Appendix F: Glossary

Term & Definition

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

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

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

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

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

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

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

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

LGAG (Local Government Advisory Group) – see page #

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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