



Michigan's Aquatic Invasive Plant Response- Parrot Feather

Sarah LeSage, Michigan DEQ
Binational Forum
Erie, PA
June 21, 2017

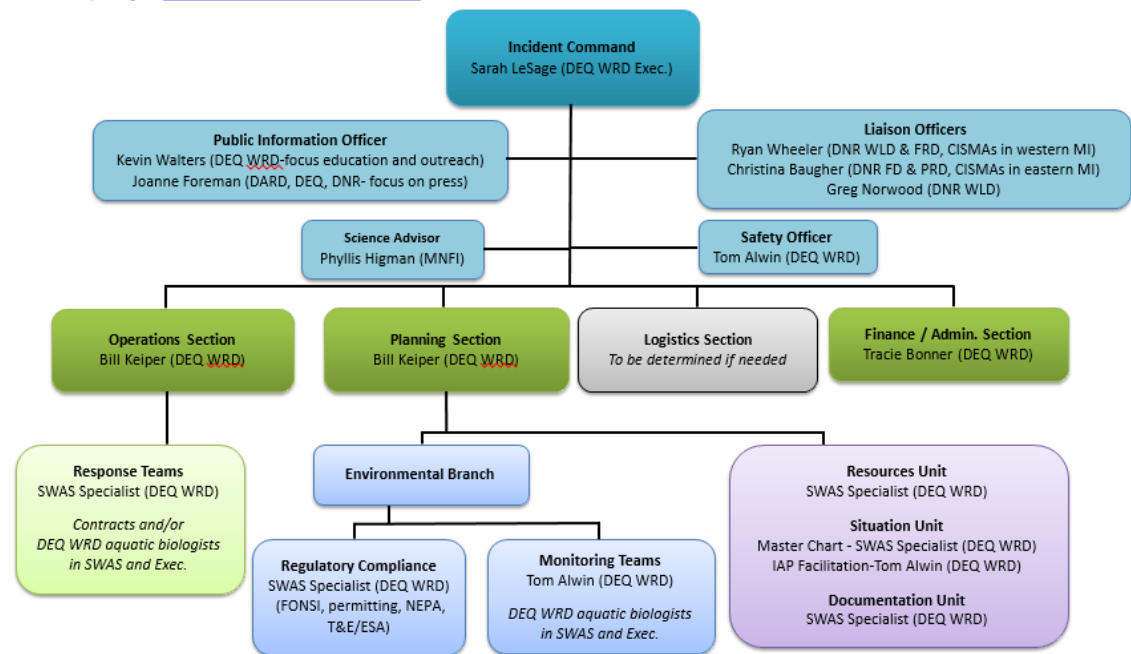


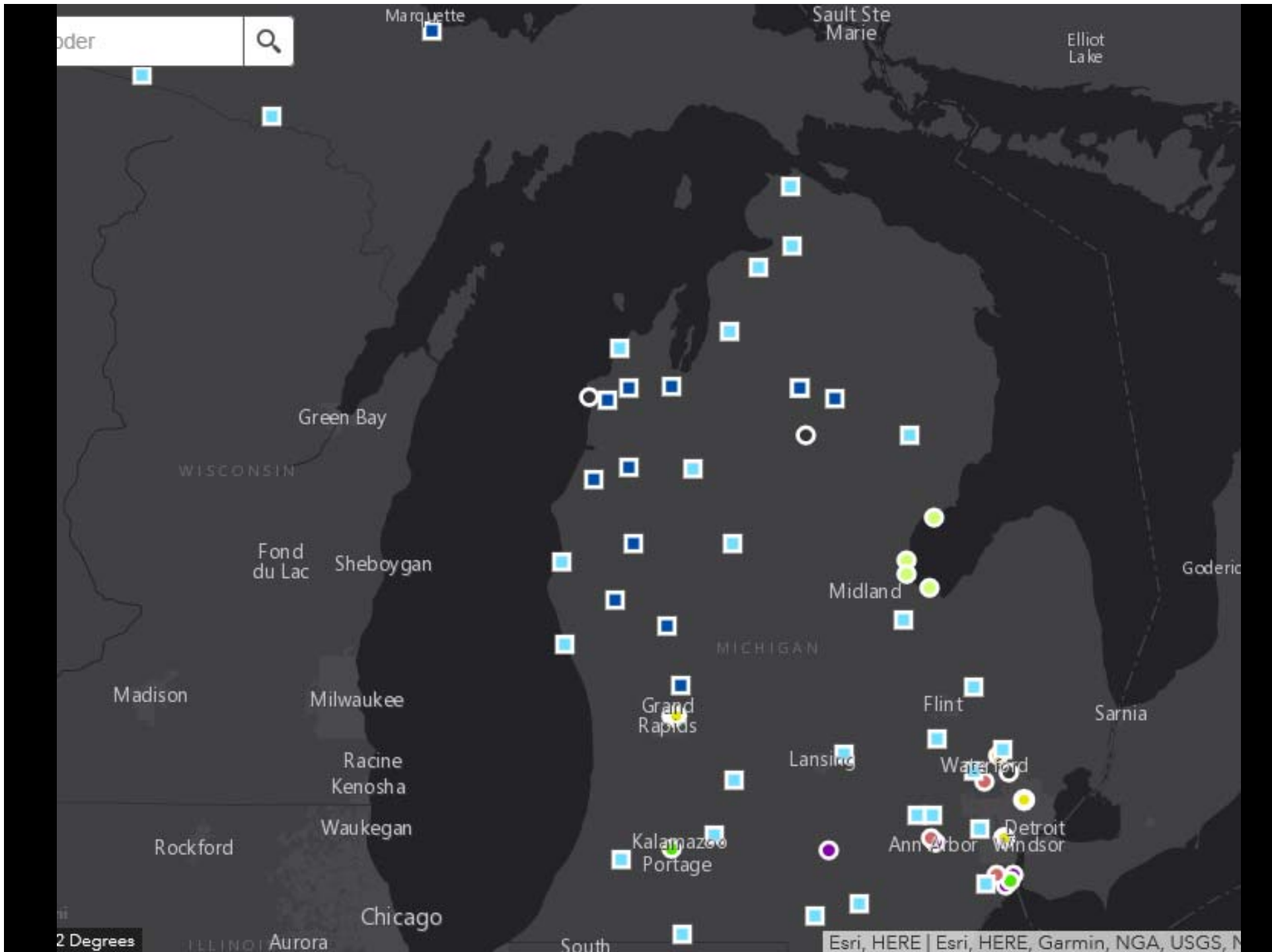
Background

- GLRI funded (Aquatic Invasive Plant)
- Michigan AIS Response Plan
- Management goal- eradication
- Incident Command System: Risk analysis, Incident Action Plan, After Action Report

Draft 3/9/17 Incident Command Organizational Chart Response to Aquatic Invasive Plants 2017

For more information on the ICS, please go to: <http://www.fema.gov/incident-command-system>



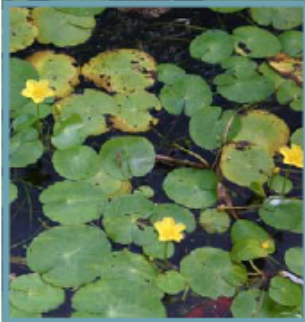




Aquatic Invasive Plant Watch List

Be on the lookout for these invasive species!

Yellow Floating Heart
Nymphoides peltata



Water-chestnut
Trapa natans



**Parrot Feather
Water-milfoil**
Myriophyllum aquaticum



Water Soldier
Stratiotes aloides



Hydrilla
Hydrilla verticillata



**Brazilian
Water-weed**
Egeria densa



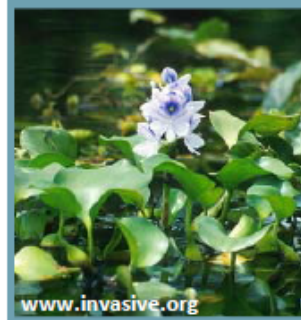
European Frog-bit
Hydrocharis morsus-ranae



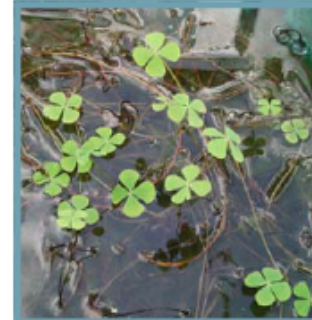
Water Lettuce
Pistia stratiotes



Water Hyacinth
Eichhornia crassipes



**European
Water-clover**
Marsilea quadrifolia



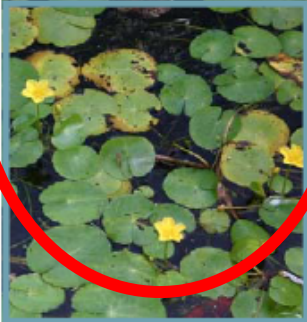
These species are currently allowable for sale and possession. Please contact the DNR if these plants are observed outside of cultivation.



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Parrot feather (*Myriophyllum aquaticum*)

- **Identification:**
- Spikes of stiff, feathery leaves grow in whorls of 4-6
- Bright green upper stem emerges up to 1 foot above water
- Small, inconspicuous white flowers where leaves attach to the section of stem above water
- Stems and submerged leaves may be tinted reddish
- All U.S. plants are female, spread via fragmentation



5456201
Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



5400573
Graves Lovell, ADCNR Bugwood.org - Parrot feather invasion



Parrot feather

(Myriophyllum spicatum)

- **Habitat:** Occurs in slow-moving fresh water habitats such as tributaries, canals, ponds, and lakes. It shows preference for high nutrient environments with plenty of light.
- **Native Range:** South America
- **U.S. Distribution:** Parrot feather can be found in at least 26 states, including those along the Eastern, Southern, and Western coasts.
- **Local Concern:** threatens native aquatic species through competition. It will often form dense mats which provides habitat for mosquito larvae and can impede boats.
- Prohibited in Michigan
- MDARD Weed Risk Assessment (Wiebert 2015) -> high risk
- Pathways: trade and recreation



Pathway work

- **MI Dept. Agriculture and Rural Development**
- Growers (annual) and dealers (biannual)
- 3,200 plant retailers (target ?)
- Pet shops and aquarium stores (not routinely inspected and licensed)
- Leveraged funds- initially GLRI, now nursery stock license holder inspection fees and general fund
- **Today- integrated into routine work and software supported/required!**



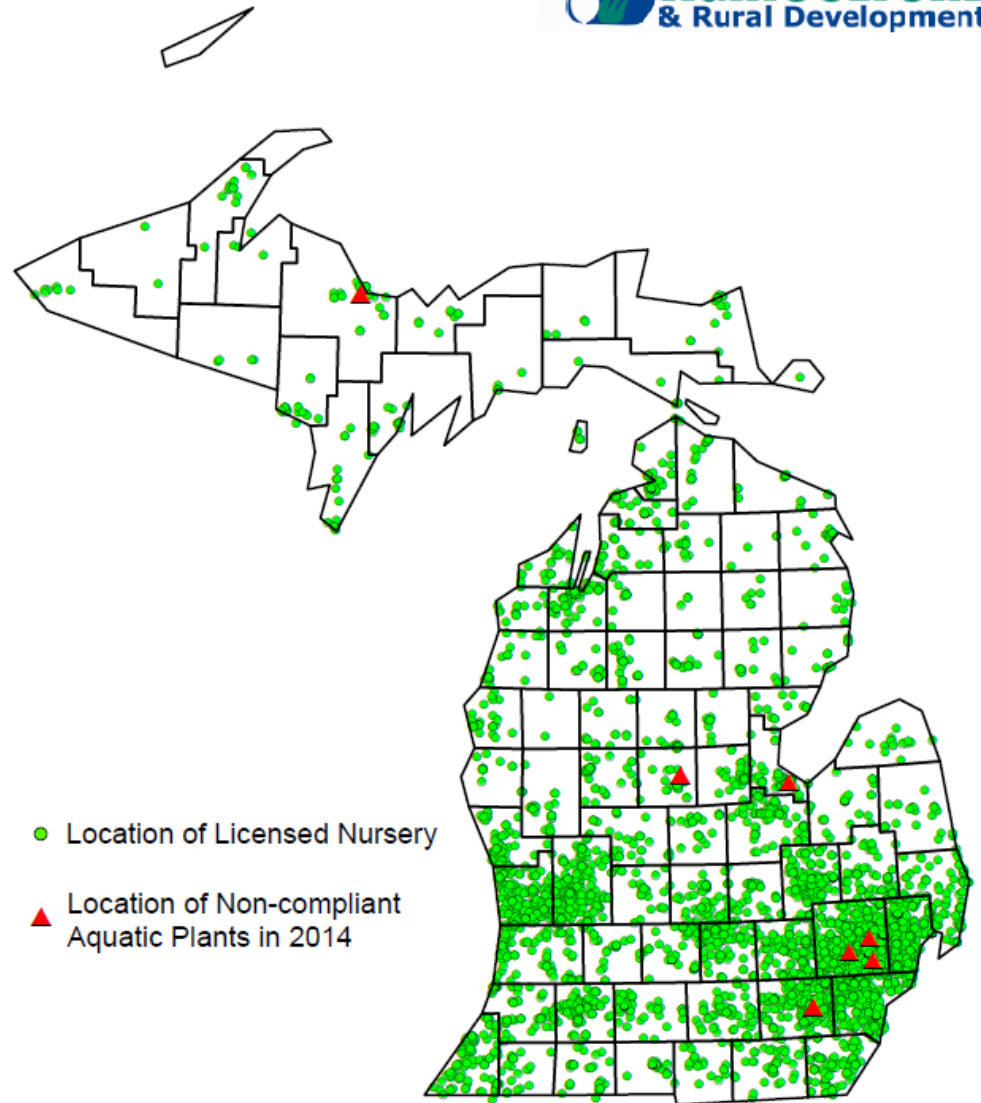
Pathway work- 2014 results

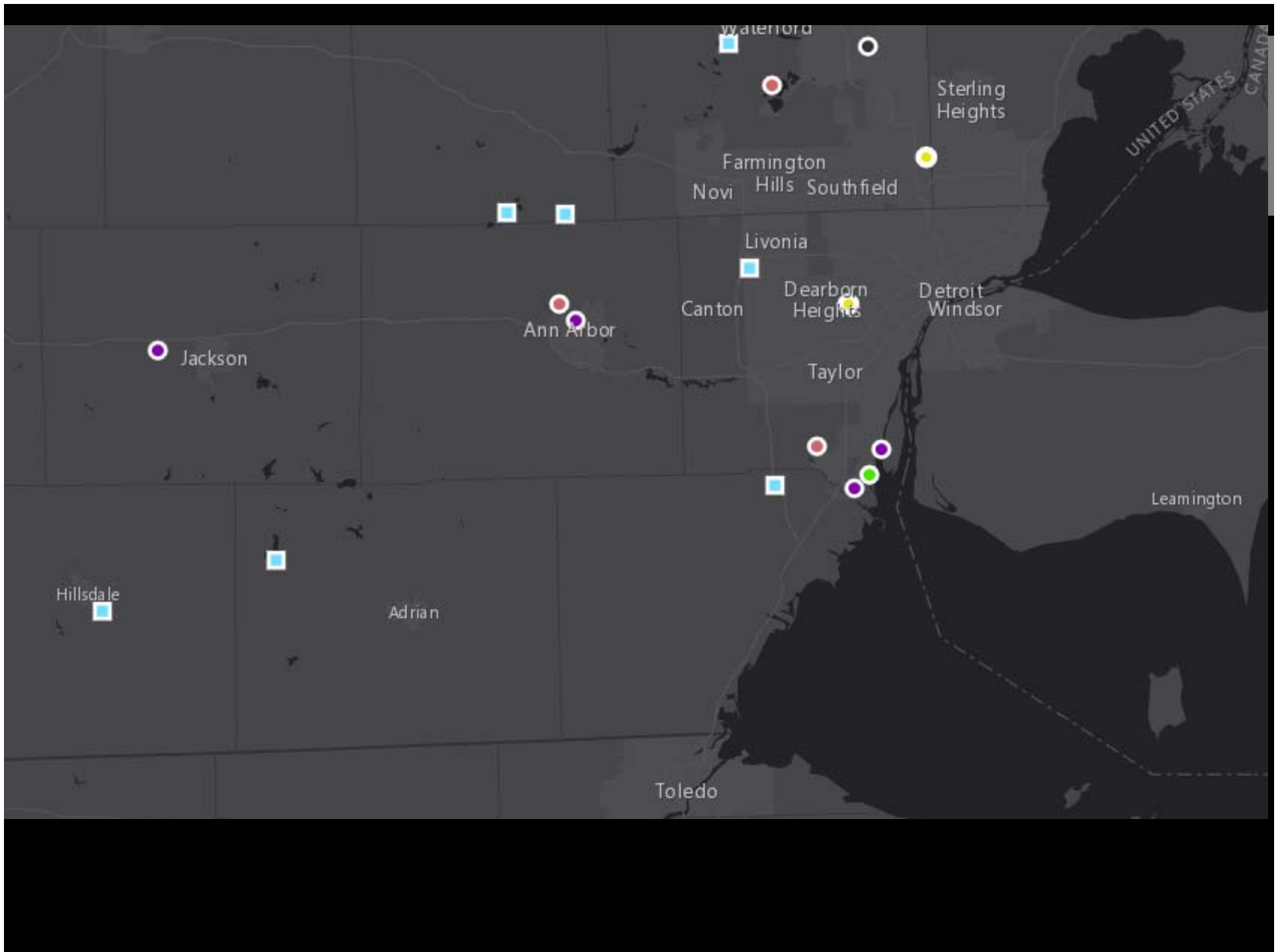
- **Pet shops and aquarium supply stores**
 - Inspected at 94 locations
 - 22 selling aquatic plants
- **Growers- 1,168, Dealers- 692**
 - aquatic plants at 49 locations
- **Information about regulated species provided to all store managers**
- Compliance rate for all 71 firms selling aquatic plants was 89%



Pathway work- 2014 results

- **Non-compliant**
 - 2 pet shops
 - 1 nursery stock grower and
 - 4 stores in a small chain of garden centers
 - Parrot feather at a nursery stock grower location and at all four stores in the garden center chain.
 - Carolina fanwort, *Cabomba caroliniana*, was found at the two pet shops and at a nursery stock grower
- **DARD-PPPMD actions**
 - Restricted the stock from sale,
 - Ordered and witnessed the destruction of the plant material
 - Fines were not assessed due to the cooperative nature of the firms and first time offense educational emphasis designed to positively modify purchasing behavior of the firms.
 - All non-compliant firms have been placed in a mandatory periodic re-inspection status to assure long term compliance with NREPA Part 413.







Wayne County subdivision stormwater detention pond

- Reported October 2013
- Pond ~0.4 acres
- Reported by herbicide applicator
- Origin- ?
- Herbicide treatments
 - November 2013 - Triclopyr
 - July 2014 - Fluridone
 - Sept 2014 - Fluridone
 - October 2014 - Triclopyr
- 2015 and 2016 no regrowth





Jackson County- trout farm

- Reported by DEQ Permit Section staff on a routine facility inspection
- September 2016
- Rooted plants in finishing pond
- Fragments in Sandstone Creek
- Origin- possibly previous owners





Jackson County- trout farm





Jackson County- trout farm

- October 2016
 - Triclopyr
- Treatments planned 2017
- Regrowth June 2017





Private pond- Ann Arbor

- Reported by landowner to DEQ Permit Section
- October 2016
- Small spring fed pond (~30'x60') and outlet creek for ~ 20'
- No PF downstream
- Origin- planted by landowner ~ 10 years ago





Private pond- Ann Arbor

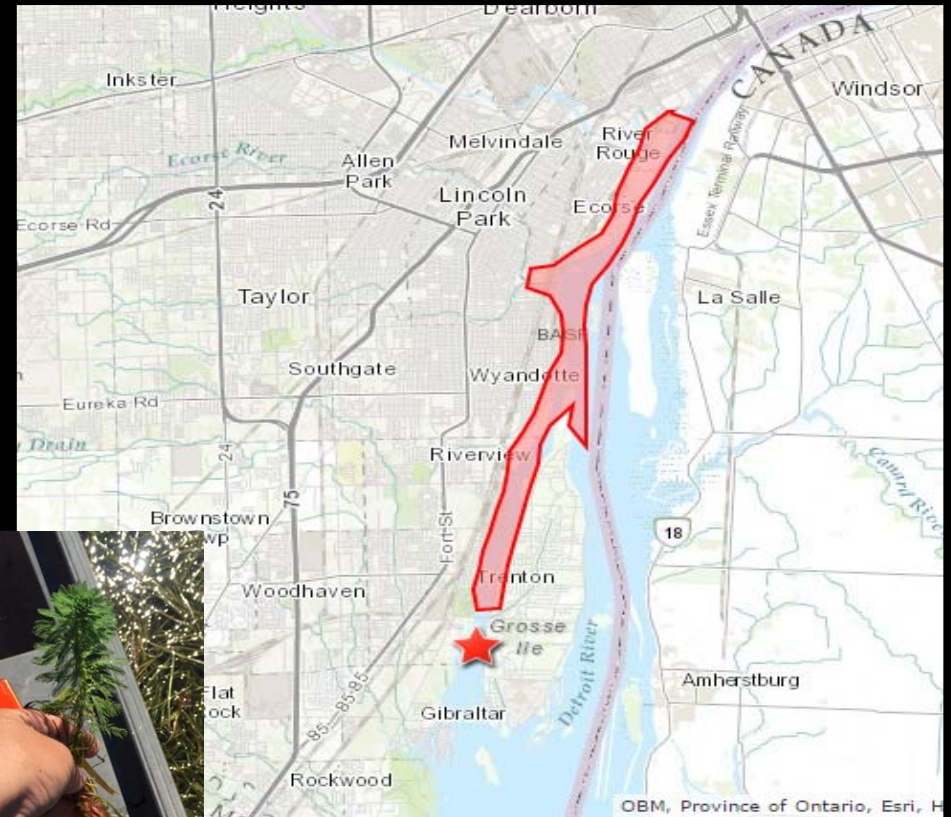
- November 2016 -
Triclopyr





Detroit River- Trenton Channel

- Reported by DNR Wildlife
- Surveys for water lettuce/water hyacinth
- July 2016
- Single floating fragment
- Origin- ?





Next steps

- Develop incident action plans for each site
- Continue treatment and monitoring
- Long term site plans and funding
- Continue pathway work