PFAS Contamination From a Former U.S. Air Force Base – Michigan Case Study

Christina Bush and Sue Manente, MDHHS

Highly Fluorinated Compounds – Social and Scientific Discovery

June 15, 2017
Former Wurtsmith Air Force Base

- Timeline
- PFAS in FISH and wild game
- PFAS in drinking water
- Past and current exposure concerns
- Our partners
Timeline

• 2010: DEQ started sampling and finding PFAS
• 2011: Fish in Clark’s Marsh sampled and analyzed
• 2012: MDHHS receives fish data, issues do-not-eat advisory; further investigation

• Sept 2015: Type 1 water-supply at mobile home park ID’d and sampled
• Oct 2015: Results received; planning begins for potable well survey
• Dec 2015: USAF and MDEQ sample 24 private residential wells
• Jan 2016: Results received; MDHHS prepares “Understanding Your Well Test Results” fact sheet
• Feb 2016: USAF and MDEQ send results letters and fact sheet; MDHHS sends recommendations letter with meeting info, updated fact sheet; local health conducts in-person outreach
• Mar 2016: MDHHS report showing evaluation of data sent to local health and township; ongoing investigation
PFAS in Fish and Wild Game
Decision “Tree” – Downgradient

Is the well downgradient from a WAFB-originating PFAS groundwater plume?

YES

Is the well within the impacted area as defined by the Conceptual Site Model?

YES

Recommend seeking alternate water and offer an RO system.* Data are not necessary.

NO

Are data available for the well?

YES

If PFAS from WAFB are present, recommend seeking alternate water and offer an RO system.*

NO

Data are necessary for decision-making.

NO

YES

Are data available for the well?

YES

If PFAS from WAFB are present, recommend seeking alternate water and offer an RO system.*

NO

Data are necessary for decision-making.

*Well owners may choose to connect to township water, if that is currently available.
Is the well downgradient from a WAFB-originating PFAS groundwater plume?

NO

Are data available for the well?

NO

Data are necessary for decision-making.

YES

If PFOA + PFOS > 70 ppt, recommend seeking alternate water and offer an RO system.*

*Well owners may choose to connect to township water, if that is currently available.
Exposure Concerns

**Past**
- Base - Veterans, civilian workforce and their families
- Off-base exposures – when did exposure start?
- Should there be a health study?

**Present**
- Base is on city water now
- Off-base exposures – only 2/250 samples exceed LTHA
- Concern is drinking/cooking; contact is OK
Our Partners and Other Involved Parties

• Federal – U.S. Air Force, U.S. Forest Service, Michigan Congressional members
• State – MDEQ, MDNR, MDMVA, Governor’s Office, State legislators
• Local – district health department, township officials, chamber officials, conservation clubs, fishing groups, homeowner associations
• Community members – residents, veterans (individuals, Facebook group), owners of vacation rentals, landlords/occupants
• Media
Oscoda Township

Population: 6,852

- Median household income: $34,295
- Median age: 51.3
- Percent high school graduate or higher: 87.5%
- Percent bachelor’s degree or higher: 19.7%
- Percent Individuals below poverty level: 18.3%
- Veterans: 1,025

Percent Race:
- White alone: 95.2%
- Black or African American alone: 0.07%
- American Indian or Alaska Native alone: 1.0%
- Asian alone: 0.05%
- Hispanic or Latino (of any race): 2.0%
Local Economy – Oscoda Township

<table>
<thead>
<tr>
<th>Occupation</th>
<th>By number of employees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail trade</td>
<td>388</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>239</td>
</tr>
<tr>
<td>Accommodation and food service</td>
<td>232</td>
</tr>
<tr>
<td>Other services</td>
<td>69</td>
</tr>
</tbody>
</table>

*2012 Economic Census of the United States, U.S. Census Bureau
Well Known Fishing Destination

- Au Sable River is a world famous trout stream
- Lake Huron known for walleye fishing
- Van Etten Lake known for walleye fishing
First Round...
PFAS Fish Advisory
Have fun on the Au Sable!

The Michigan Department of Community Health has advice about activities on the lower Au Sable River between Foote Dam and Lake Huron.

Do not eat resident river fish such as sunfish, bass, and perch. There are high amounts of perfluorinated chemicals (PFCs) in fish that live in this part of the river year round. Eating them could harm your health.

Fish that don’t live in the river year round, such as salmon and steelhead, are safer to eat.

Enjoy swimming, boating, and fishing in the river. Touching the water will not harm you.

MDCH has meal guidelines for some Au Sable River and Lake Huron fish because of other chemicals. Call MDCH at 1-800-684-6942 or visit www.michigan.gov/eatsafefish.

Eat Safe Fish

caught from the lower Au Sable River, Van Etten Lake, Clark’s Marsh, Allen Lake, and Lake Huron

www.michigan.gov/eatsafefish
MDHHS Issues Drinking Water Advisory

District Health Department No. 2 is main contact for alternate water supply: RO filter systems or in-home water cooler

&

Chris is the main contact for water test results, questions, and recommendations. Trusted source!

Public Meetings
• Held on quarterly basis or when new information is received
• Afternoon open house, ~100 in attendance
• Evening public meeting, ~100-150 in attendance
• MDHHS, MDEQ, U.S. Air Force, and local health department present
• Meetings last for four hours
Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water Wells Near the Former Wurtsmith Air Force Base
Updated April 2017

What are per- and polyfluoroalkyl substances (PFAS)?

PFAS, sometimes known as perfluorinated chemicals or PFCs, are a group of chemicals that are flame retardants, used in many products. PFAS are also found in firefighting foams, which contain fast-foaming, as well as in industry and manufacturing. Fluoridation that contains PFAS forms used and sometimes applicant of PFAS when the base was in operation.

What do I need to know about PFAS levels in drinking water wells?

- Levels above 70 parts per trillion (ppt) for PFAS and PFOA combined.
- Most of the drinking water wells tested near Wurtsmith have been below the CLPs.
- There were PFAS and PFOA levels found in the water wells sampled. The EPA has set health advisory levels for PFAS because it does not know how much of these chemicals people are exposed to.

Understanding Your Well Test Results
(Former Wurtsmith Air Force Base and PFAS)
Updated April 2017

1. If you have a well, you may have PFAS in your well water. PFAS are not a direct health hazard, but they may be harmful to the environment.
2. Levels above 70 parts per trillion (ppt) for PFAS and PFOA combined.
3. Most of the drinking water wells tested near Wurtsmith have been below the CLPs.
4. There were PFAS and PFOA levels found in the water wells sampled. The EPA has set health advisory levels for PFAS because it does not know how much of these chemicals people are exposed to.

www.michigan.gov/wurtsmith
Informal Community Outreach workgroup

MDHHS requested - 7 attended the meeting

Top concerns
• Health survey
• What does lifetime exposure mean
• Reaching non-engaged community members

Other concerns
• Cleanup
• Municipal water – safety, funding for affected area
• Transparency
• LTHA
To Publicize or Not?

Will using statewide media benefit or harm the community?

- Could let tourists know dermal contact is not of concern

- Could bring negative attention to the area and drive away tourists
Next Steps

• Second meeting with communication workgroup

• Public meetings
  • Provide updates
  • Poll attendees at next open house for concerns, etc.
  • Implement additional communication methods based on community feedback
Contact Information

Christina Bush, Toxicologist
bushc6@michigan.gov
517-284-4794

Sue Manente, Health Educator
manentes@michigan.gov
517-284-4807

www.michigan.gov/wurtsmith