This review document includes draft material being considered by the Wisconsin PFAS Action Council (WisPAC) for inclusion in a larger plan being developed to address health and environmental risks associated with PFAS in Wisconsin.

Following the current review period, a final draft version of the full 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**

# DRAFT Action Items for WisPAC review

# Monitor background levels of PFAS in the environment (Issue Paper 8.1)

## Background

PFAS are persistent, water soluble, and bio-accumulative contaminants that make them ubiquitous in the environment and mobile among various media. They are widely used in everyday products and packaging, as well as being present in a wide variety of industrial applications.

The DNR, DHS and State 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.

## 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 contaminations can be evaluated. Environmental monitoring and targeted research are required to be able to understand ambient concentrations of PFAS in all media across Wisconsin and discern any broad geographic trends. Assessments should be made of the following environmental media:

- Air
- Surface water
- Wastewater
- Biosolids
- Drinking water
- Groundwater
- Soil
- Sediment

- Fish
- Wildlife

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

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| **Time to initiate** | The collection of ambient samples can be implemented 1 – 6 months from now |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS, EPA, USGS, UW, WSLH |
| **Type of action** | Budgetary [redacted] Administrative (operations) Research [redacted] |
| **Business Case:** | Wisconsin citizens will benefit from the knowledge of ambient background PFAS concentrations across the state in relation to where they live 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 the relative impacts to human health and the environment. |
| **Anticipated resource needs:** | It is expected that additional budget and staff resources are required to fully implement this action, including:<br>• State and federal funds to support the necessary research and analysis of field samples<br>• Additional staff and staff time to collect, analyze, and summarize data |

**Additional Information:**

**Media specific ambient monitoring methods:**

- **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 settlements 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.

  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 effluent 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, as well as the potential for plumbing materials and fixtures as a potential source of PFAS.
- **roundwater:** 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 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 adequality 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:** 8 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.

# Collaborate to address PFAS-containing firefighting foams in Wisconsin and Wis. stat. § 299.48 (Issue Papers 4.3 & 9.2)

## 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 release of these chemicals into the environment during 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 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.

2019 Wisconsin Act 101 was published on February 6, 2020 and is codified in s. 299.48, Wis. Stats. This law limits the use of PFAS-containing foams to testing and emergency situations and requires the DNR to deliver emergency rules that establish appropriate containment, treatment and disposal or storage measures for firefighting foam testing facilities by September 1, 2020

In January 2020, DNR, in collaboration with DOT, DSPS, and the UW Technical College System's Fire Service Training Center, 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).

# 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 PFAS-containing compounds, and to help them as they develop new processes, protocols, and best management practices for Class B type fires.

Like other states, such formal partnerships could establish joint training sessions, establish best management practices and could work on evaluation of personal protective equipment (PPE), the necessity and proper disposal of PFAS-containing foams, and transition to viable alternatives (if available).

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

Specific to Wis. Stats § 299.48, WisPAC recommends that the state take continued action to support the successful and full implementation of this law and all associated regulations. This includes, but is not limited to, working in partnership with the WSFA, WSFCA, foam manufacturing, installation and testing facilities, as well as other facilities that store and use PFAS-containing foams on ensuring that affected entities are  the new requirements.

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| **Time to initiate** | Work to address the provisions of the amended statute and collaboration with the fire department community is now underway, with further action required to support full implementation. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR with DOT and DHS |
| **Proposed partnerships:** | Airports (including WAMA), WSFA, WSFCA, fire departments and other interested members of the public. |
| **Type of action** | Administrative (rulemaking)  Administrative (operations)  |
| **Business Case:** | 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. 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.<br><br>This action and supporting work is in alignment with the current trajectory of laws and regulations dealing with PFAS-containing foams at the state and federal level. |
| **Anticipated resource needs:** | It is expected that some additional resources will be needed for training and outreach. |

**Additional Information:**

- Comments submitted through the public survey identified the need for curtailment of the use of fluorinated foams through regulatory requirements.

# Provide support to Wisconsin veterans to address PFAS-related health risks (New)

## 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 Lejeuene.

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

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| **Time to initiate** | Can be implemented 7 – 12 months after funding is available. |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DVA |
| **Proposed partnerships:** | DMA, Wisconsin Air National Guard |

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| **Type of action** | Budgetary | [redacted] | Administrative (operations) | [redacted] |

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| **Business Case:** | 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 suplies.<br><br>The example of the Caring for Camp Lejeune Families Act in North Carolina can be followed as way to close this gap. |
| **Anticipated resource needs:** | It is expected that additional staffing and budget resources are required to implement this action. Sources of federal funding should be considered and explored. |
| **Additional Information:** None | |

# Develop and apply best management practices for proper handling of PFAS-containing waste (Issue Paper 4.2)

## Background

Due to their widespread use, and the approximate 4,000 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 wastes containing PFAS is a complex issue due to their volatility, solubility, and environmental mobility and persistence.

PFAS compounds can be found in either solid or hazardous wastes. 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. Presently, soil contaminated with PFAS may be considered a soil, but not a hazardous waste. While other dangerous kinds of waste may have regulations that manage the materials from cradle-to-grave, given the emerging nature of PFAS, those regulatory safeguards have not been put in place on a national or state level for PFAS.

Newly created 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 secondary containment, treatment and disposal or storage measures to prevent discharges. The DNR is required to promulgate emergency and permanent administrative rules to "determine the appropriate containment, treatment, disposal or storage measures for testing facilities." Given that those "appropriate" measures would likely apply to more than just PFAS-firefighting foam, DNR should evaluate expanding the BMPs to other environmental media, as well as possibly develop administrative rules to address containment, treatment, storage or disposal of PFAS contamination to the air, land and waters of the state.

# Action

WisPAC recommends that guidance and best management practices be developed for generators of PFAS containing waste, including wastes from manufacturing, water treatment systems and environmental cleanups, on proper disposal, storage and treatment methods that destroy or permanently keep PFAS out of the environment.

Generators, receiving facilities, other states, EPA, stakeholders and the department need to collaborate and consider the risk to potential receptors, such as drinking water wells; resultant levels of PFAS in leachate, groundwater, surface water, or drinking water; and whether the waste is a typical part of the waste stream (municipal solid waste and construction and demolition waste) or a waste that may require additional screening considerations (sludges, manufacturing waste, remediation waste).

Additional action might also be taken to determine whether or not DNR has statutory authority to undertake rulemaking to develop measures to address treatment, containment, storage or disposal of more than PFAS-containing firefighting foam.

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| **Time to initiate** | Aspects of this action item are already underway, but requires additional work to be fully implemented |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | Regulated community, other states, EPA and other stakeholders |
| **Type of action** | Legislative<br>Administrative (rulemaking) |
| **Business Case:** | As noted above, this effort is meant to prevent further discharges and exposures by containing and managing waste properly. Until safe alternatives to PFAS are developed, these compounds are and continue to be used and become part of the waste stream, leading to potential downstream environmental and health impacts. |

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| | Prompt action is required, and the importance of this guidance will only grow, as new effort to curtail or eliminate the use of PFAS containing products are undertaken and surplus PFAS containing products will need to be disposed of properly. |
| **Anticipated resource needs:** | 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.<br><br>Additional staff time is needed to focus on collecting, analyzing, and presenting/summarizing data. Continuing staff time will be needed to gather new information over time as more research results become available. Minimal funding may be needed for publications and roll out of information. |
| **Additional Information:** None | |

# Launch a PFAS foam collection & disposal program (Issue Paper 10.1)

## Background

PFAS-containing firefighting foams are a significant source of contamination if discharged to the state's air, lands and waters. Municipal and volunteer fire departments may 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 firefighting groups and departments to create a process to identify, collect and dispose of PFAS-containing firefighting foam concentrate in a responsible manner.

## Action

WisPAC recommends that the State of Wisconsin create a PFAS-containing firefighting foam concentrate take-back program for local governments, similar to 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 following amendments to the bills:

a) Limit the program to foam in the possession of fire departments that are funded by local governments or volunteer fire departments in nature;
b) Prioritize the collection and disposal of firefighting foam manufactured prior to 2003;
c) Use the recently conducted DNR survey of local fire departments to determine the anticipated cost to the state to remove and properly dispose/destroy PFAS-containing foam on behalf of local fire departments;
d) Minimize or eliminate the cost share, particularly for smaller governments; and
e) Ensure that the program is fully implemented by the State of Wisconsin as opposed to a traditional Clean Sweep program that provides grants for local governments.

DNR will develop and implement a program based on the resources made available.
Note: If the bills are not enacted into law, WisPAC recommends that a program such as the one described above be made part of the Governor's executive budget for 2021-23.

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| **Time to initiate** | | | To be determined; dependent upon legislation |
| **This action addresses input received from:** | | | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | | | DNR |
| **Proposed partnerships:** | | | DATCP; Firefighting community (individual departments and state associations); local government |
| **Type of action** | Budgetary  | Legislative  | |

**Business Case:**

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.

In 2020, Wisconsin surveyed over 800 fire departments, with a 70% response rate. Two hundred thirty-two (232) fire departments reported having PFAS-containing foam on hand that they wished to dispose of; the volume reported was approximately 18,000 to 31,000 gallons of PFAS-containing foam.

The program could be implemented most efficiently by a centralized entity since local governments lack the expertise to efficiently dispose of fluorinated foams. Landfills within the State of Wisconsin do not typically accept PFAS-containing foams.

**Anticipated resource needs:**

It is expected that some additional budget and staffing would be required to fully implement this action. Funding would need to be allocated in the state budget or through legislation.

**Additional Information:** None

# Enforce environmental justice and health equity in Wisconsin communities (Issue Papers 4.9 & 4.11)

## Background

While present in 98% of the population, 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 a combined Environmental Justice and Health Equity Advisory Group 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
  - Legal action against companies responsible for PFAS releases (Michigan)

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| **Time to initiate** | Immediate and ongoing |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | All Agencies |
| **Proposed partnerships:** | Community organizations, general public |

| **Type of action** | Budgetary | Legislative | Administrative (rulemaking) | Administrative (operations) | Research | Other |
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| **Business Case:** | 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.<br><br>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 |

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| | problems, especially as communities are often required to pay for the testing and clean-up. |
| **Anticipated resource needs:** | It is expected that additional staffing/budget/training/other are required to fully implement this action, including:<br>Funding forpotential new projects, additional resources to projects that are underfunded; additional resources for translation and additional outreach<br>• 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.)<br>• Translation and interpretation services |
| **Additional Information:**<br>• Submissions through the public survey identified a need to address "environmental racism" and disproportionate harm to underprivileged and minority communities caused by PFAS contamination.<br>• Other states have leveraged funds derived from environmental litigation to support communities that have been impacted by PFAS contamination. | |

# Provide financial tools for local governments (Issue Papers 5.2, 10.4, etc.)

## Background

PFAS contamination poses a serious health and safety risk to already financially-burdened 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. Develop a municipal grant 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 to remediate PFAS contamination.
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.

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| 3. Contract with a state-certified laboratory to offer discounted PFAS lab analysis rates. Similar programs have been implemented in Michigan and Vermont. | |
| **Time to initiate** | To be determined, based on legislation and more specific implementation planning |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR and WSLH |
| **Proposed partnerships:** | Local government, fire departments, municipal airports, municipal associations. |

| **Type of action** | Budgetary | Legislative | Administrative (rulemaking) | Administrative (operations) | |
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| **Business Case:** | 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. Local governments are sometimes 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:** None | |

# Expand PFAS site identification using maps and other tools (Issue Papers 4.5, 4.7, 4.14, etc.)

## 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 limited understanding of what the most significant 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 on a daily basis, 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.)
- 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. Wood Environmental has already started to help with this process with their June 2020 report, "Analysis of Potential sources of Per- and Polyfluoroalkyl Substances (PFAS) in Wisconsin." This report provided a step-by-step approach for determining potential PFAS source locations, utilized the approach to identify and summarize potential sources of PFAS, piloted the screening and prioritization protocol on a subset of receptors throughout the state, provided a project geodatabase, and presented conceptual site models for high exposure/risk industries. Locating these potential 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. 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 Wisconsin DNR should continue to build upon the "Analysis of Potential Sources of Per- and Polyfluorinated Alykl Substances (PFAS) in Wisconsin" Wood Environmental 2020 report. Implementing the screening and prioritization protocol developed for the state, and continuing to analyze incoming data from contaminated sites, POTWs, and drinking water wells, the state can prioritize locations for sampling in a process that is well-documented, transparent and reproducible.

In addition to the work completed by the state's contractor, the Wisconsin 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 base layer information of interest (e.g. department of defense and airport sites, waterways, infrastructure, parcel data), as well as the potential source information and risk analysis as provided by Wood. The Wisconsin DNR should continue to build upon this database with input and collaboration from PSC and local government groups, 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.

As a companion to the database, the Wisconsin DNR should continue to build and populate the internal geospatial viewer and an accessible online mapping application for the public to find PFAS data. The internal geospatial viewer would allow the DNR to more easily automate the screening and prioritization protocol and would allow for additional spatial analysis tools to further develop conceptual site models as needed for potential source identification at known impacted sites. This viewer and associated spatial analysis tools would be continuously updated as additional information is gathered from incoming data, new research, and site models. Spatial analysis, along with identification of potential

high-risk source areas (e.g. manufacturers of PFAS raw materials and areas of direction application of PFAS to the environment in the form of AFFF) could allow the DNR to map primary PFAS areas of concern of special management zones.

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 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.

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| **Time to initiate** | Already underway, but requires additional work before finalized, and will require continuous upkeep. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | Department of Natural Resources |
| **Proposed partnerships:** | 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 |

| **Type of action** | Budgetary | Legislative | Administrative (rulemaking) | Administrative (operations) | Research | Other |
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| **Business Case:** | 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 to its associated risks. By creating a database of potential sources and utilizing spatial analysis tools to prioritize sites for sampling based |

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| | on verified risk factors, 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. Having a geospatially based inventory of contamination sources (known and likely) would assist in clean up response and risk management, providing the public the awareness of potential PFAS sources to make informed health and financial related decisions. |
| **Anticipated resource needs:** | It is expected that additional staff funding and positions are 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. |
| **Additional Information:** None | |

# Phase-out of paper products that contain PFAS (Issue Papers 2.1 & 3.1)

## Background

PFAS are widely used in everyday products and packaging. PFAS-containing products may include non-food paper packaging (e.g., cardboard, carbonless forms, masking papers) and food-contact materials (e.g., pizza boxes, fast food wrappers, microwave popcorn bags, baking papers, pet food bags). PFAS-containing food packaging may also enter the environment resulting from end-of-life disposal of consumer products through landfilling or composting.

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 cause detrimental effects on human health and the environment. Even when some of these longer-chain PFAS have been regulated or phased out, many recycle feedstocks used at papermills potentially contain the longer-chain PFAS from both older recycled products and from products imported from other areas of the world.

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. More than one-third of states have enacted legislation prohibiting or phasing out of use of PFAS chemicals in food contact packaging and ongoing processes for identifying additional chemicals of high concern.

# Action

WisPAC recommends that DATCP, DNR, and WEDC work together to develop education, training and outreach protocols for businesses and manufacturers in Wisconsin to help understand the issue

It is also important to support paper companies as they look for alternative products or methods of producing grease-resistant paper for food packaging products similar to what was recently enacted in Washington or in European countries, like Denmark, by banning/prohibiting PFAS-use in food packaging.

Additionally, WisPAC recommends exploring 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.

It is also recommended that restaurants and fast food chains be encouraged to swap out their current supply of take-out containers and food packaging with PFAS-free alternatives.

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| **Time to initiate** | Already underway (WI has legislation requiring DNR to identify alternatives, in addition to national phase-out regulation) but requires additional work |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DATCP, DNR, WEDC |
| **Proposed partnerships:** | Wisconsin Manufacturers and Commerce, Wisconsin Paper Council, other states that are also working towards finding alternatives |

| **Type of action** | Budgetary | Legislative | Administrative (rulemaking) | Administrative (operations) | Research | Other |
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| **Business Case:** | More than one-third of states have already enacted bans on PFAS in food packaging. Food packaging manufacturers and food |

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| | producers may not know the degree to which the materials they utilize contain PFAS. Federal authorities are also in the process of phasing out and banning the use of PFAS compounds. Wisconsin needs to find alternative methods by January 2021 (according to AB 952) in order to remain competitive in the national and global markets. |
| **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. |

**Additional Information:**

- Citizen's Advisory Group recommends a full PFAS ban; Local Government Advisory Group recommends a phase-out of "non-essential" PFAS use and only allowing "essential" use until alternatives are found for products – or until 2030.

# Collaborate on and implement research (Issue Papers 6.1, 6.2, 6.3, 6.4, 6.5, & 6.6)

## 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:

- 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 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.
- 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.
- 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.

- While the Wisconsin DNR currently offers laboratory certification for a suite of 36 PFAS compounds and may adopt an expanded suite once 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.
- While PFAS-associated research is being done by the University of Wisconsin System, Wisconsin State Laboratory of Hygiene (WSLH), private entities, 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 amounts of 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, DHS, UW System (including the various campuses, UW Sea Grant, and WSLH), 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 are 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 major roles in this coordination. 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

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| 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.<br><br>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. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | WSLH, UW System, DHS, and DATCP |
| **Type of action** | Budgetary [redacted] Research |
| **Business Case:** | 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 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. |

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| **Anticipated resource needs:** | 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. |

**Additional Information:**

- Research was a re-occurring theme in the external advisory group issue papers and two comments were also received from the general public regarding the need for additional research.

# Develop PFAS risk communication infrastructure (Issue Papers 3.2, 4.6, 4.8, 4.10, 4.12, 4.13, etc.)

## 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;
- Create a unified communication strategy that will outline the development and implementation of targeted messaging and communication materials;
- Create a task force with members from state agencies, school districts and boards to facilitate the introduction of PFAS-related educational materials to K-12 curriculums through initiatives like Green & Healthy Schools Wisconsin;
- 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.

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| **Time to initiate** | Can be implemented 7-12 months from now |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | All state agencies |
| **Proposed partnerships:** | DHS; Department of Public Instruction (DPI); School Districts; Local Government (including Local Health Departments); Local Media; Community Organizations; Stakeholder Groups |

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| **Type of action** | Budgetary  | Legislative  | [redacted] | Administrative (operations)  | [redacted] | 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 some additional staff and financial resources are required to implement this action, including:<br>• Staff time dedicated to participating in a task force, building a website and creating a communication strategy and associated materials<br>• Funding for the creation and dissemination of information through multiple channels | | | | | |

**Additional Information:**

- Comments fielded in the public survey have identified a lack of consistent, accessible, accurate and up-to-date information as a significant impediment to assessing risk and making decisions for families and communities. 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.

# Invest in PFAS clean-ups in Wisconsin communities (Issue Paper 10.3)

## Background

PFAS was first identified between 2013 and 2015 in three major Wisconsin communities municipal water systems – La Crosse, West Bend, and Rhinelander. PFAS has since been found to contaminate approximately 30 additional sites around Wisconsin. The contamination is not limited to ground and drinking water, but it also extends to leachate from landfills and application of biosolid spreading.

The Wisconsin Department of Administration (DOA) - Division of Energy, Housing and Community Resources (DEHCR) administers the State Community Development Block Grant Program (CDBG) and provides funding to local governments.

The CDBG program supports 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.

## Action

WisPAC recommends the DOA utilize the Community Development Block Grant programs to provide clean-up and remediation funding for public facilities (i.e. water systems) slum and blighted areas, as well as other areas in urgent need.

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| **Time to initiate** | Ready to implement now |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DOA |
| **Proposed partnerships:** | Local Government, DNR, DOT |

| | Budgetary | Legislative | Administrative (rulemaking) | Administrative (operations) | Research | Other |
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| **Type of action** | $ | | | | | |

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| **Business Case:** | Utilizing an existing program and funding source to align the goals of supporting community development and reducing PFAS in Wisconsin is both efficient and effective. |
| **Anticipated resource needs:** | It is expected that some additional staffing may be required for outreach to impacted and eligible communities. |
| **Additional Information:** None | |

# Collect data on drinking water treatment and costs (Issue Paper 4.15)

## 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 (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 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, conducing a survey of utilities or undertaking other similar actions to develop this information and make it available.

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| **Time to initiate** | Ready to implement now |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | PSC |

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| **Proposed partnerships:** | DNR | |
| **Type of action** | [redacted] | Other |
| **Business Case:** | Better understanding of drinking water utility costs could help develop a baseline of current treatment costs and activities. 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. | |
| **Anticipated resource needs:** | It is expected that no specific additional resources are required to fully implement this action. | |
| **Additional Information:** | | |

# Enhance collaboration between Wisconsin and federal agencies on PFAS issues relating to military installations (New)

## Background

There are several military installations in Wisconsin where there are known or suspected PFAS contamination concerns. DNR and DHS have positive working relationships with the Department of Defense (DOD), 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 to understand 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 National Defense Authorization Action, 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 a number of 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.

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| **Time to initiate** | To be determined, based on more specific implementation planning. |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |

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| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS, DMA including WANG, Federal DOD, and USGS) |
| **Type of action** | Administrative (operations)  |
| **Business Case:** | There are a number of 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:**<br>• Cooperative agreements will be more effective with the promulgation of enforceable standards for groundwater that are currently being developed. | |

# Develop new tools to address PFAS contaminated sites (Issue Paper 5.4)

## 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 could improve its ability to facilitate investigation and cleanup if there were tools available in state law to assist DNR and 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 (listed from higher to lower relative priority):

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.

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| **Time to initiate** | To be determined, based on more specific implementation planning |

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| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DOJ |
| **Type of action** | Legislative  |
| **Business Case:** | 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. |
| **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. |

**Additional Information:**

- 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.

# Develop and promote new partnerships to increase understanding of PFAS (Issue Paper 4.1)

## 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 envisioned in this action 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
- Community and statewide volunteer groups that leverage public interest and engagement to address PFAS-related issues

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| 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.<br><br>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** | This action is already underway but requires additional and continuing work to fully implement. It is expected that the PFAS Action Plan, and ongoing WisPAC work, will generate new partnership opportunities and needs that will be implemented into the future. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DHS |
| **Proposed partnerships:** | All levels and branches of government, academic organizations, private sector, NOGs, and the public |
| **Type of action** | [redacted] Administrative (operations) [redacted] Other |
| **Business Case:** | Implementation of this recommendation will result in PFAS contamination concerns in Wisconsin being more comprehensively characterized and responded to appropriately, protecting Wisconsin communities and ensuring solid science and data underlie public health assessment and environmental clean-up decisions. |
| **Anticipated resource needs:** | 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 |

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| | accessibility to all partners, including through enhanced virtual connections and translated information and resources. |

**Additional Information:**

- Recommendations from WisPAC's Citizens Advisory Committee encouraged DHS and DNR to work together to come up with a manageable approach for addressing complex mixtures of PFAS.
- There are many government-to-government types of partnerships that the state, through a variety of agencies, are a party to.

# Develop exposure reduction recommendations for public sector employees (Issue Paper 4.4)

## 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.

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| **Time to initiate** | Already underway – but requires additional work. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DSPS |
| **Proposed partnerships:** | DHS, DOA, WANG, DOD, |

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| **Type of action** | [redacted] | Administrative (operations)  | [redacted] | Other  |
| **Business Case:** | Protecting the state's first responders from preventable exposures will benefit the individuals, their families and communities that they serve.<br><br>A number of 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.<br><br>In the 2020 NDAA, there were many provisions that emphasized the importance of transition and development of AFFF alternatives. | | | |
| **Anticipated resource needs:** | 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. | | | |
| **Additional Information:** None | | | | |

# Facilitate timely collection of environmental PFAS data (Issue Paper 5.1)

## 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 site 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.

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| **Time to initiate** | To be determined, based upon more specific implementation planning (funding, rulemaking, and/or legislation) |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS, WSLH, Local Public Health Agencies, Tribal Organizations |

| **Type of action** | Budgetary | Legislative | Administrative (rulemaking) | | Other |
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| **Business Case:** | 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 |

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| | about their proximity and exposure to PFAS contamination, thereby supporting their capacity to implement necessary health-protective interventions. |
| **Anticipated resource needs:** | It is expected that substantial finances are required to fully implement this action, possibly including:<br><br>• Zone contracts with environmental consultants;<br>• Partnerships with local health departments, the State Lab, state agencies for fee-exempt environmental sample analysis akin to current Basic Agreement set up.<br><br>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. |
| **Additional Information:**<br>• Participants in the public survey and the local government and citizen advisory groups have submitted comments that outline the need for improved testing and sampling methods, as the current state of PFAS data collection is insufficient for determining the degree of exposure in Wisconsin communities through media like soil and groundwater. | |

# Standardize PFAS sampling methods and support statewide implementation (Issue Paper 7.1)

## Background

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

## 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.

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| **Time to initiate** | Can be implemented 1-6 months from now |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS and Wisconsin State Laboratory of Hygiene (WSLH) (co-lead with DNR); DATCP; local public health agencies and tribal organizations |
| **Type of action** | Administrative (operations) Other |
| **Business Case:** | 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 |

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| | 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 media and personnel type. |
| **Anticipated resource needs:** | It is expected that some additional staffing is required to implement this action, including compiling information, writing and facilitating review of the document, and training. |
| **Additional Information:**<br>• Michigan's sampling guidance could be reviewed and adopted as is or serve as a solid foundation for the identification of Wisconsin's guidance.<br>• 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. | |

# Develop guidelines for PFAS landfill leachate management (Issue Paper 1.2)

## Background

Due to the historical prevalence of PFAS in consumer products, these products - and the waste generated from their manufacture, have been disposed in Wisconsin landfills for many years. Over time PFAS is released in leachate and potentially groundwater. Landfill design is such that liner systems are in place to protect groundwater from leachate provided the depth leachate on the liners is kept to a minimum. The primary method by which landfills in Wisconsin manage leachate is to utilize publicly owned wastewater treatment (POTW) facilities. Landfills also serve POTWs by accepting biosolids for disposal when land application is not an available option.

## Action

WisPAC recommends that the DNR develop a comprehensive strategy in collaboration with key public and private stakeholders such as POTW and landfills to explore and determine "acceptable" levels of PFAS in leachate that may be managed through POTWs.

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| **Time to initiate** | Can be implemented 1-6 months from now |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group ☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | Waste Management and Landfill Stakeholders, Publicly Owned Wastewater Treatment Facilities, Local Government |
| **Type of action** | Legislative; Administrative (operations) |
| **Business Case:** | Landfills that contain municipal solid waste serve as a sink for PFAS compounds. Consumer products 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 |

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| | 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.<br><br>Other states are addressing 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; they may be required to provide alternate sources of drinking water and install treatment systems. |
| **Anticipated resource needs:** | Ready to implement now |
| **Additional Information**:<br>• Several members of the public expressed concerns regarding the inability of POTWs to remove PFAS from leachate. They also shared concerns about the importance being strategic and recognizing the risks and implications of different solutions. There were also recommendations to share information (including potential health advisories) with communities in an accessible manner. | |

# Develop and support product stewardship mechanisms to reduce PFAS use (Issue Paper 9.1)

## Background

The manufacture of products containing PFAS is widespread – from textiles in clothing and furniture to nonstick cookware to personal care items. 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. 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 with regard to 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.

## Action

WisPAC recommends that the state of Wisconsin, working with other interested states, external partners and the EPA, should 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. The Wisconsin legislature should put forth regulations on responsible product stewardship, comprehensive and informative labeling, and should ensure that consumers are sufficiently informed to make purchasing decisions.

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| **Time to initiate** | Can be implemented 1-6 months from now. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DNR |

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| **Proposed partnerships:** | DHS, other interested states and US EPA | | |
| **Type of action** | Budgetary  | Legislative  | |
| **Business Case:** | Consumers deserve to be protected 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 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.<br><br>A number of states have already passed legislation that regulates PFAS use in food; CA has banned its use in cosmetics; IL has passed Toxic-Free Kids Act which requires manufacturers to notify the Dept. of Public Health if it is used in a children's product; IA has prohibited the sale of upholstered furniture containing toxic flame retardants; MA has established a framework for creating a list of chemicals of concern, requiring manufacturers to disclose the inclusion of those chemicals of concern in children's products; NH requires manufacturers of bottled water to test for toxic chemicals and label their products with the results and has created a committee to study the labeling of products containing PFAS; NJ also requires the Dept. of Environmental Protection to post a list of chemicals of concern to children, requiring manufacturers to report use of those chemicals and to phase out sale of products containing those chemicals; New York has established a purchasing framework to prioritize avoiding toxic substances in future state purchases, with additional prohibition of manufacture and sale of children's and pet products containing | | |

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| | PFAS VT requires personal care products, food packaging, and clothing containing PFAS to be labeled as such. |
| **Anticipated resource needs:** | It is expected that some additional staffing and financial resources will be required to implement this action. |

**Additional Information:**

- An analysis of submissions to the online survey showed that the most common recommendation put forth by the public was to ban or at least phase out the use of PFAS altogether.

# Test public water systems for PFAS (Issue Paper 2.3)

## Background

Between 2013 and 2015, 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 under the Unregulated Contaminant Monitoring Rule 3 (UCMR3). Three large Wisconsin municipal water systems: La Crosse, Rhinelander and West Bend, detected PFAS. La Crosse and Rhinelander removed wells with elevated PFAS from service in an effort to protect public health. DNR is evaluating the detection of PFAS in the West Bend well.

Since that time, approximately 30 sites with PFAS groundwater 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 revealed PFAS in at least 10 of its 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 results would not be available until 2025 or later.

## Action

WisPAC recommends that the state use its federal funds to conduct statewide drinking water testing, following suit of Ohio, Michigan, Illinois, and Indiana. The testing would include all municipal systems, as well as some other community and non-community water systems. This would help prepare develop new PFAS drinking water and groundwater standards. The systems will be required to public notice if the PFAS exceed a

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| state or federal health advisory level. These systems will be required to monitor for specified PFAS substances and public notice once public drinking water standards are established. | |
| **Time to initiate** | Ready to implement (with necessary approvals). |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS, PSC, EPA |
| **Type of action** | Budgetary<br>$ [redacted] |
| **Business Case:** | PFAS occurrence information is crucial to complete an accurate economic analysis of PFAS drinking water standards. The monitoring will assess current public health impact and will lead to information that will reduce exposure.<br><br>Ohio, Michigan, Illinois and Indiana have similarly done statewide testing of municipal water. |
| **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. |
| **Additional Information:** None. | |

# Establish science-based environmental standards for PFAS (Issue Paper 1.1)

## Background

As part of the state's groundwater law, the DNR is required to maintain a list of substances that have been discover in groundwater or has a reasonable probably entering groundwater and to routinely provide those lists to DHS for groundwater standard recommendations. In March 2018, DNR requested that the Department of Health Services 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.

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| The DNR should routinely send PFAS substance recommendations to DHS, consistent with ch. 160 of 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 air, 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 EPA's 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.<br><br>Additional supporting actions include:<br>• Evaluating the necessity of establishing PFAS standards for biosolids, solid waste, and sediment<br>• 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.<br><br>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. |
| **This action addresses input received from:** | ☒ WisPAC ☒ Citizen's Advisory Group<br>☒ Local Government Advisory Group ☒ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | DHS, EPA (Office of Research and Development) academia, other states, stakeholders and Department of Defense) |

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| **Type of action** | Budgetary  | Legislative  | Administrative (rulemaking)  | |
| **Business Case:** | Having 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 are required to support full and efficient implementation of this action in the long term. | | | |

**Additional Information:**

- Standard setting was the third-most common theme noted among comments submitted online during the public input survey period in Feb 2020.

# Minimize the state's purchase of PFAS-containing products (Issue Paper 9.3)

## Background

The state of Wisconsin is a significant purchaser 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 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 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.

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| **Time to initiate** | Can be implemented in 7 – 12 months |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DOA |
| **Proposed partnerships:** | All state agencies, including UW System |

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| **Type of action** | [redacted] | Administrative (operations) | Research | Other |
| **Business Case:** | Wisconsin should be a leader in 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 some additional staff time is required to implement this action, including: | | | |

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| | • Staff time to create and maintain a "clean-list" of verified PFAS-free products. |
| **Additional Information:** None. | |

# Improve efficiency in development of long-term water supply solutions (Issue Paper 5.3)

## 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 PSC and 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

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| 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.<br><br>DOA local government staff should be consulted with as part of the process improvement project. | |
| **Time to initiate** | Ready to implement now |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | PSC |
| **Proposed partnerships:** | DNR, DOA, DHS |
| **Type of action** | [redacted] Administrative (operations) [redacted] |
| **Business Case:** | Streamlining can result in cost effective, efficient expansion of municipal service and construction of facilities required to reduce PFAS in drinking water supplies.<br><br>The cost (regardless of funding source) 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. |
| **Anticipated resource needs:** | It is not expected that additional resources are required to implement this action. |
| **Additional Information:** None | |

# Identify and minimize sources to reduce discharge of PFAS to wastewater facilities

(Issue Paper 2.2)

## Background

Wastewater treatment facilities, as built in the last several decades, were not built to treat PFAS contaminants to the levels that would otherwise be considered protective. For the most part, PFAS is not treated in a wastewater facility; more likely PFAS substances simply bio-accumulate in the solids of the facility and then must be disposed of. These PFAS-containing biosolids are dewatered and applied to farm fields in compliance with standards that were not developed with PFAS in mind.

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.
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.

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.

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| **Time to initiate** | Can be implemented immediately |
| **This action addresses input received from:** | ☒ WisPAC ☐ Citizen's Advisory Group<br>☐ Local Government Advisory Group ☐ General Public |
| **Proposed lead agency:** | DNR |
| **Proposed partnerships:** | Municipalities, WPDES permit holders, businesses |
| **Type of action** | Budgetary  Legislative  [redacted] |
| **Business Case:** | Minimizing the amount of PFAS that goes into a wastewater treatment plant and effectively treating the remainder will help mitigate the inadvertent introduction of PFAS into the food chain through landspreading of biosolids. |
| **Anticipated resource needs:** | It is expected that additional resources are required to fully implement this action, including funding for sample analysis |

**Additional Information:**

- Comments through the public survey identified the need to improve the PFAS sampling and treatment technologies applied to wastewater. In general, the municipal groups have a preference to deal with the contributing industries initially and in advance of any sampling efforts.