



Michigan's IPP PFAS Initiative

April 2018

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What's in a Name?

- **PFAS** – Per and Polyfluoroalkyl Substances
- Also called **PFCs** for Perfluorinated Compounds (leaves out Polyfluorinated)
- But **PFCs** can also mean **Perfluorocarbons** associated with greenhouse gases--confusing
- **PFAS** and **PFOS** sound similar, also confusing

Environmental and Health Concerns



- Widespread wildlife and human exposure
- Human Health concerns
- Most studied chemicals are PFOS and PFOA

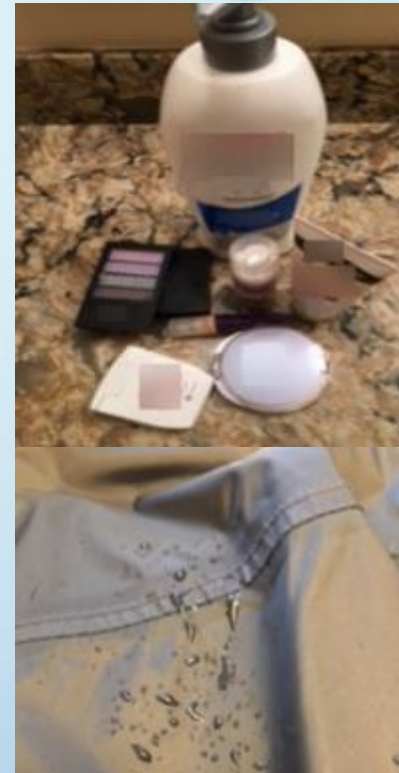
PFAS of Concern: PFOA



- **PFOA:** perfluorooctanoic acid (also called “C8”)
 - Non-stick coatings
 - Stain- and water-repellant treatment
- Human health exposure: food and drinking water, occupational exposure
- National voluntary phase out, but may still be found

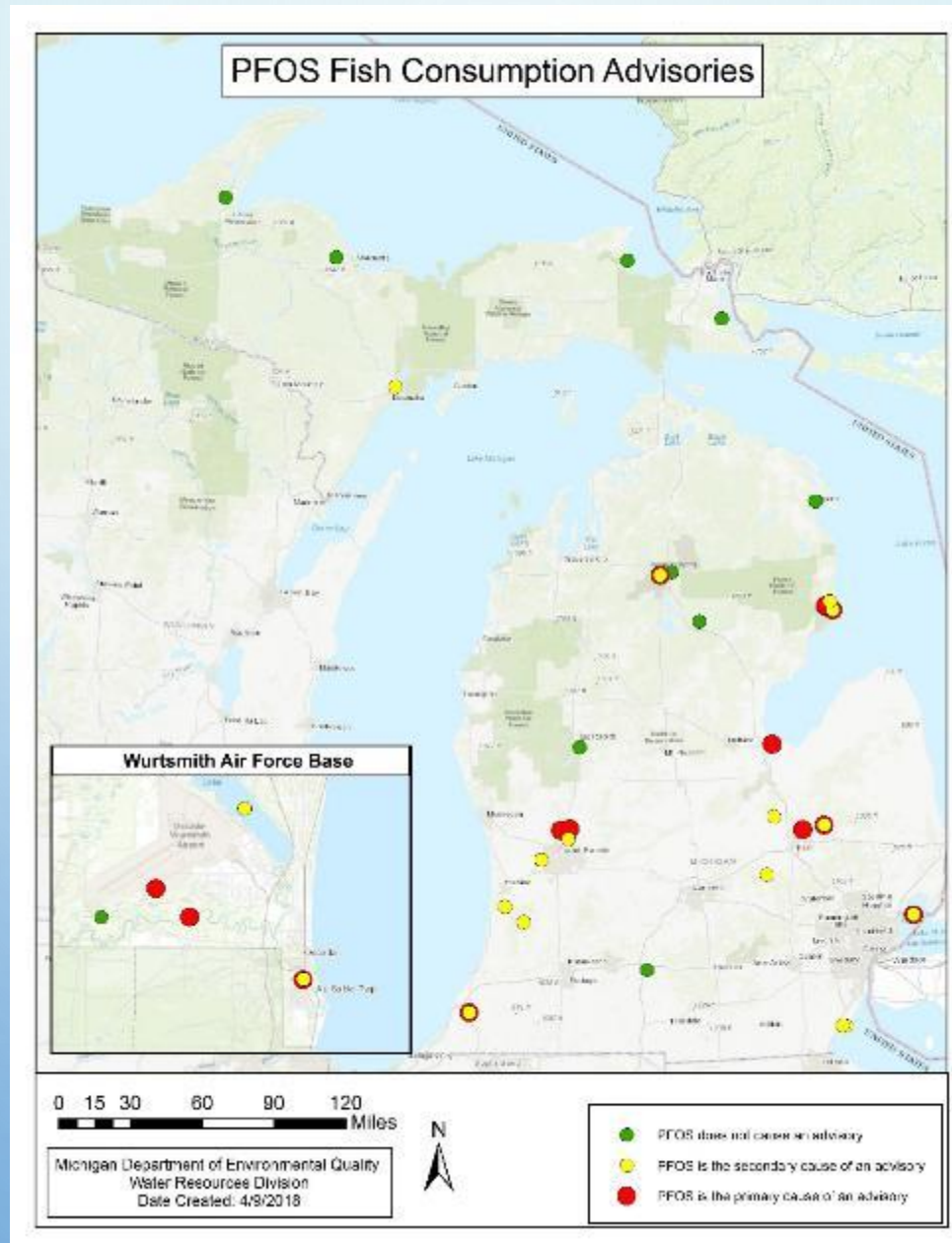
PFAS of Concern: PFOS

- **PFOS:** Perfluorooctane Sulfonate
 - Persistent and Bioaccumulative
 - Human health concerns
 - Associated Fish Consumption Advisories
 - Low Water Quality Standards in MI:



	HNV (nondrinking)	HNV (drinking)	FCV	FAV	AMV
PFOS (ng/L)	12	11	140,000	1,600,000	780,000
PFOA (ng/L)	12,000	420	880,000	15,000,000	7,700,000

Fish Consumption Advisories driven by PFOS



PFOS and Fish Consumption Advisories

Genesee County and Lapeer County--Flint River (upstream of Mott Dam, including the Mott and Holloway Reservoirs)

Type of Fish	Chemicals causing MI Serving Guideline	Size of Fish (length in inches)	MI Servings per Month
Carp	PFOS	Any	2
Largemouth Bass	PFOS	Any	6 per Year
Rock Bass	PFOS	Any	1
Smallmouth Bass	PFOS	Any	6 per Year
Walleye	PFOS	Any	1

Statewide, Multi-media Action

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Taking Action, Protecting Michigan

Governor's Directive Creates The PFAS Action Response Team

What You Need to Know About PFAS Contamination

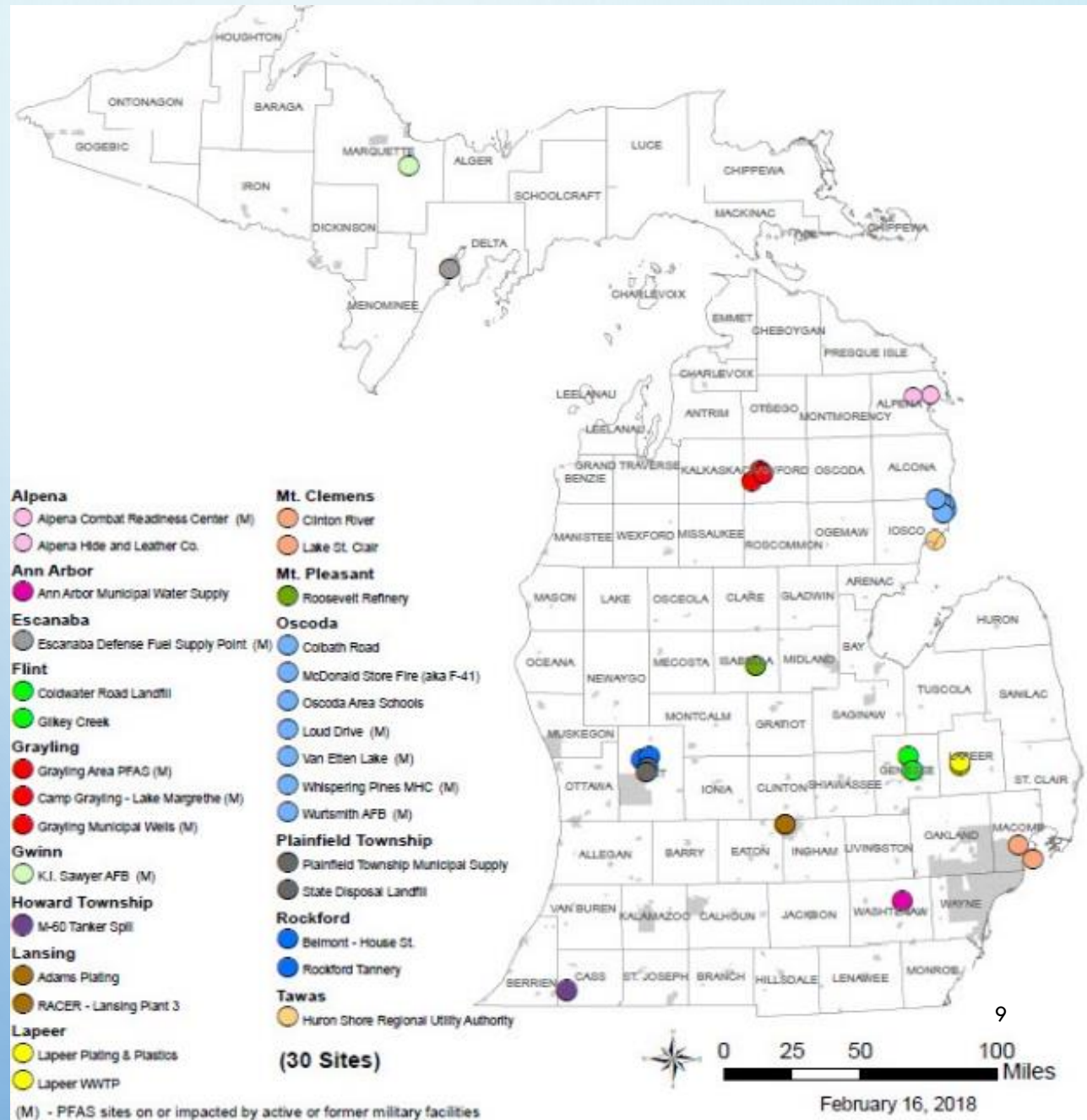
Perfluoroalkyl and polyfluoroalkyl substances (PFAS), also known as PFCs, have been classified by the US Environmental Protection Agency as an emerging contaminant on the national level. PFAS are a suite of chemicals historically used in thousands of applications throughout the industrial, food, and textile industries. They are incredibly stable, breaking down very slowly in the environment, and are highly soluble, easily transferring through soil to groundwater. PFAS contamination has been identified in several locations across the state of Michigan as a result of use in multiple industries across the State. PFAS is used in firefighting foams, food packaging, cleaning products, and various other products. It is also used by many industries such as plating, tanneries, or clothing manufacturers, where waterproofing may be required or a protective film is needed in a manufacturing process.

Governor Snyder and the State of Michigan are taking action to address this issue in a proactive and innovative way. Ten state departments, in coordination with local and federal officials across Michigan, are working together to ensure that the public health and safety of residents is protected while ensuring our environmental heritage is secure for generations of Michiganders to come.

This site is intended to serve as the main resource for public information on PFAS contamination in Michigan. It will be updated regularly as additional facts about the issue and locations impacted becomes available.



Confirmed PFAS Sites, Michigan (All Types)



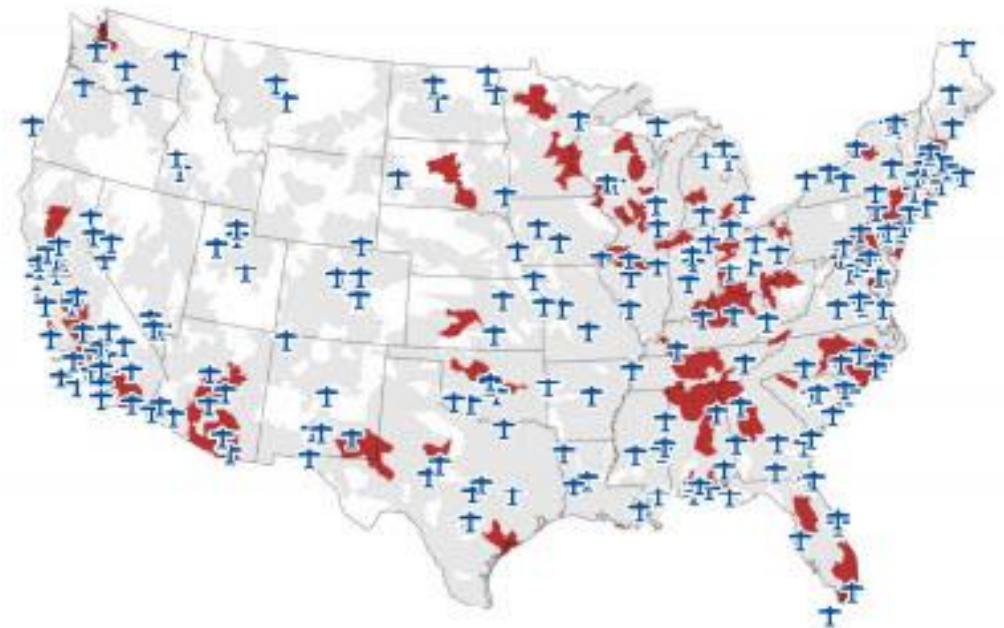
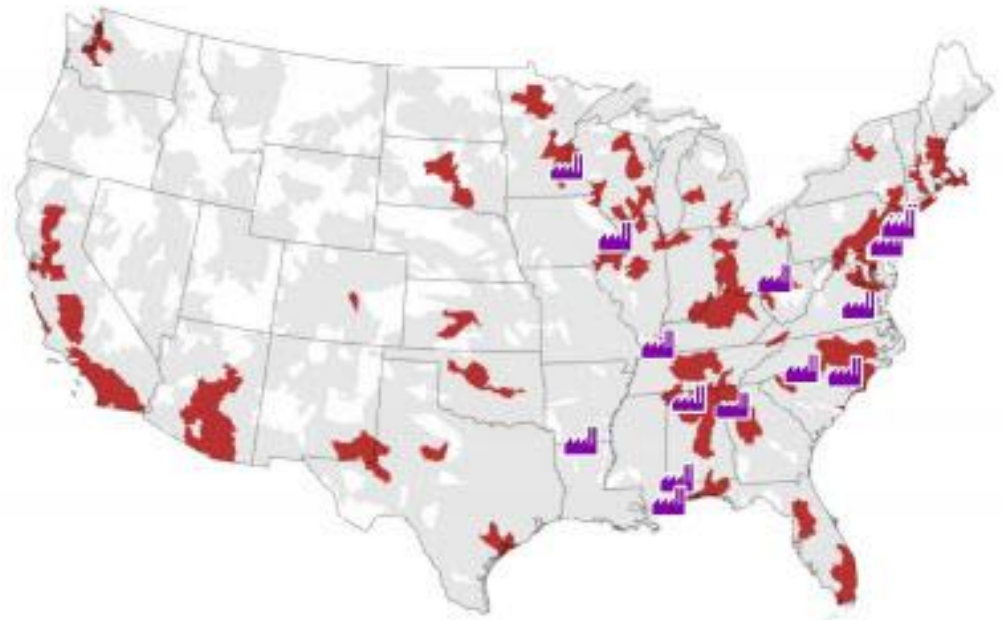
National Study, ACS, 2016

- PFOS/PFOA found greater than EPA lifetime health advisory (70 ng/l) in public drinking water sources for 6 million US residents
- Number of PFOS/PFOA manufacturers, military fire training areas, and **WWTPs** in watersheds were significant predictors of PFAS detection in public water supplies.

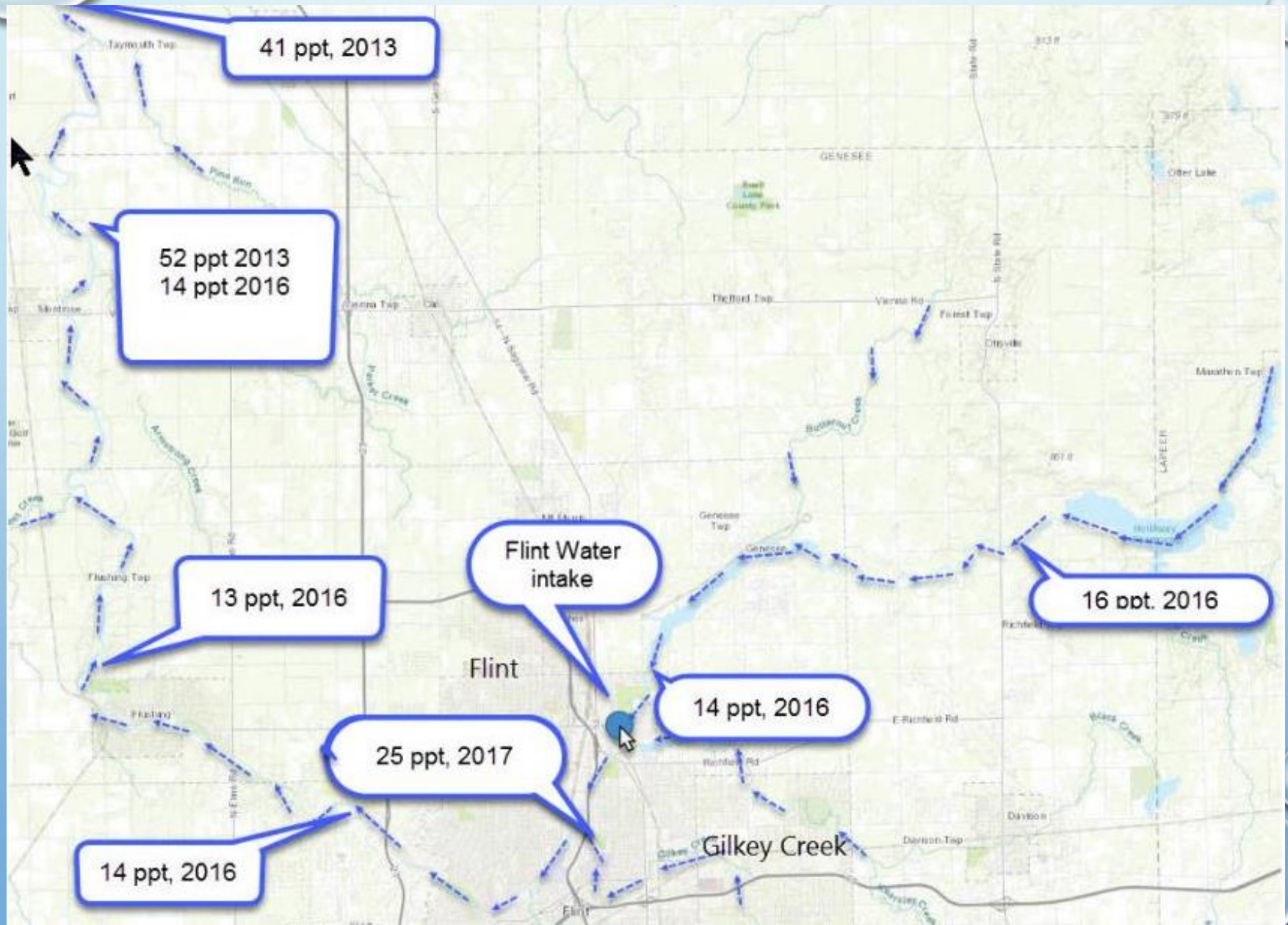
ACS Study, 2016

Associated with
detectable PFAS in
public water supplies:

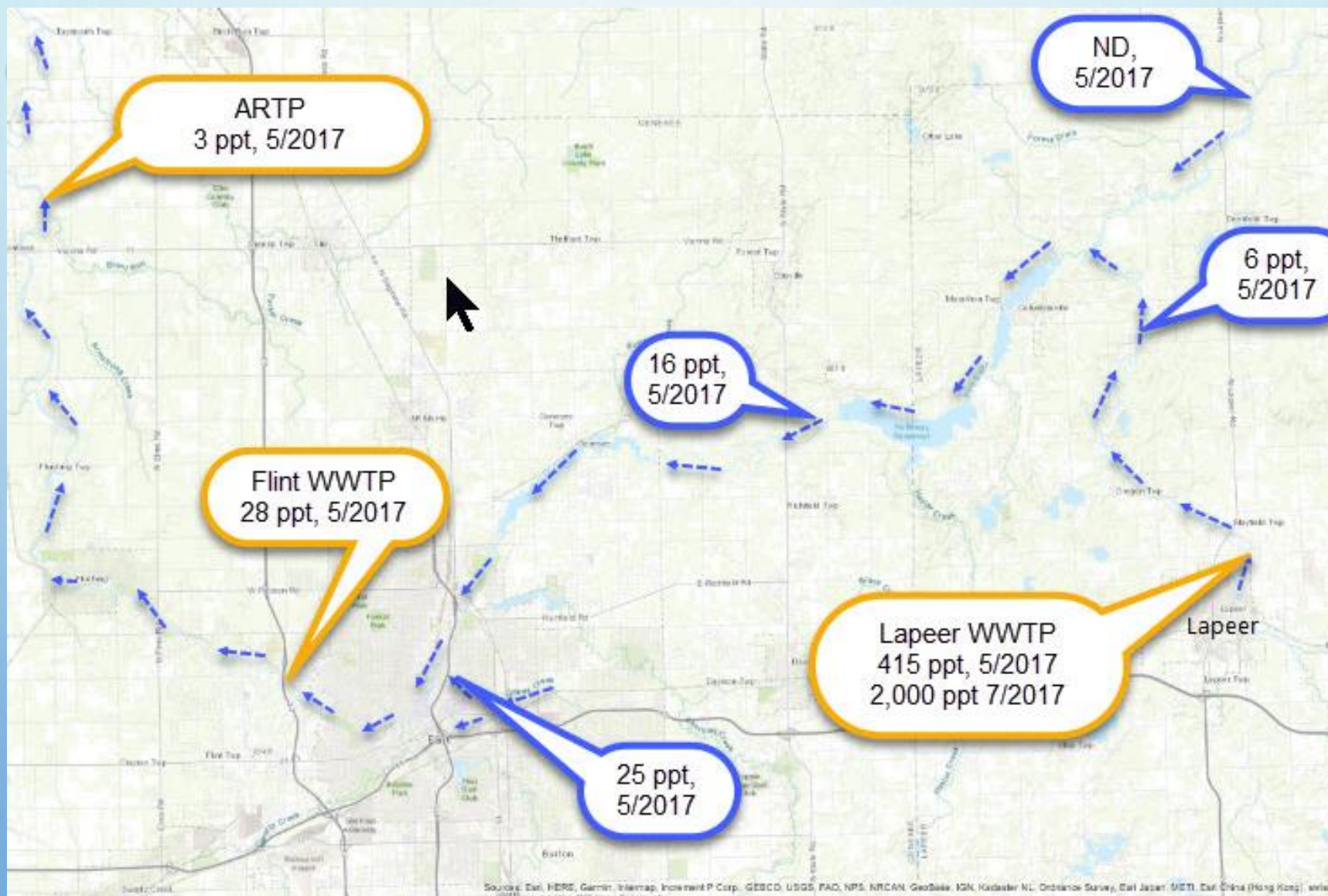
- Industrial sites
- military sites
- WWTPs are



Case Study: Flint River PFOs



Case Study: Flint River PFOs



Lapeer WWTP



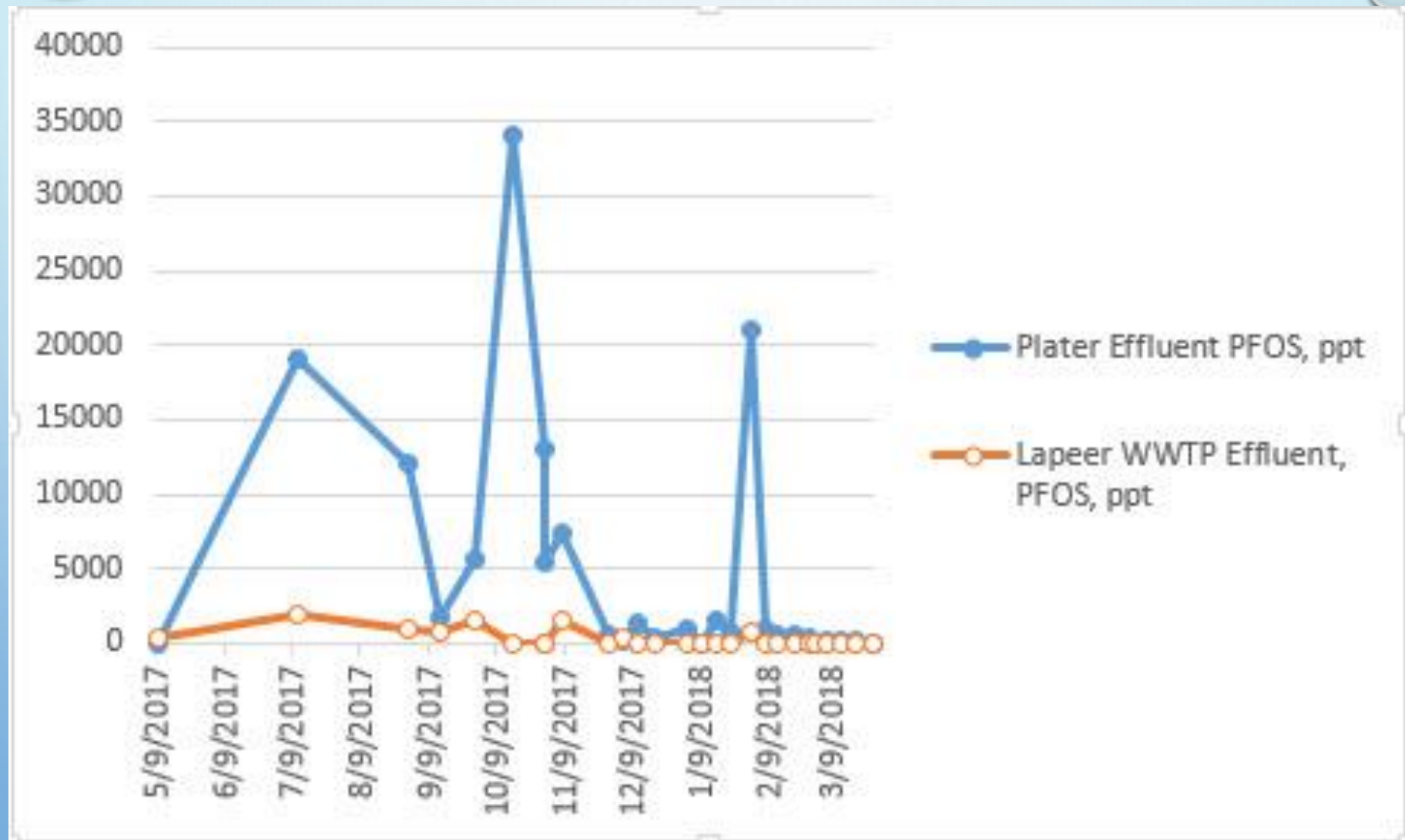
- DEQ found PFOS in discharge in June 2017
- Worked with City to find the source
- City working with source to eliminate PFOS

Source: Chrome Plater



- PFOS-containing demister in etch baths, electroplating tanks
- Discontinued use in 2013, prior to ban
- Tanks, pits not changed or cleaned since¹⁵

PFOS Reduction Effort, Lapeer



NPDES Requirement: Industrial Pretreatment Program (IPP)

- Some POTW NPDES/GW permits require an IPP to regulate industrial wastewater accepted
- **For POTWs w/IPPs:** WRD requires **source evaluation** and **follow up**
- To ensure are not passing through PFOS or PFOA greater than water quality standards
- Current permit requirement, new pollutants

Sources of PFOS & PFOA for WWTPs

- Platers: Chemical fume suppressants, demisters, defoamers, wetting agents, surfactants
- Leather and fabric treaters, tanneries
- Paper and packaging manufacturers
- Manufacturers of parts with PTFE coatings (bearings, wire, etc)
- Landfills (leachate)
- Centralized Waste Treaters
- AFFF fire fighting foam



IPP PFAS Requirements

- Potential Source Screening
- Monitor Probable Sources
- If sources found:
 - Reduce/Eliminate PFOS & PFOA Sources
 - Monitor POTW effluent; report if >WQS
- Submit Interim Report – due 6/29
- Continue Source Reduction & Monitoring
- Submit Summary Report – due 10/26

Alternative Plan:

- More time
- Fewer samples
- For larger POTWs

Training and Outreach

http://www.michigan.gov/deq/0,4561,7-135-3308_3333-460368--,00.html

Industrial Pretreatment Programs PFAS - Regional Informational Meetings

Agency: Environmental Quality

MARCH 12, 2018 - LIVONIA

Schoolcraft College, Vista Tech Center

MARCH 14, 2018 - GRAND RAPIDS

GVSU - L.V. Eberhard Center

MARCH 27, 2018 - MT. PLEASANT

Mt. Pleasant Comfort Inn and Suites

Continuing Education: These meetings will provided 0.2 Technical CECs for Wastewater Treatment Operators.

The IPP PFAS* Initiative Regional Informational Meetings

The DEQ, Water Resources Division, held regional meetings for Industrial Pretreatment Program (IPP) professionals to discuss the technical aspects of the IPP PFAS Initiative, including a description of expectations for the initial screening, monitoring plans, probable source monitoring, and evaluation, as well as information about sampling and analysis protocol and source reduction.

**PFAS are perfluoroalkyl and polyfluoroalkyl substances (also referred to as PFCs), especially the specific chemicals PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid).*

IPP PFAS INITIATIVE MEETING - DEQ PRESENTATION

PFAS Resources

- [Governors PFAS Directive Website](#)
- [IPP Program Staff Contacts](#)
- [DEQ Industrial Pretreatment Website \(www.michigan.gov/ipp\)](#)

PRELIMINARY AGENDA

9:00 a.m. - Registration/Sign-in

9:30 a.m. - Meeting Start

1. Welcome and Introduction
2. PFAS and its Impact on POTWs and Receiving Streams
3. Break
4. WRD Requirements for POTWs with IPPs
5. PFAS Monitoring and Analysis
6. Where to go for Resources and Assistance
7. Question and Answer

12:00 p.m. - Adjourn

Issues and Response

- Moving PFAS from one media to another:
Sites to Landfills to POTWs to landfills
- No national or state biosolids standard
- No EPA approved PFAs method for wastewater
- Due dates and coordination among programs
- Recommended analytes (24, EPA draft)

A dramatic sunset scene over a body of water. The sky is filled with dark, heavy clouds, with a bright orange and yellow glow from the setting sun breaking through on the right side. The sun is low on the horizon, casting a long, shimmering reflection on the water. On the left, a lighthouse and a pier are silhouetted against the sky. On the right, a small pier and some trees are also silhouetted. The overall mood is serene and contemplative.

Questions?