

# Settlement Overview

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# What are Per- and Polyfluoroalkyl Substances (PFAS)?

- Large class of surfactants with unique chemical & physical properties that make some of them extremely resistant to breakdown and mobile in the environment
- Have been used since 1940's in wide range of consumer and industrial applications
- Has been linked to certain human health effects and impacts to wildlife
  - New science and studies on-going



# Exposure routes



- Health benchmarks aim to keep total exposure below toxic thresholds. Exposure can occur via:
  - Drinking water
  - Fish consumption
  - Other food consumption
  - Breastmilk or formula
  - Air
- Main exposure route varies depending on the PFAS compound



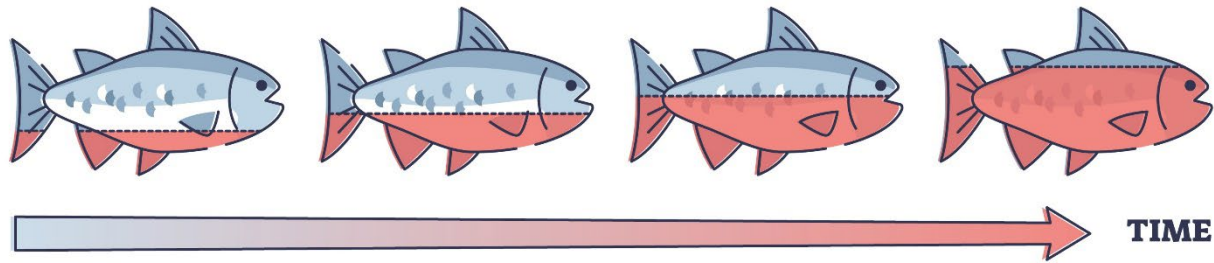
# Minnesota Department of Health Assessments

- MDH assessments available for PFOS, PFOA, PFHxS, PFBA, PFBS, and PFHxA.
- The effects observed include:
  - Immune suppression
  - Developmental effects
  - Reproductive effects
  - Changes in thyroid hormone levels
  - Liver effects
  - Potential carcinogenicity -- PFOA
- Most other PFAS do not have enough toxicity data to derive health-benchmarks



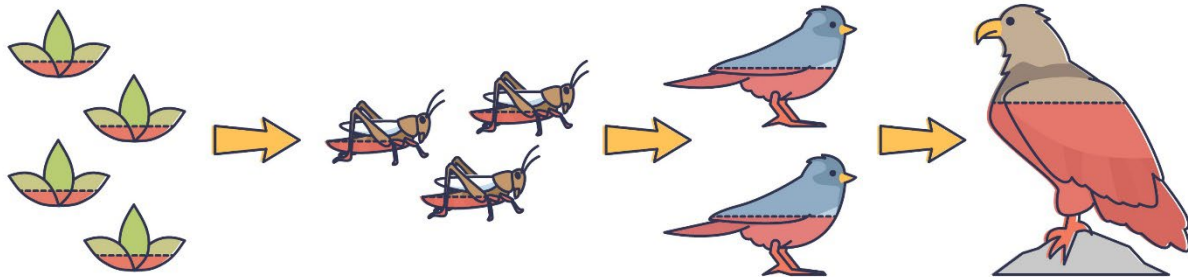
# PFAS in the environment – Why is this an issue?

## BIOACCUMULATION



● CONTAMINANT

## BIOMAGNIFICATION

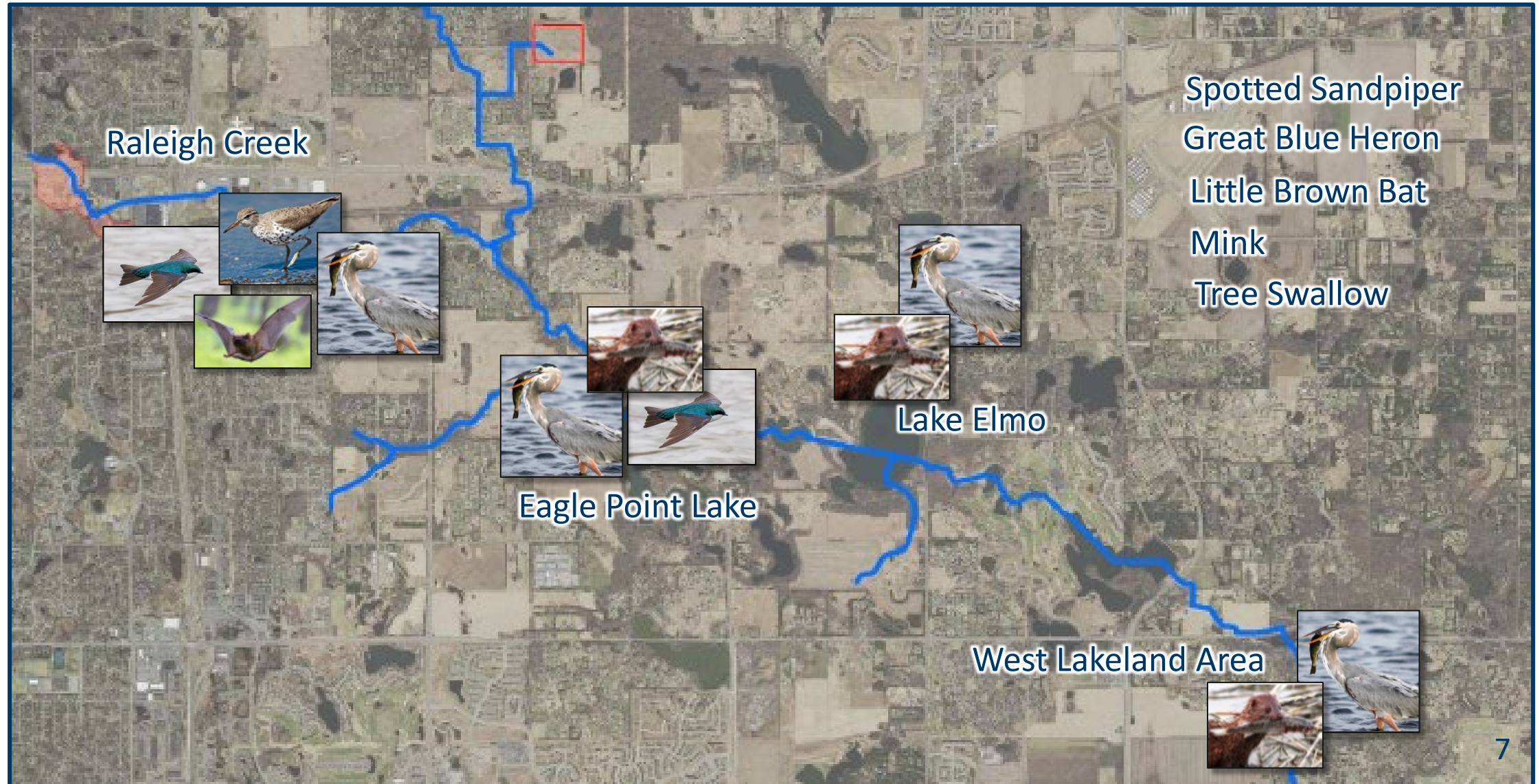


- Once released into the environment, PFAS do not biodegrade in environmental conditions (“forever chemicals”)
- PFAS is then taken up by plants and invertebrates, which then are consumed by other organisms
- PFAS bioaccumulate and biomagnifies in exposed wildlife species

# Wildlife Studies Findings

- Previous studies show impacts to wildlife:
  - Reduced hatching success, PFAS in blood
- Recent studies identify potentially vulnerable species reliant on aquatic habitats:
  - Fish (particularly the least darter and pugnose shiner minnows)
  - Wildlife that consumes fish (blue herons, Forsters tern, mink)
  - Wildlife that consume aquatic insects (Little Brown bat, tree swallows, spotted sandpiper)
- Areas with high PFAS concentrations are a threat to fish and wildlife populations and particularly reproductive success

# Project 1007 Example: Vulnerable Species

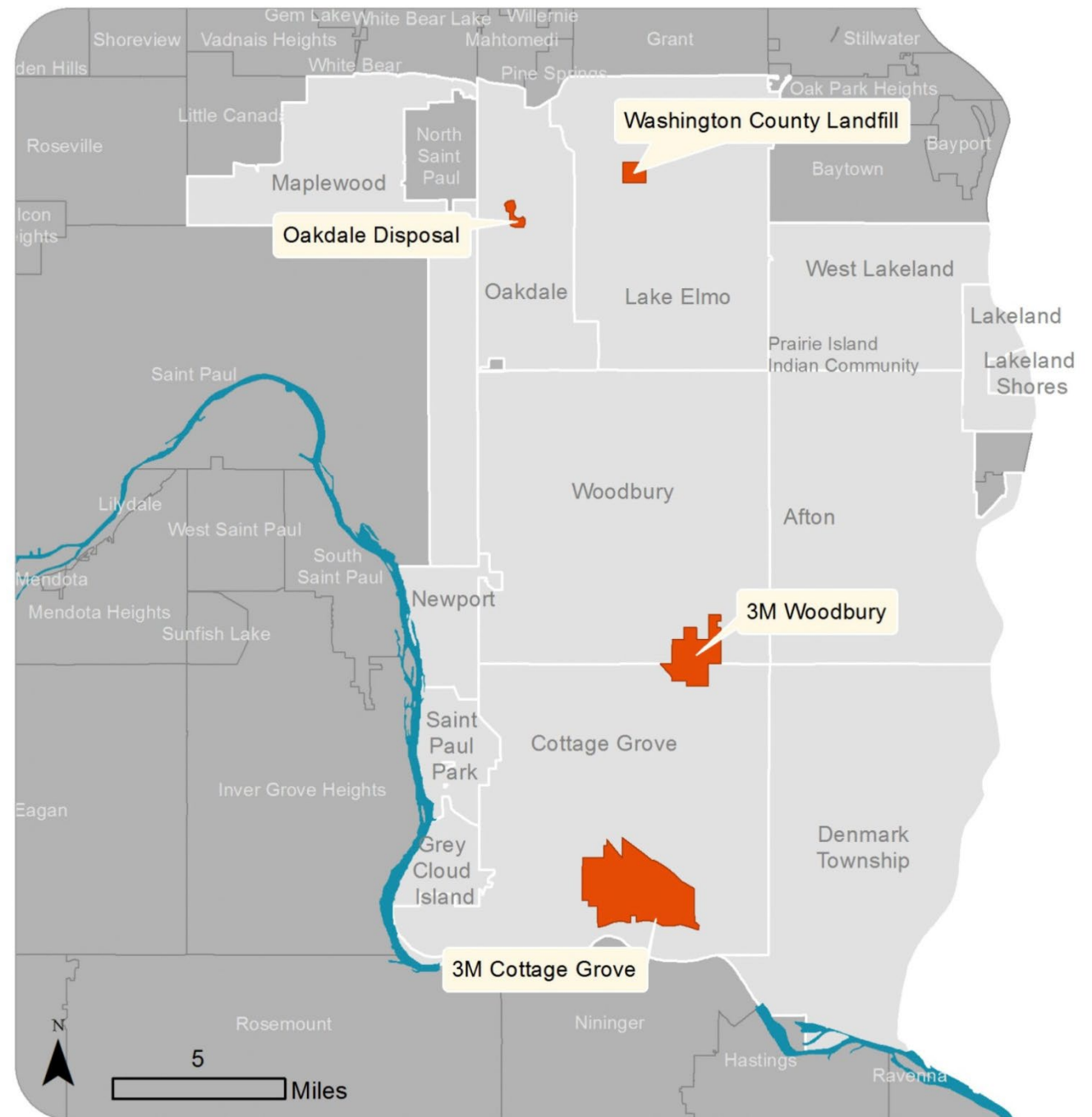




# 3M PFAS contamination

Traced to four disposal sites:

- 3M Cottage Grove Site
- 3M Oakdale Site
- 3M Woodbury Site
- Washington County Landfill





# Brief history of PFAS in the east metro area

- **1950s –1970s:** 3M disposes of PFAS at four sites in the East Metro
- **2002:** 3M informs MPCA of PFAS in production wells at Cottage Grove facility
- **2004:** PFAS contamination in drinking water wells is first identified in the East Metro
- **2007:** MPCA and 3M agree to consent order outlining what 3M is responsible for under state Superfund (remediation program)
- **2010:** Attorney General files Natural Resource Damage lawsuit on behalf of State, with MPCA and DNR as trustees
- **2018:** 3M and State reach settlement on Natural Resources Damage lawsuit for \$850 million dollars

# Agreements for 3M disposal sites

## 1. Consent Orders for Remediation

- 1980s agreements: non-PFAS contamination
- 2007 agreement: PFAS contamination

## 2. NRDA Settlement Agreement

- 2018 agreement: PFAS contamination

# 2007 3M Consent Order components

## 3M agreed to:

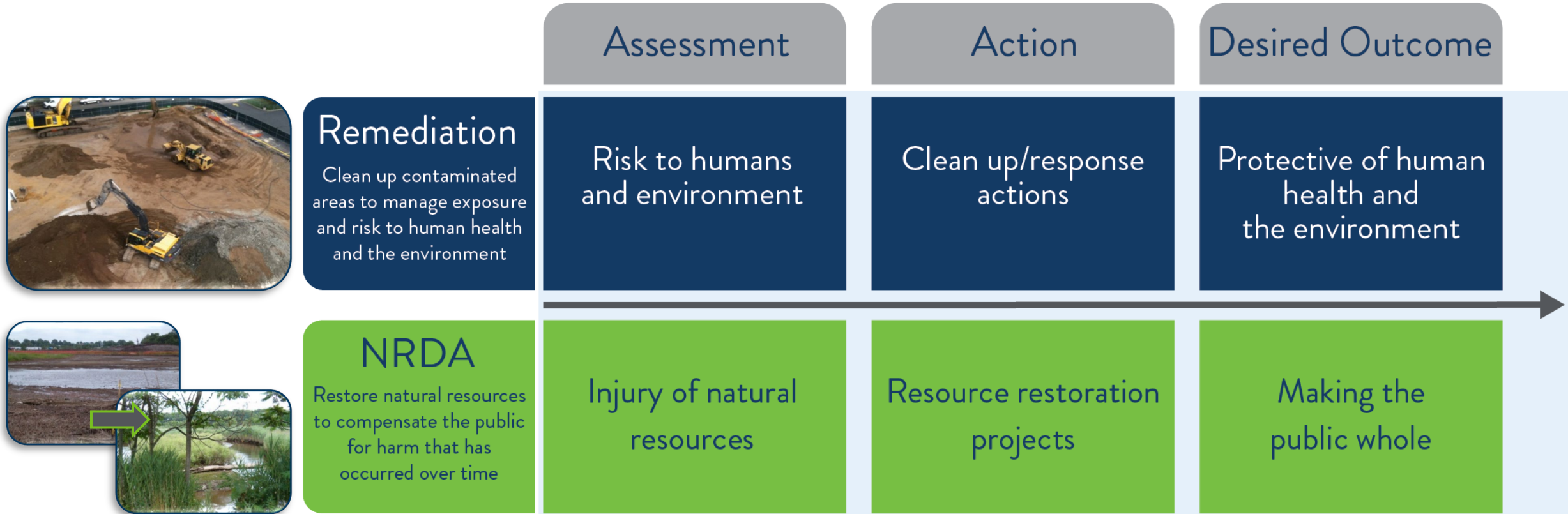
- Implement clean up actions at 3M disposal sites at Cottage Grove facility, Oakdale and Woodbury dumps
- Reimburse State to sample potentially impacted public and private drinking wells, including providing alternative sources of drinking water when wells test over MDH health-based values
- Provide an \$8 million grant to the MPCA to help remediate the Washington County Landfill (State bonded for the rest)
- Provide a \$5 million grant to the MPCA for environmental studies for PFAS impacts not related to 3M PFAS disposal sites
- Settlement and Consent Order: [PTX2576.pdf \(state.mn.us\)](#)

# 3M East Metro Remedial Actions

- [Minnesota Groundwater Contamination Atlas](#)
  - Includes current and available data from remediation sites
  - 3M sites:
    - [3M Oakdale Dump Sites](#) (MPCA ID: SR0000055)
    - [3M Woodbury](#) (MPCA ID: SR0000365)
    - [3M \[Cottage Grove\] Chemolite site](#) (MPCA ID: SR0000033)
    - [Washington County](#) (Landfill ID: SW-1)
- [East Metro - 3M PFAS contamination](#)
  - Provides a timeline and overview of PFAS contamination in the East Metro



# Remediation vs. NRDA



# 3M NRDA Lawsuit

- **December 31, 2010:** Attorney General files Natural Resource Damage lawsuit on behalf of State, with MPCA and DNR as co-trustees
  - Claims: Environmental Damages under MERLA, Water Pollution Act, trespass, nuisance, negligence



- Groundwater contamination covers over 150 square miles, affecting the drinking water supplies of over 174,000 Minnesotans
- 120 miles of the Mississippi River are contaminated with PFAS
- Fish consumption advisories issued by MN Dept of Health

# Further NRDA Injury Assessment

- State hired outside counsel (Covington and Burling) to lead the injury assessment as part of the lawsuit
- Utilized available data and science
- Sought opinions and testimony from eleven experts in toxicology, fate and transport, damages estimates, wildlife exposure
- Exhibits to the 2018 lawsuit prior to court date

[3M Exhibit List | The Office of Attorney General Keith Ellison \(state.mn.us\)](#)

# East Metro Injury Summary 2017

- Evidence of potential injury using available data and reasonable assumptions for the following injuries and lost services:
  - Groundwater as providing drinking water
  - Groundwater aquifer sustainability (increased demand on less contaminated aquifers)
  - Recreational fishing
  - Wildlife and their habitats including surface water and sediments



# 3M vs. State of Minnesota-Settled

February 20, 2018



**\$850 million “grant” to the State**

- Grant immediately available to provide long-term solutions in the east metro area for:
  - Safe and sustainable drinking water
  - Restoration and enhancement of natural resources (at least \$20 M)
- Limitations about how the grant can be used
- Expectations for affected communities to participate in project identification
- Preserves 3M’s obligations under the 2007 consent order

# Priority 1 terms

- “Enhance quality, quantity and sustainability of drinking water in East Metropolitan Area”
  - Ensure safe drinking water in sufficient supply to residents and businesses to meet their current and future water needs
    - Examples: Development of alternative sources, treatment of existing water supplies, water conservation and efficiency, open space acquisition for groundwater recharge, connecting homes to municipal water supplies, providing individual treatment systems, or constructing new wells
  - Prioritize water supplies where health-based values, health risk limits and/or health risk indices for PFAS are exceeded
    - MDH and EPA develops health-based indices for drinking water

# Additional Priority 1 Terms

- Preserves 3M's obligations under the 2007 Consent Order for drinking water solutions
  - Also serves as a “bridge” until long-term solutions implemented (covers temporary drinking water needs up to \$40 million or 5 years)
  - Once settlement funds are depleted, 3M will pay for appropriate long term drinking water solutions per consent order
- MPCA shall conduct a source assessment and feasibility study regarding Valley Branch Water District's Project 1007 in the conveyance of PFAS in the environment
  - [Project 1007 | Minnesota 3M PFAS Settlement \(state.mn.us\)](#)

# Priority 2 Settlement terms

“After the MPCA and/or the DNR have reasonably achieved the goal set forth above in paragraph 14.A. [Priority 1], the MPCA and DNR shall utilize the Grant on projects that restore and enhance aquatic resources, wildlife, habitat, fishing, resource improvement, and outdoor recreational opportunities in the East Metropolitan Area and in downstream areas of the Mississippi and St. Croix Rivers.

These projects may include, but are not limited to:

- (i) aquatic habitat and water resource protection and restoration;
- (ii) terrestrial and water trails;
- (iii) boat ramps and/or fishing piers along the Mississippi River, Lake Elmo, or other waterbodies in or downstream of the East Metropolitan Area;
- (iv) the restoration of wildlife habitat; and
- (v) implementation of other terrestrial conservation and recreational improvements in the same geographic area.”



# Additional Settlement Terms

- Release of PFAS related natural resource damage claims from 3M disposal sites
- Third priority for statewide projects-no funding is set aside for this work
- “Working Group” is required to identify and recommend projects
- Technical experts can be retained to assist with implementation

## \$850 Million Dollar Grant to State of Minnesota

- Settlement past costs
  - \$125 million in legal costs for outside counsel
  - Approximately \$4.5 million past remedial costs incurred by MPCA
  - \$340,000 to NRDA program for past costs
- \$720 million for projects that are reasonable and necessary to achieve settlement goals

# Questions?

- Clarifying questions from Work Group members about the Settlement Overview?

