



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan Taking Action on PFAS

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GREAT LAKES ENVIRONMENTAL REMEDIATION & REDEVELOPMENT CONFERENCE

OCTOBER 16-18, 2019 // LANSING CENTER, LANSING

PFAS Track

- Analytical
- Site characterization
- Studies of sources
- Studies of drinking water
- Treatment
- Risk communication
- Legal

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PFAS Treatment Technologies Roundtable

- Lines of Evidence to Assess the Effectiveness of PFAS remedial technologies – Elisabeth Hawley, Geosyntec
- Racer Willow Run case study
- IPP and source control approaches
- Panel Discussion – PFAS Path Forward
- October 2020 Conference!

PFAS RESPONSE

TAKING ACTION, PROTECTING MICHIGAN

HEALTH

DRINKING WATER

TESTING AND TREATMENT

INVESTIGATIONS

FISH AND WILDLIFE

PFAS FOAM

MPART

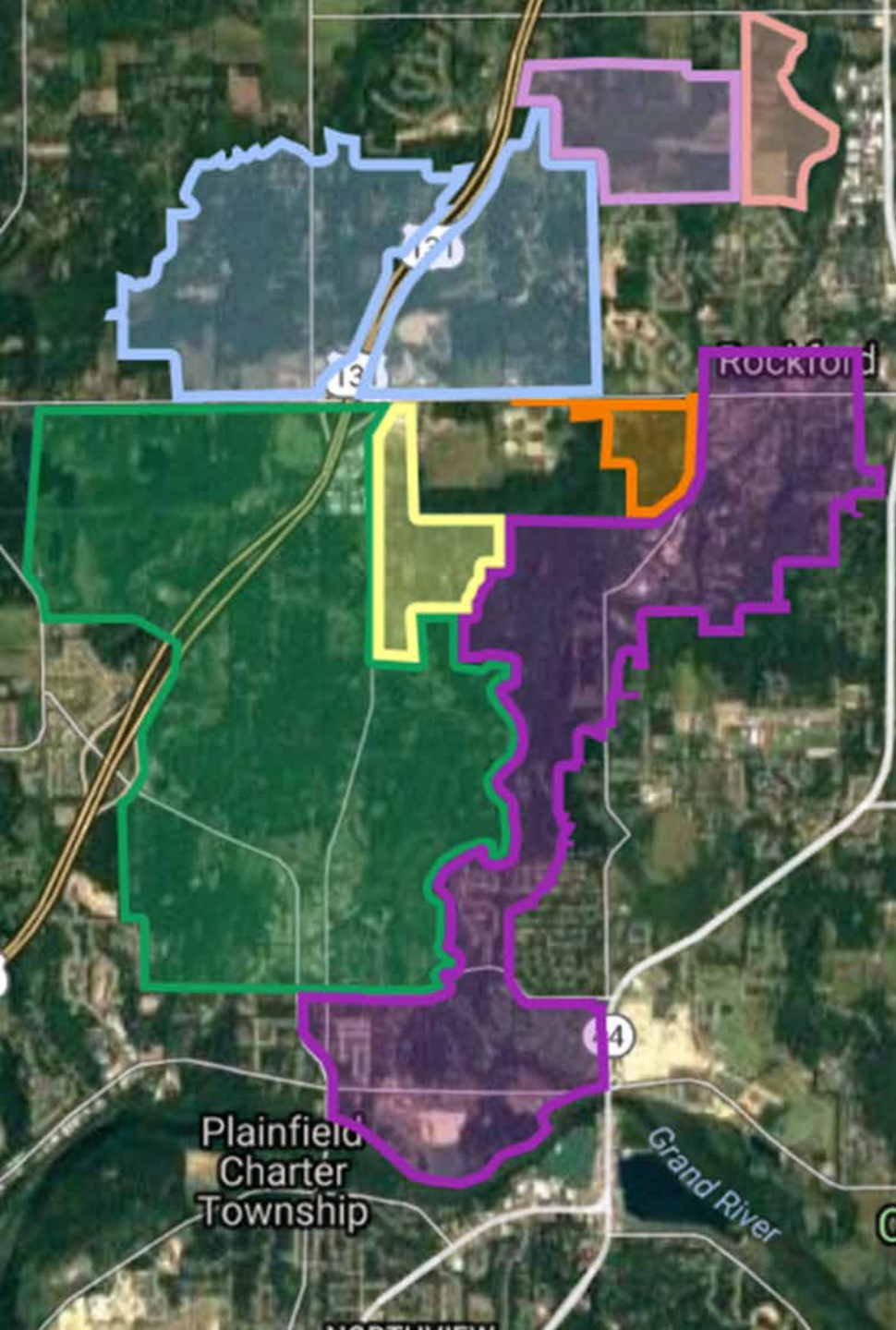
TAKING ACTION TO PROTECT THE PUBLIC'S WATER

Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that include perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). PFAS have been used globally during the past century in manufacturing, firefighting and thousands of common household and other consumer products. These chemicals are persistent in the environment and in the human body – meaning they don't break down and they can accumulate over time. In recent years, experts have become increasingly concerned by the potential effects of high concentrations of PFAS on human health.

Although there is still more to learn about PFAS and human health, the State of Michigan takes this issue seriously and is one of the first states in the nation to establish a clean-up standard for PFAS in groundwater used for drinking water.

The Michigan PFAS Action Response Team (MPART) builds on previous work to research, identify, recommend, and implement PFAS response actions throughout the state. Agencies representing health, environment, natural resources, and other branches of state government have joined together to take action to protect Michigan's drinking water, investigate sources and locations of PFAS contamination in the state, and maintain transparency as we learn more about this nationally emerging contaminant.

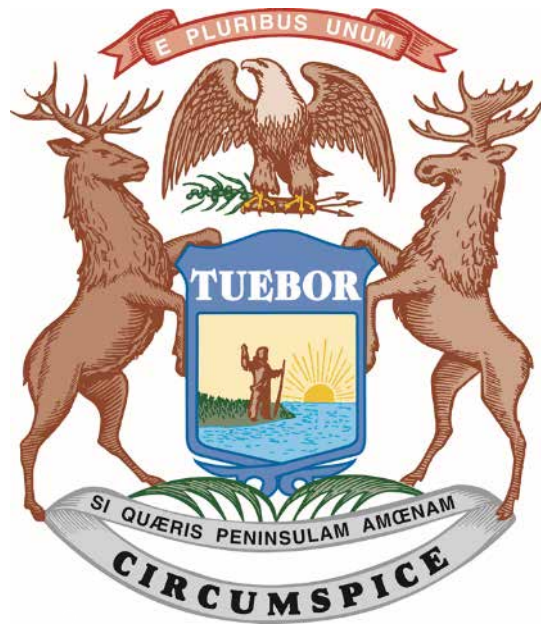




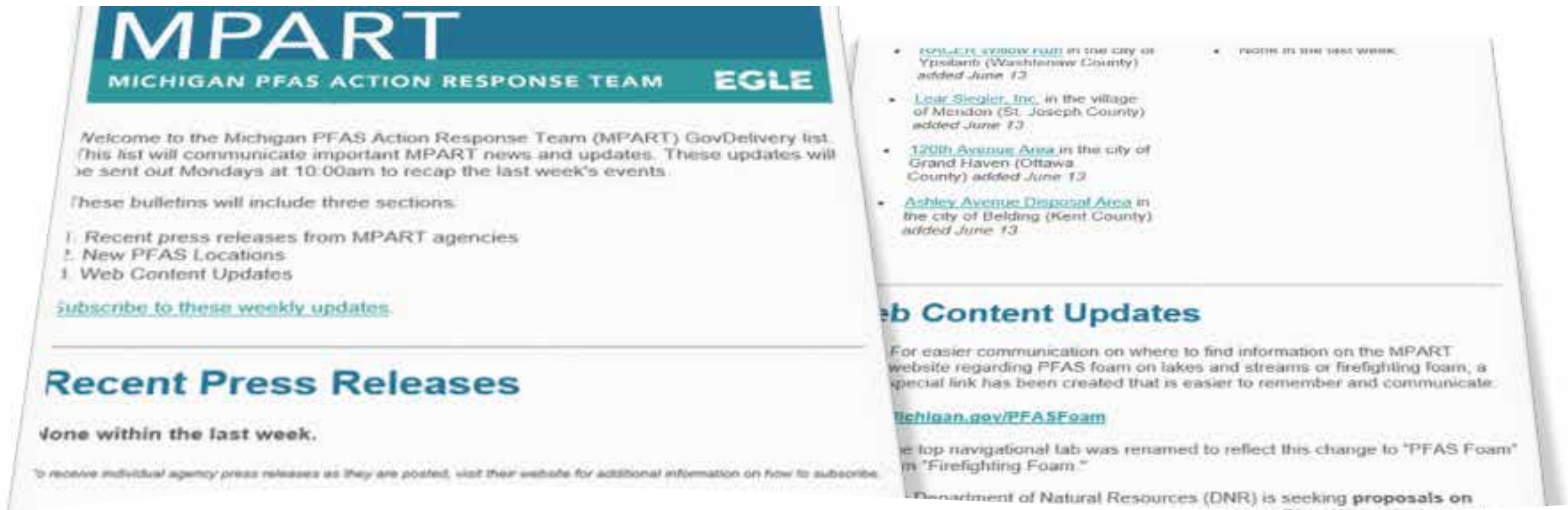
PFAS Emerge in Michigan

- 2012 Wurtsmith “Do Not Eat” fish advisory
- 2013 surface water recon sampling
- 2017 connecting channels data
- 2017 Camp Grayling sample data
- 2017 North Kent sample data

Michigan PFAS Action Response Team (MPART)

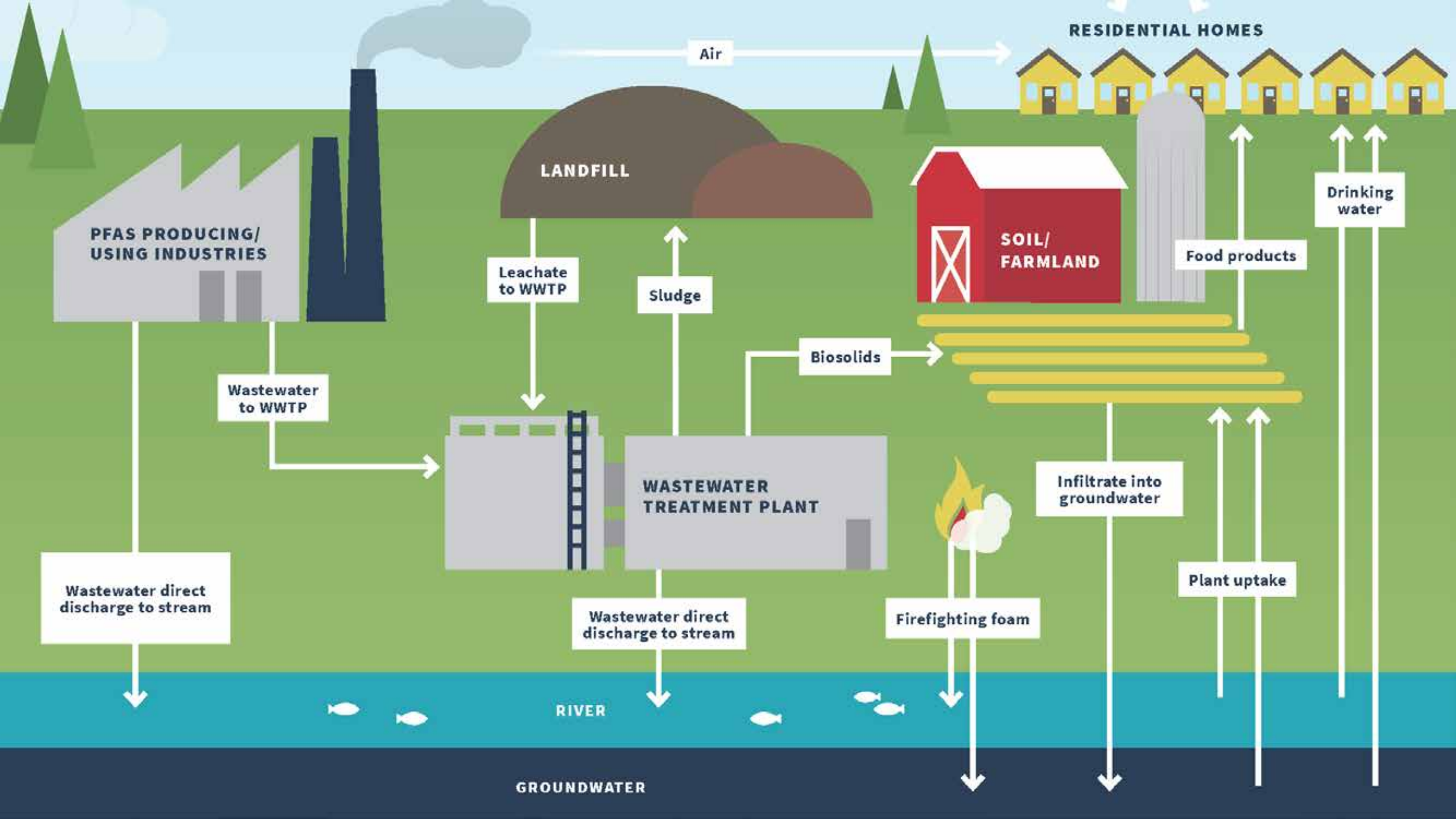


- Executive Order 2019-03
- Unique multi-agency approach
- Leads coordination and cooperation among all levels of government
- Directs implementation of state's action strategy
- 100's of staff statewide



Outreach and Information Sharing

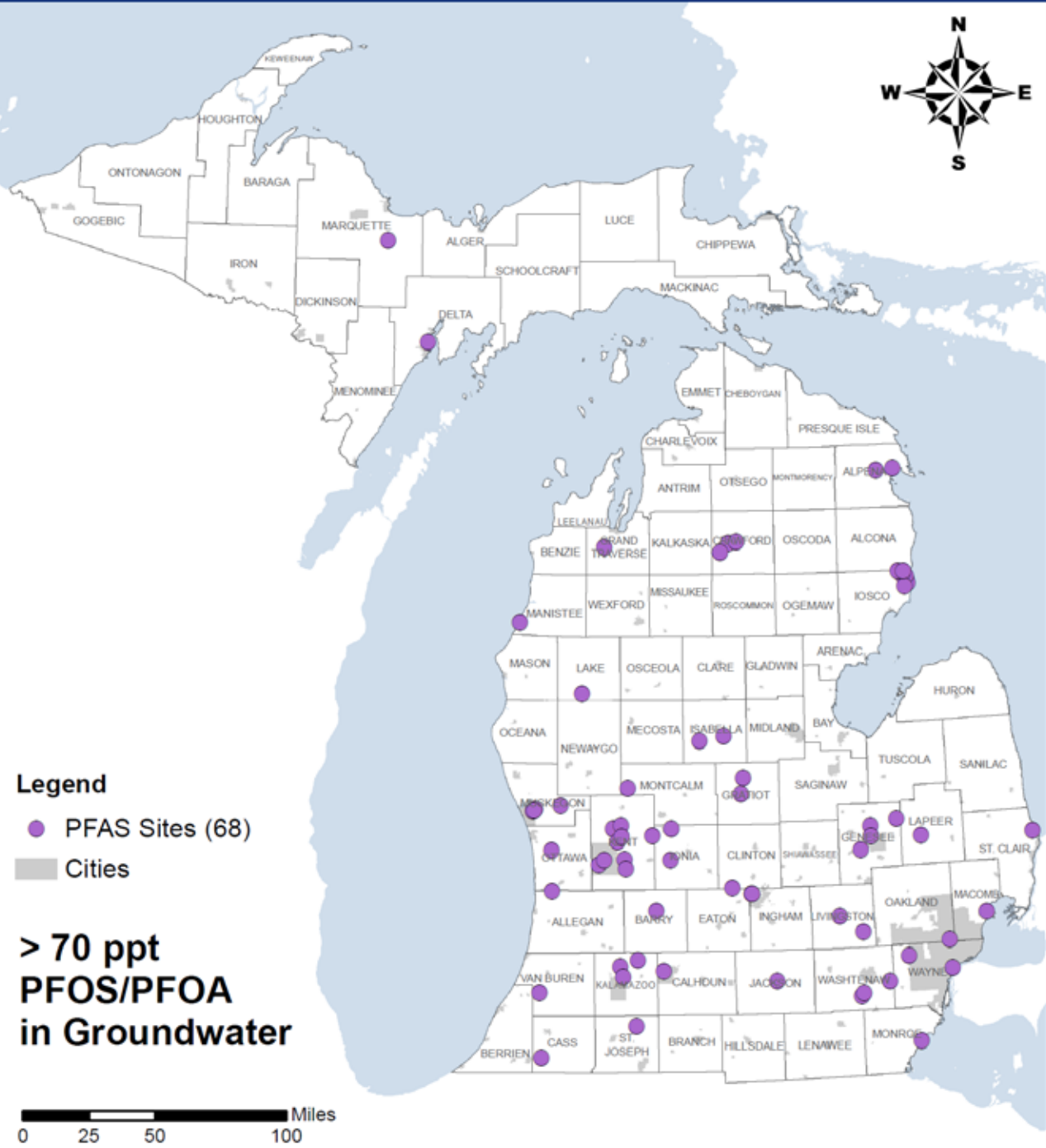
- Transparency
- Stakeholder input
- Coordination with other states and associations
- Advisory workgroups





MPART Response

- Protect public health
- Standardize sampling and analytical
- Study occurrence
- Identify sources and source pathways
- Study environmental transport and fate
- Study ecological effects
- Seek input and educate
- Prevent future contamination
- Develop standards



Sites Being Investigated

Prioritized investigations based on known or suspected sources, potential for exposure

Protect drinking water pathway

Multiple other investigations underway

Mobility

- Highly mobile
- Unconventional
- Affected by organic carbon, pH, clay content
- Current models lacking
- More studies needed



Surface Water Investigations

- Ambient
- Fish
- Foam
- Wastewater



Studies and Research

- Biosolids
- Landfill leachate
- Soil
- Treatment technologies
- Fate and transport





MI Public Water Supply Testing

- Phase I - 2018
 - All community water supplies (1,114)
 - All NTNCWS schools and day cares (619)
 - All Tribal systems (17)
 - Informs additional testing of other supplies
- Phase II - 2019
 - Non-community water supplies (750 total)
 - 237 children's camps
 - 162 medical care facilities
- Monthly monitoring
 - All 65 surface water systems
- Quarterly monitoring
 - 61 systems > 10 ppt Total Tested PFAS from Phase I



EGLE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY



FOR IMMEDIATE RELEASE:

Aug. 16, 2019

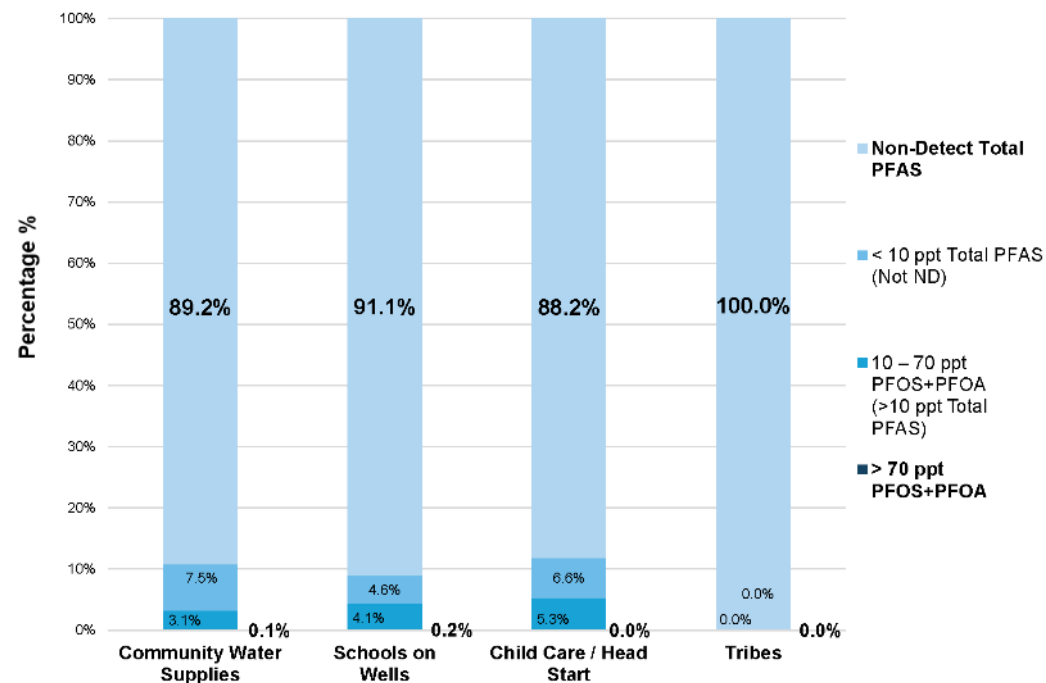
EGLE Media Office, EGLE-Assist@Michigan.gov, 517-284-9278

Michigan publishes first statewide study of PFAS in water supply

The Michigan PFAS Action Response Team (MPART) today posted the final report from last year's statewide sampling of community, school, child care provider and tribal water supplies for per- and polyfluoroalkyl substances (PFAS). The \$1.7 million study was the first of its kind in the nation.

Phase I:

Statewide Public Water Supply Testing Initiative Results*



*As of February 5, 2019



MI Standards

Surface water quality

- ✓ 11/12 ppt PFOS
- ✓ 420/12,000 ppt PFOA

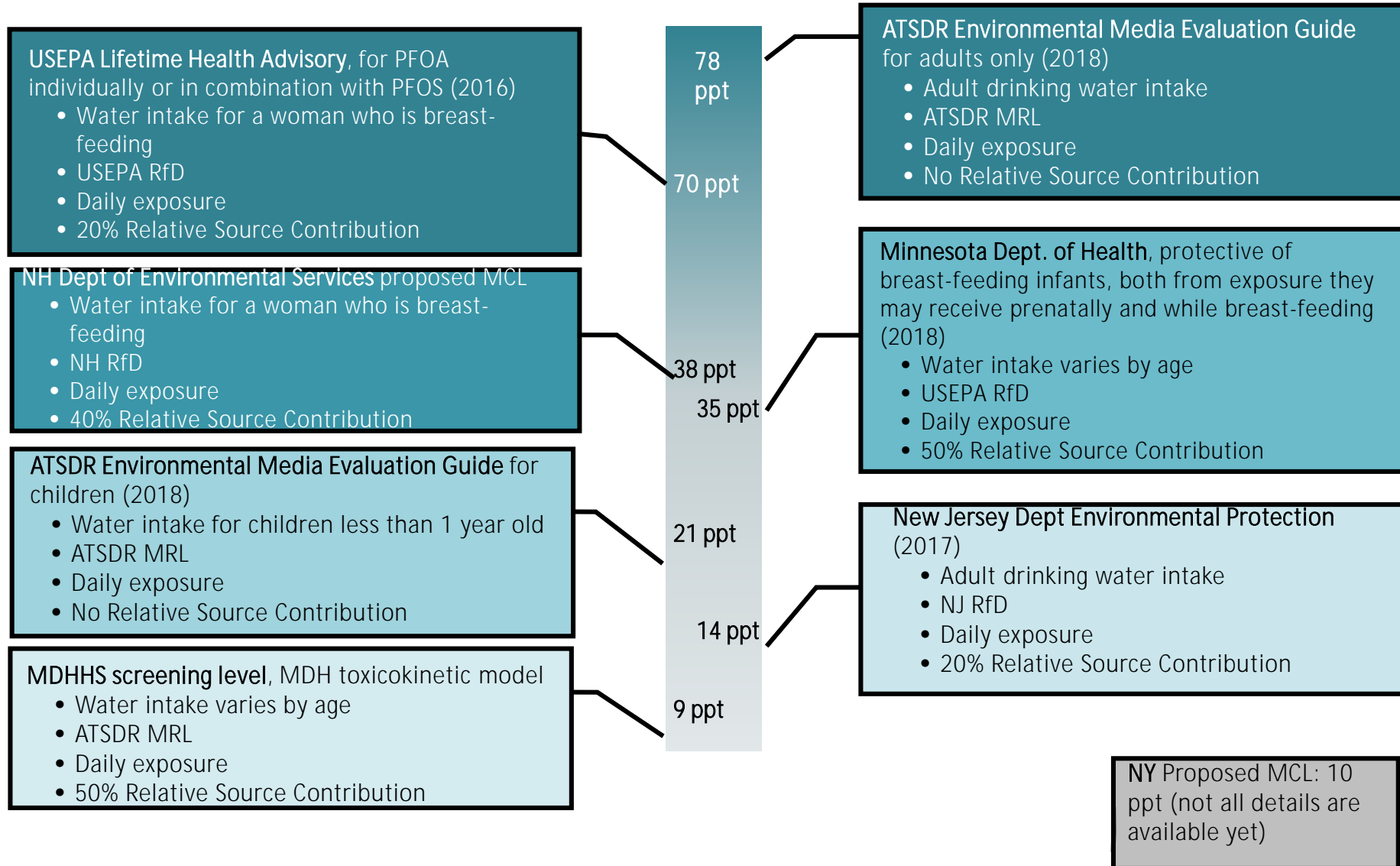
Groundwater cleanup

- ✓ 70 ppt PFOA/PFOS
- ✓ GSI per surface water quality standards

Drinking water

- ✓ 70 ppt PFOA/PFOS lifetime health advisory recommendation
 - MCLs

PFOA



MI Establishing Drinking Water Standards

- MPART Science Advisory Workgroup
- EGLE Rulemaking

FOR IMMEDIATE RELEASE

March 26, 2019

Contact: BrownT56@michigan.gov

Gov. Whitmer Directs MDEQ To File a Request for Rulemaking to Establish PFAS Drinking Water Standards

LANSING, Mich. –Today Gov. Gretchen Whitmer released the following statement commenting on Michigan's intent to establish PFAS drinking water standards to further protect Michiganders:

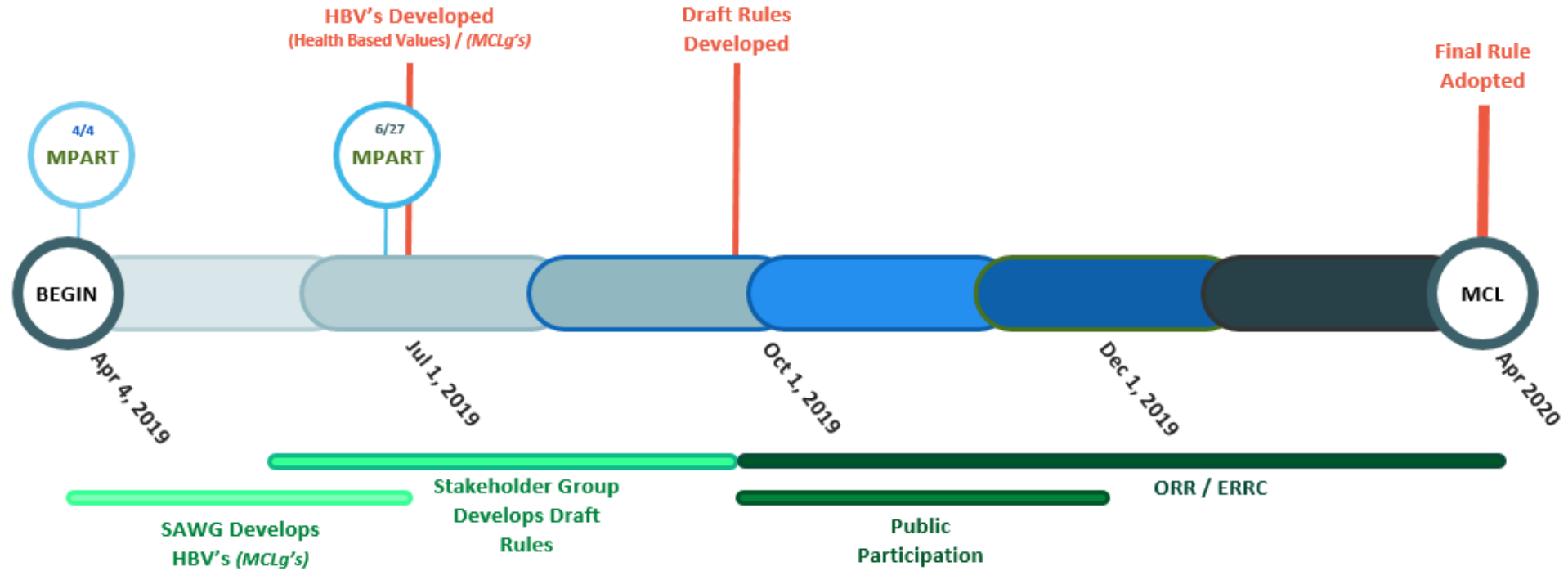
“All Michiganders deserve to know that we are prioritizing their health and are working every day to protect the water that is coming out of their taps.”

“As a result, Michigan will begin the process to establish PFAS drinking water standards that protect public health and the environment. Michigan has long advocated that the federal government establish national standards to protect the nation's water from PFAS contamination, but we can no longer wait for the Trump Administration to act.”

“Today I'm directing the Michigan PFAS Action Response Team to form a science advisory workgroup to review both existing and proposed health-based drinking water standards from around the nation to inform the rulemaking process for appropriate Maximum Contaminant Levels (MCL) for Michigan by no later than July 1, 2019. Additionally, I'm directing the Department for Environmental Quality to immediately file a Request for Rulemaking to establish enforceable MCLs for PFAS in our drinking water supplies. The proposed regulations will be completed on an accelerated schedule with input from stakeholders by no later than October 1, 2019.”

“These actions will move us a step closer towards finding real and permanent solutions to ensuring that all Michiganders know that they can trust their drinking water.”

MCLs Timeline



MPART will continue to coordinate multi-agency efforts to investigate and reduce exposure to PFAS across the state

Health-Based Values

Specific PFAS	Parts Per Trillion (ppt)
PFOA	8
PFOS	16
PFHxS	51
PFNA	6
PFBS	420
GenX	370
PFHxA	400,000

Public Health Advisories

- Fish and deer consumption
 - 9 – 300 ppb PFOS
- Surface water foam



Public Health Tools



North Kent County exposure
assessment



Biomonitoring

Statewide
Firefighters



Health studies in Parchment and
North Kent County

Fire Fighting Foam

- State Fire Marshal survey of fire departments
- MDOT survey of airports
- Special equipment for required training
- PEAS Hotline after use
- Collection and disposal program



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