PFAS, including handling and disposing of PFAS waste from contaminated sites.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

Focus Area 3: Identifying & Addressing Historic or Legacy PFAS Discharges and Exposures

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Fund and conduct additional studies around the state to identify and communicate known legacy sites

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include a plan and funding for additional studies to identify and alert Local Government Units of PFAS contamination. PFAS sampling should be part of site investigations near probable PFAS sources. PFAS sampling should be included in routine monitoring of rivers and lakes. Sampling should be conducted sites where historical information indicates PFAS was used in industrial or manufacturing processes.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

DRAFT

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Expedite development of clear interim cleanup standards for various media (soil, groundwater, sludge, landfill waste, etc.) and create clear guidelines for expectations on clean-up and remediation schedules for remediation of sites where sampling has revealed PFAS contamination, while final clean-up standards are being developed.

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include expedited state action, such as emergency rule development or executive order, to develop interim statewide clean-up standards for soil and groundwater. Creating these standards will obligate persons responsible for contamination and the state to act.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

It is important that we establish standards based on sound science. That takes time but needs to be done. However, until that happens there needs to be a sufficiently clear interim standard to require responsible persons to address contamination.

While a statewide clean-up standard is appropriate on an interim basis, final standards should be developed to account for the fact that contaminant transport may be different in different soil and ground water régimes.

Focus Area 4: Educating, Engaging and Communicating About the Risks Associated with PFAS

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Provide clear communication from state agencies on PFAS risks

- Create dedicated website/resources combining DNR/DHS information
- Determine what various concentrations mean in what media
- Identify and respond to knowledge or regulatory gaps as well as misinformation
- Emphasize effective public education for broad audience, including marginalized groups

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include development of a single state agencies' PFAS website that is easy to navigate and find and that provides information for Local Government Units and the public to stay informed on the issue. The Action Plan should clearly and consistently communicate and engage the public on risks associated with exposure to PFAS through a coordinated state agency website. Clear, consistent communication through consultation and information sharing between agencies and the public will greatly increase community understanding of the PFAS issue. It will also reduce dissemination of misinformation that leads to public confusion, anxiety and distrust of state and local government activities. This, in turn, will allow agencies to continue the important work of determining the most appropriate PFAS management and responses, commensurate with risks identified through detailed assessment and analysis of all available information.

The website should provide basic information on toxicology so that the public can better understand the risks.

- We know that PFAS do not readily breakdown and that low levels of PFAS have been found throughout our environment. Higher levels can be found in water and fish near facilities that manufactured, disposed or used PFAS. This requires differentiating high concentration sites from background concentrations.
- The risk of public exposure to PFAS from ingestion, such as through drinking water or the consumption of fish, is significantly higher than that from direct contact with PFAS-contaminated surface water, soil or sediment.
- The communication plan should include what is known and identify gaps in knowledge about potential human exposures and health effects based on PFAS production, use and human exposure data.

To date, most of what is known about PFAS exposure and health effects is based on studies of the two chemicals that have been manufactured for the longest period of time: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about..."), comments on process of how to implement the proposal, etc.

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Create communications/risk communications toolbox for municipalities

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should include development of a Risk Communication Toolbox for Local Government Units that is a ready-to-use, “one-stop-shop” developed through a coordinated state agency effort to support local governments in developing, as they deem appropriate, their own PFAS risk communication materials. The toolbox should include press release templates, social media posts, FAQs, factsheets and other quick references. The materials should focus on communicating risk and providing background information to the public prior to and during a discovery/release event as well as general information on PFAS.

The toolbox should contain tools and resources for communicating risk to the public about PFAS in the various media (groundwater, drinking water, wastewater, biosolids, soil, sediment, etc.). Determining when and how to use these materials should be decided at the LGU level, in collaboration with state agencies, since each PFAS discovery/release event varies on a case-by-case basis. LGUs would work with state officials to determine at what PFAS levels, in what type of media and how to best inform the public.

The toolbox should include resources needed by LGUs, including: templates, general information documents, and graphics:

- **Templates:** Templates should be ready-to-use in Adobe PDF and Microsoft Word formats, include prompts to fill in system-specific information and be developed with the public as the audience including:
 - Press Releases,
 - Advisories,
 - Social Media and Text Alerts, and
 - Public Messaging.
- **General information:** These materials should be developed to provide basic information about PFAS, including:
 - Frequently Asked Questions,
 - Factsheets.
- **Graphics:** Graphics that can be used on websites, in factsheets and other media to help convey the message.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. “we need to think about...”, comments on process of how to implement the proposal, etc. Other Recommendations:

Other Recommendations

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Fast-track the development of policies and procedures to keep the level of human exposure to the most toxic or prevalent PFAS compounds below health standards.

Consider practicability of standards given widespread occurrence of PFAS.

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

Per- and polyfluoroalkyl substances (PFASs) are a group of fluorinated substances of interest due to their widespread presence in the environment. A few PFASs have comparatively extensive amounts of human epidemiological, exposure, and experimental animal toxicity data (e.g., PFOA and PFOS), whereas little toxicity and exposure information exists for much of the broader set of PFASs.

The WisPAC Action Plan should direct state researchers to gather and assess data on chemical toxicity and environmental exposures for PFAS of highest concern; health impacts, and the effectiveness and cost of different technologies for treating or removing PFAS from different media.

We need to better understand the complex science of PFAS total exposure and impacts, verifiable analytical methods, and real-world risk before providing common health standards. The PFAS policy goal should be to determine the most effective steps needed to reduce human exposure and implement them within the broad context of protecting human health. This requires differentiating high concentration sites from background concentrations and taking action to regulate and mitigate concentrations at high use sites. It also demands both a reassessment of products we produce and use daily, and a realistic assessment of how to control PFAS chemicals already in the background environment. The most significant action we need to take today is to remove these chemicals of emerging concern from commerce and pursue cleanup and remediation at contaminated sites and waterbodies. Source reduction and pollution prevention can serve as the most efficient means of addressing the persistent background presence of PFAS and effectively limit future exposure to PFAS.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Get standards/BMPs ASAP for disposal methods like landspreading, landfilling, etc.

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

In the absence of PFAS regulations, generators of PFAS-containing waste are questioning what the most appropriate methods of treatment or disposal. Lack of regulations and Best Management Practices lead to potential risks and liabilities for the generator. The WisPAC Action Plan should include development of Best Management Practices for biosolids landspreading and disposal options for PFAS-containing waste and wastewater.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. "we need to think about...", comments on process of how to implement the proposal, etc.

DRAFT

Issue/Problem Statement

Brief summary of issue, concerns, etc.

Identify research gaps respond

- Inventory and make available existing research (e.g. performance and availability of fluorine-free foams, toxicity of shorter chain compounds, etc.)

Recommendation

What does the LGAG recommend? We may want to include alternatives if there is more than one way to go about it.

The WisPAC Action Plan should require state agencies to inventory existing research, identify gaps and focus resources on research needed to better understand toxicity of discontinued PFAS (e.g. PFOA and PFOS) and replacement compounds (e.g. GenX and PFBS), occurrence, laboratory analytical methods, and treatment and disposal.

Comments

Any dissenting opinions, additional comments that do not directly fit into the proposal (e.g. “we need to think about...”, comments on process of how to implement the proposal, etc.

DRAFT

Appendix D: Citizens Advisory Group Recommendations

The following pages include the recommendations forwarded to WisPAC from the **Citizens External Advisory Group**. These recommendations were based upon input received at the respective external advisory group meetings.

The following recommendations are organized by four focus areas, which reflects the initial way in which WisPAC had organized the solicitation of input. Subsequently, it was decided that the four focus areas were not sufficiently distinct.

FOCUS AREA 1: Preventing Future Discharge and Exposure

OVERVIEW

PFAS compounds are ubiquitous and used in countless products and processes. While most PFAS compounds have not been linked to health risks to date, a subset of PFAS has been determined to be detrimental to human health. The Wisconsin DNR, DHS and private parties are taking action to mitigate health risks where harmful PFAS are identified in the environment. At the same time, however, new PFAS-related health risks are developing through:

- The continued use of products containing PFAS of concern, such as fluorinated firefighting foam (AFFF);
- the ongoing importation of products containing PFAS from countries that have not banned their use;
- atmospheric deposition from countries that continue to use harmful PFAS; and
- continued exposure to PFAS sources that have yet to be detected (as addressed in Focus Area 2, Identifying and Minimizing Current PFAS Exposure).

RECOMMENDATIONS

Overall

- State investments in preventing future PFAS impacts are the most effective means of protecting public health. They are also less costly and less detrimental to the State's economy in the long run.

Community Engagement

- Because PFAS are found in a multitude of common household and commercial products, public outreach that empowers state residents to avoid PFAS exposure is crucial.

Actionable Information

- Provide information and assistance to aid manufacturers, fire departments and other PFAS users to transition to products and processes that avoid harmful PFAS compounds

- Provide greater flexibility in code/statute to address additional compounds (e.g., water quality values) as knowledge base increases
- Consider necessity/value of full PFAS ban
- Provide greater flexibility in legal resources to address additional emerging contaminants and additional contaminants (e.g. pharma) as knowledge base grows
- Develop better education on how to prevent future PFAS discharges

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FOCUS AREA 2: Inventorying and Minimizing Current PFAS Exposure

OVERVIEW

- Research and develop best management practices for all parts of PFAS lifecycle (including treatment, disposal and destruction), including leachate and biosolids;
- Provide better/more accessible information to the public on products containing PFAS; and
- Expand toxicology understanding.

RECOMMENDATIONS

Overall

- Public Advisory Group (PAG) participants are interested in opportunities to inform the public on current conditions that may increase their risk of exposure to PFAS.

Community Engagement

- Management of POTW/WWTP sludges and biosolids is a significant concern which may not yet be fully understood.
- PAG participants expressed a desire for clearer definition of the proposal to “expand” our understanding of PFAS toxicology. Co-chairs indicated this could be through encouraging the U.S.EPA to address toxicology, as one of the pillars of the February 2019 federal PFAS Action Plan, more quickly. A Wisconsin DNR representative added that State has relied on U.S.EPA in the past for such information. WDNR has now asked DHS for Enforcement Standards (ESs) for several more PFAS compounds. DHS is looking into potential dermal contact issues also.
- One suggestion was that State could consider utilizing available funding to broaden the explanation of PFAS use and industries that handle PFAS to better understand potential receptors. Minnesota and Michigan have set this precedent.

Actionable Information

- Evaluate legislative solutions to allow local government/municipalities to set and implement more restrictive standards to address local PFAS issues and concerns
- Consider impacts of federal or state preemption of state or local standards, respectively
- Consider opportunities for municipalities to exercise emergency powers to address specific concerns
- Consider additional measures to develop means for inventorying PFAS exposure risks

FOCUS AREA 3: Identifying and Addressing Historic/Legacy PFAS Discharges and Exposure

OVERVIEW

- Prevent uncertainty for brownfields development by clarifying standards, identifying priorities
- Develop BMPs/standards for WWTP sludge disposal and dewatering - \$ responsibility?
- Identify historical/legacy discharge sites
- Address due diligence/Phase I protocols
- Risk management and allocation – VPLE

RECOMMENDATIONS

Overall

- Public Advisory Group (PAG) participants are interested in opportunities to identify and address historic/legacy PFAS discharges and exposure in Wisconsin.

Community Engagement

- A PAG participant suggested that municipalities should set more stringent standards than state law, including what happens when the federal government starts new construction at military/airport installations. A Wisconsin DNR representative acknowledged that military installations are a challenge because our authority over them is limited.
- A PAG participant suggested that there should be clearer guidance regarding whether the state government or a responsible party should be liable for addressing historical/legacy discharges.
- A PAG participant suggested that establishing sampling and analysis protocol should be a priority.
- A PAG participant noted that determining background concentrations is important.
- A PAG participant questioned how PFAS liability will be managed and allocated in VPLE-type voluntary cleanups

Actionable Information

- Identify which PFAS chemicals and which PFAS uses and sites are a priority
- Identify what to do with PFAS impacted building materials and cleanup residue, akin to materials contaminated with PCBs and other contaminants
- Encourage information sharing from and with Wisconsin DNR regarding remediation technologies
- Address gap that exists because PFAS is not currently a CERCLA hazardous substance and thus outside of the scope of a traditional ASTM Phase I

FOCUS AREA 4: Public Stakeholder Engagement (Formerly Educating and Communicating)

OVERVIEW

Through robust, transparent public engagement State agencies have an opportunity to:

- Tap into the wisdom and insight of stakeholder groups to tailor state actions to local needs and priorities;
- Empower citizens to protect themselves from known PFAS risks; and
- Build public confidence in the actions of the state toward mitigating PFAS impacts.

RECOMMENDATIONS

Overall

- PAG participant comments reveal a high degree of public trust in the quality of information that the state has offered. Several participants acknowledged that PFAS issues have escalated so rapidly that outreach efforts have been hard-pressed to keep pace. Still, the most pressing request is that the state continue to move quickly to meet public demand for actionable information, as well as meaningful public involvement in the state's plans related to PFAS.

Community Engagement

- Focus Area 4 should emphasize engaging the public in meaningful exchanges that refine the state's actions, in addition to educating and communicating. Renaming Focus Area 4 to reflect the emphasis on engagement would be consistent with this commitment.
- Strive to meet affected populations on their terms. Public meetings, for example, are not comfortable settings for all individuals. Diversify strategies to ensure that residents have multiple avenues for interacting with state teams.
- Seek out marginalized and diverse groups and remain mindful of potential environmental justice disparities in impacts. Leverage existing networks to draw in disparate communities.

Actionable Information

- Put actionable information front and center in communication. Too often, abstract or academic background information is featured more prominently than guidance on actions individuals can take to protect themselves. Push forward suggestions on steps people can take to avoid household PFAS exposure in dust and products, safely discard PFAS containing products, and respond to foam in waterways, for example.
- Move quickly and consistently to prevent exposure to PFAS in the environment; for instance, use signage, media outreach and social media advisories to alert the public to specific local risks of PFAS exposure.
- Build awareness of actions that individuals, businesses and institutions can take to prevent future PFAS discharges. For example, empowering consumers to avoid products containing PFAS will influence manufacturers to phase out their use.
- Ensure that potential risks, such as to users of fluorinated firefighting foam or wastewater treatment plant workers, are identified and communicated to the affected populations.
- Develop outreach to assist manufacturers in identifying and potentially avoiding materials and processes throughout the supply chain that may contribute to PFAS releases.

Appendix E: Glossary

Term & Definition

AFFF (Aqueous Film-Forming Foam): Highly effective foam intended for fighting high-hazard flammable liquid fires. There are two major classes of firefighting foams: Class A and Class B (including AFFF). Hybrid Class A and B (dual action) foams, may also contain PFAS.

Class B: All AFFF products contain PFAS. The vast majority of Class B firefighting foam that is currently in stock or service in the United States is AFFF or AR-AFFF. Many other Class B firefighting foams also contain PFAS. This applies to foams used in the past and those being sold today.

Class A foams were developed in the 1980s for fighting wildfires. They are also used to fight structure fires. Class A foams rarely if ever contain significant amounts of PFAS. Class B foams are any firefighting foams that have been designed to effectively extinguish flammable and combustible liquids and gases; petroleum greases, tars, oils and gasoline; and solvents and alcohols.

Air (PFAS Contamination): PFAS are semi-volatile compounds, and deposition chemistry of such compounds is complex and influences their rate of atmospheric deposition to land and water surfaces.

BMPs (Best Management Practices): A set of voluntary and/or required guidelines and protocols for organizations to follow in order to comprehensively and strategically address their relevant PFAS-related issue; these practices are in place to maintain surrounding environmental integrity and safe communities.

Bioaccumulation: PFAS has the characteristics which allow them to become continually concentrated inside the bodies of living things; e.g. a small fish that is exposed and consumes PFAS, then is consumed by a larger fish or animal, the latter will now accumulate the PFAS in its tissue and organs. Since fishing and hunting is an important part of Indigenous and local culture in Wisconsin, it is vital to understand safe consumption levels, and the patterns of bioaccumulation in animals throughout the ecosystem.

Biosolids: A byproduct of wastewater treatment plants that is spread as fertilizer on land (this action is often referred to as 'land application of biosolids'). Biosolids may be a source of PFAS contamination if PFAS substances are discharged to a wastewater treatment plant and bioaccumulate in the solids.

PAG (Public/Citizen Advisory Group) – see page # (to be completed when page #s finalized)

LGAG (Local Government Advisory Group) – see page #

Consumer Stewardship (as applied to PFAS): Protocols and guidelines given to consumers by manufacturers so PFAS-free products can be identified and bought as safe alternatives; educational outreach from businesses and state agencies that provides consumers with information and knowledge to choose safe products.

Drinking Water (PFAS Contamination): A vulnerable resource that could be contaminated by PFAS from a number of sources that travel through the water cycle. An action item is suggested that statewide testing is done in order to maintain Safe Drinking Water standards for the people of Wisconsin.

Environmental Justice – see page # (to be completed when page #s finalized)

Equity – see page # (to be completed when page #s finalized)

Fate & Transport: The way PFAS moves throughout the environment including within and between environmental media (e.g. soil, sediment, air, surface water, groundwater, fish, etc.).

Fluorine-Free Firefighting Foam: There are firefighting foams free of PFAS that are used by various firefighting entities.

Foam: Foam forms naturally on water when there is the right amount of friction on the surface and the water also contains sufficient surfactants. Those surfactants are often natural, but they may also include chemicals such as PFAS. PFAS concentrations in foam are typically much higher than in the underlying surface water and therefore present an elevated risk to whoever comes into contact with it.

General Public – see page # (to be completed when page #s finalized)

Groundwater (PFAS Contamination): A resource used for drinking water but also vulnerable to contamination, groundwater can be affected by contaminated soil, leachate, biosolids, landfill waste, surface water, spills, and PFAS-containing firefighting foam.

Hazardous Substance: PFAS substances may be considered a hazardous substance or environmental pollution under state law, Wis. Stat. § 292. PFAS is not listed as a hazardous substance under CERCLA, and the EPA has not adopted enforceable, maximum contaminant levels for PFAS in drinking water.

Leachate: A liquid that, in the process of passing through waste material, extracts contaminants from the material through which it has passed. This term is often applied to landfills, where rainwater becomes

contaminated after passing through landfill waste, is collected by a liner, and ultimately transported to a wastewater treatment plant.

Legacy & Historical Sites: Sites of (certain types of) production and manufacturing, landfill, military installations and firefighting foam testing sites have a higher chance for PFAS contamination; these sites will be prioritized for cleanup and remediation.

MCLs (Maximum Contamination Levels): The Wisconsin DNR has promulgated MCLs for drinking water through Wis. Admin. ch. NR 809, The establishment of MCLs is consistent with the objectives of the EPA's Safe Drinking Water Act. MCL's establish standards that act as concentration thresholds throughout public water systems for various substances in order to provide safe drinking water to the public.

Non-Community Water Systems: Public water systems that serve people at places other than where they live; it can either be transient which is a system that serves at least 25 people, but not necessarily the same people, for 60 days to a year or more (motels, restaurants, taverns, campgrounds, parks, and gas stations), or non-transient which is a system that serves at least 25 of the same people for at least 6 months of the year (schools, day care centers, factories, or businesses (with 25(+) employees)).

Product Stewardship (as applied to PFAS): Appropriate management of PFAS-containing products, including labeling and appropriate disposal, and potentially eliminating the use of PFAS substances in products where viable alternatives exist.

Responsible Party: In Wisconsin, "Responsible party" or "responsible parties" means any of the following: (a) Any person who is required to conduct a response action under ch. 292, Stats. (b) Persons liable to reimburse the department for the costs incurred by the department to take response action under chs. 289 and 292, Stats. (c) Owners and operators of solid waste facilities that are subject to regulation under ch. NR 508.

Sediment: (PFAS Contamination) Particles in the bed of a navigable water up to the ordinary high-water mark that are derived from the erosion of rock, minerals, soil, and biological materials and from chemical precipitation from the water column and that are transported or deposited by water.

Soil (PFAS Contamination): Unsaturated organic material, derived from vegetation and unsaturated, loose, incoherent rock material, of any origin, that rests on bedrock other than foundry sand, debris and any industrial waste. It is vulnerable to PFAS contamination from other contaminated environmental media like biosolids, flooding of surface water, close-to-surface groundwater, and particles in air.

Soil Direct Contact Standards: Concentrations in shallow soil above which are considered a hazard to human health via inhalation of particulate matter, dermal absorption, incidental ingestion, or inhalation of vapors from the soil.

Soil-to-Groundwater Standards: Concentrations in soil above which are considered to have a reasonable chance of resulting in groundwater contamination above enforcement standards or other applicable target concentrations if enforcement standards are unavailable.

Stormwater (PFAS Contamination): During times of flooding or above average water levels, storm water can become a vessel to transport PFAS contaminated runoff and leachate into other environmental media

Surface Water (PFAS Contamination): Lakes, streams, wetlands, aquifers, and springs; a vulnerable resource to PFAS contamination from industry, leachate, or wastewater.

Theme: Grouping of issue papers based on the most prominent topics; subgroup of issues that are related but are organized based on predominant focus.

- **Standard Setting:** Establish PFAS concentration standards for various environmental media (surface water, groundwater, drinking water, wastewater, soil, and sediment).
- **Sampling:** Expand and enhance current statewide and site-specific sampling practices to create more efficient and effective methods that identify potential PFAS contaminated sites or impacted water bodies.
- **Pollution Prevention:** Provide support and direction for legislation, rule writing, education/outreach and BMP's for businesses/organizations to reduce PFAS impacts to the environment.
- **Engagement, Education, and Communication of PFAS & Public Health:** Increase collaboration efforts amongst state agencies, local government, and tribal organizations to establish a comprehensive communication infrastructure that educates the public on PFAS issues around the state; through the same collaborative efforts, establish guidelines to educate workers that are high risk to PFAS exposure.
- **Research & Knowledge:** Collaboration and partnership amongst WisPAC member agencies and interstate to increase research efforts; monitor PFAS contamination sites and maintain information as background levels.

- **Phasing Out:** Provide support and regulation for manufacturers to create PFAS-free products; improve product stewardship so consumers can clearly identify PFAS-containing household products.
- **Future Investments:** financial measures to address PFAS contamination issues.
- **Identifying & Addressing Historic or Legacy PFAS Discharges & Exposures:** Focus on areas of the state or sites that have been impacted by historic discharge of PFAS substances to the environment, resulting in contamination to the air, land and waters of the state.

UCMR 3 & UCMR 5 (Unregulated Contaminant Monitoring Rule): The 1996 Safe Drinking Water Act (SDWA) amendments require that once every five years EPA issues a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). UCMR 3 (2013-15) added 6 PFAS compounds to the monitoring list. UCMR 5 (2023-25) will include 25 PFAS compounds.

Wastewater: Water that is discharged from municipal and industrial operations; it can either be discharged into surface water or groundwater, making it a potential source of PFAS contamination.

WPDES (Wisconsin Pollutant Discharge Elimination System): The DNR regulates the discharge of pollutants to waters of the state through the Wisconsin Pollutant Discharge Elimination System (WPDES) program. Wastewater permits contain all the monitoring requirements, special reports and compliance schedules appropriate to the facility in question. Permits are issued for a five-year term.

WWTP / WWTF (Wastewater Treatment Plant / Facility): Also referred to as a sewage treatment plant and includes Publicly Owned Treatment Works (POTW). A POTW is a type of WWTP that is owned, and usually operated, by a local government agency. Pollutants in wastewater from households and businesses are removed or broken down within WWTPs so that the water can eventually be discharged back into the environment. POTWs often accept wastewater from landfills. WWTPs are important stations to implement PFAS treatment technology so as not to allow further contamination from biosolids and expelled treated water into surface or groundwater.