

New and Emerging Aquatic Invasive Species in MI: *Invertebrates*

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- Leaders in Environmental Stewardship
- Full Partners in Economic Development
- Excellent Customer Service

Water Resources Division

- Protect and Monitor...
 - 4 Great Lakes
 - 11,000 Inland Lakes
 - 36,000 river miles
 - 5 million acres of wetlands
 - 70,000 acres of coastal dunes

...for swimming, fishing, drinking water and healthy aquatic ecosystems.

Water
use

Water
quality

Invasive
species

Todays talk

- New/Emerging invasive invertebrates in MI
 - New Zealand Mudsnail
 - Red Swamp Crayfish
- Invasion updates
- Next steps



NZ Mudsnails

MI Invasive species Watch List 28 Species



New Zealand Mud Snail



What's a NZ Mudsnail?

- Harmful invasive aquatic snail
- Small in size
- Mass produce
- Asexual reproduction
- Compete with native inverts
- Alter food webs
- Hard to control



New Zealand Mud Snail

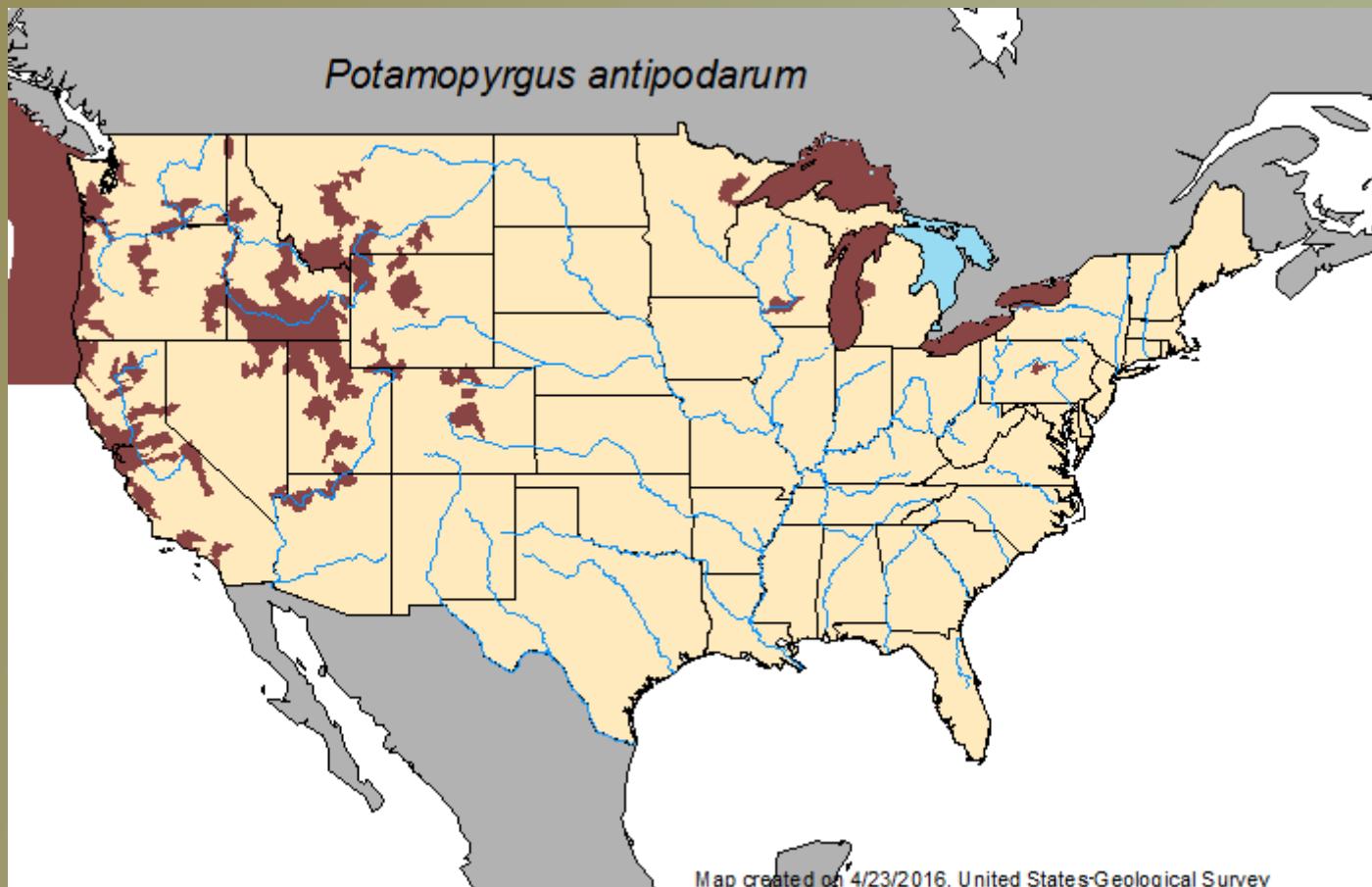


Native snail



New Zealand Mud Snail

Distribution



* At least 2 clones in US

Found in Michigan

- August 2015
- Suspect snails
- Pere Marquette River near Baldwin
- Confirmed to be NZMS



Immediate Actions

- Press Release
- Direct outreach
- Wader wash stations



The Detroit News

HOME NEWS SPORTS BUSINESS AUTOS LIFE + HOME ENTERTAINMENT OPINION PHOTO + VIDEO

Michigan hit with new invasive species

Jim Lynch, The Detroit News 11:39 p.m. EDT September 3, 2015

Michigan hit with new invasive species

Michigan's rivers and streams face new threats in

it never seen

be found in

Confirmed Detections of New Zealand Mudsnails and Didymo in Michigan Waters

Michigan Department of Natural Resources
Michigan Department of Environmental Quality
September 2, 2015

The Michigan Department of Natural Resources (DNR) and Michigan Department of Environmental Quality (DEQ) recently received reports and confirmed the presence of New Zealand mud snails and Didymo (*Didymosphenia geminata*) in Michigan waters. The confirmed occurrence of these two organisms is of great concern for the State of Michigan's natural resource agencies because these species have the ability to reach nuisance densities that can

cause negative impacts to Michigan's aquatic ecosystem.

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New Zealand mudsnails discovered in Michigan

BY SARAH ROEBUCK | SUNDAY, NOVEMBER 29TH 2015



New Zealand mudsnails. Courtesy: National Park Service Yellowstone Park

ADVERTISEMENT TRENDING



DNR makes interactive map showing burned areas to help hunt for morels



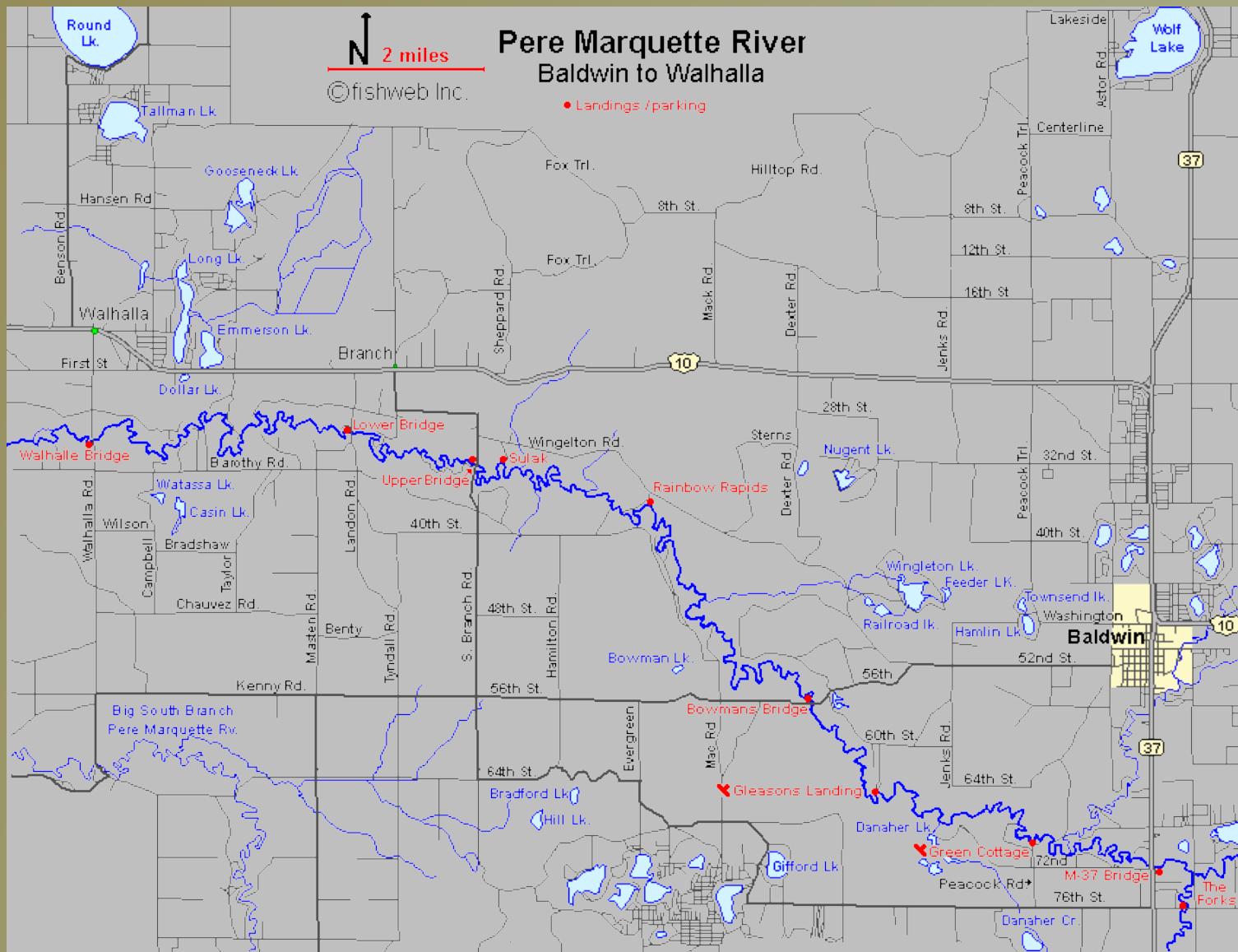
Hiker finds body on Grand Traverse County trail



No Soup For You: Man upset after restaurant runs out of soup



UPDATED Sheriff: Hundreds of stolen items found in Antrim County home

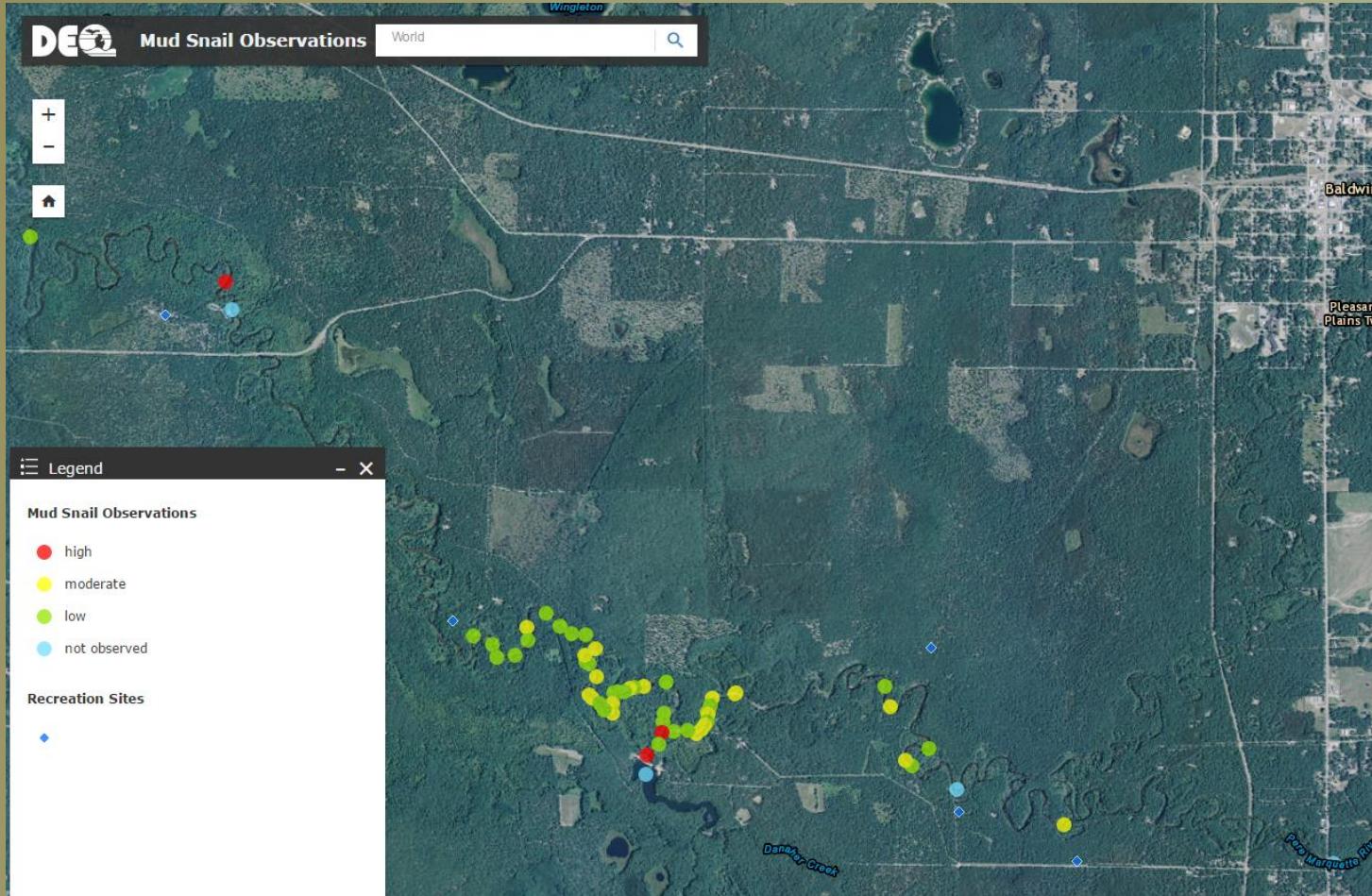


After Press Release

- Nature and extent surveys
- Increase awareness
- Outreach
- Determine origin



Survey Results – Oct 2015



- More wide spread than originally thought

2016

- Workgroup formation (state, feds, researchers, volunteers)
- Standardized sampling methodology
- Sample outside known infested area
- 2 additional reports of NZMS



2016 Monitoring

- Identified high risk watersheds
- High traffic foot access areas
- Identified 10 watersheds
- Sampled 47 locations
- Qualitative 20 minute timed searches

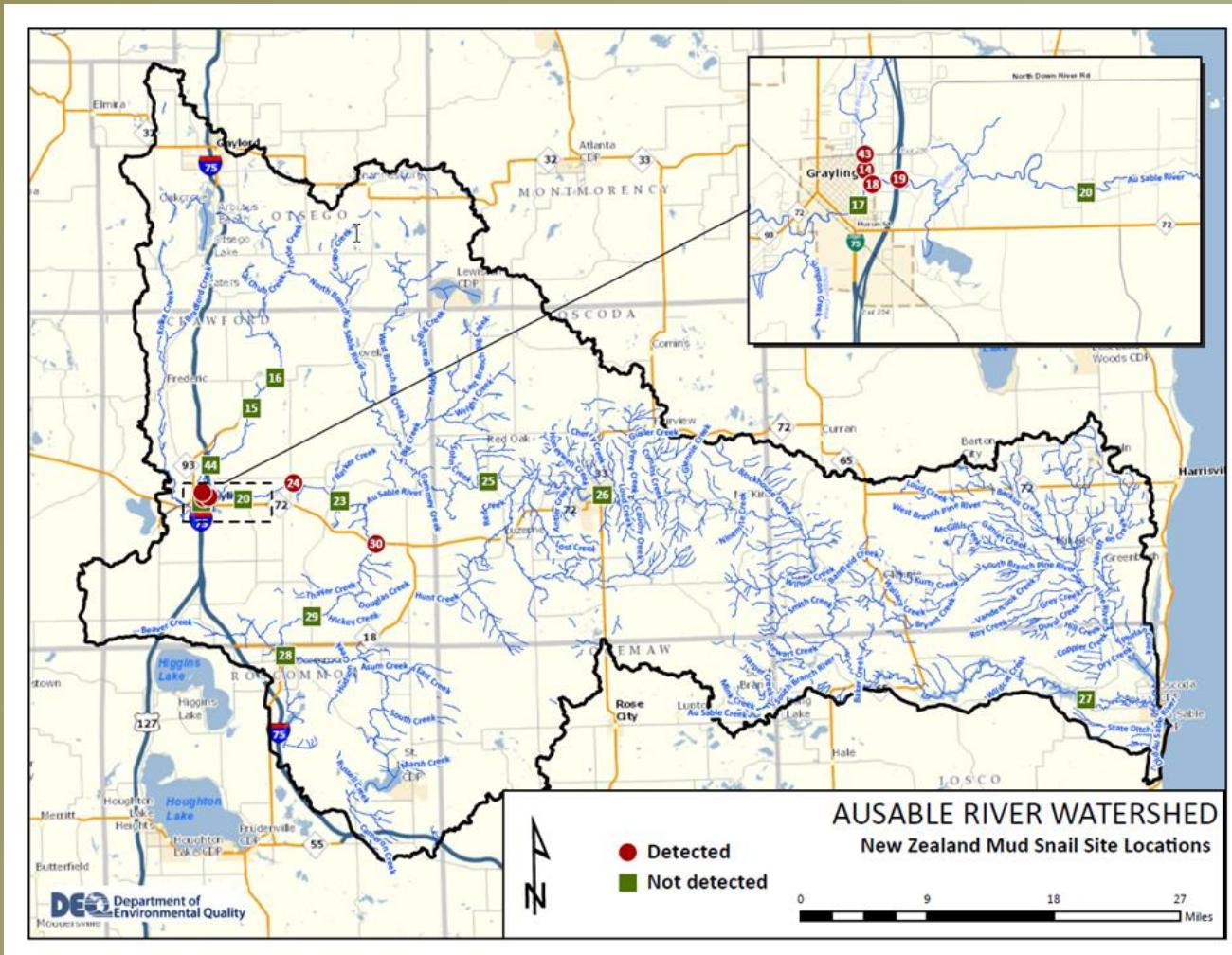




=NZMS
population



Results



What'd we learn

- Earlier workgroup formation
- Sampling techniques
- NZMS habitat preference
- More wide spread than originally thought
- May still be an early invasion



Next Steps

- Further Monitoring
- Outreach and education
- Working with partners
- MSU project

MICHIGAN STATE
UNIVERSITY



Red Swamp Crayfish

Michigan Department
of Natural Resources



Invasive crayfish found at Ottawa County Lake

Michigan DNR sent this bulletin at 07/13/2015 10:39 AM EDT

Press Release

FOR IMMEDIATE RELEASE

July 13, 2015

Contact: Nick Popoff, 517-284-6235 or Elyse Walter, 517-284-5839

Invasive crayfish found at Ottawa County lake; DNR, local partners evaluating next steps

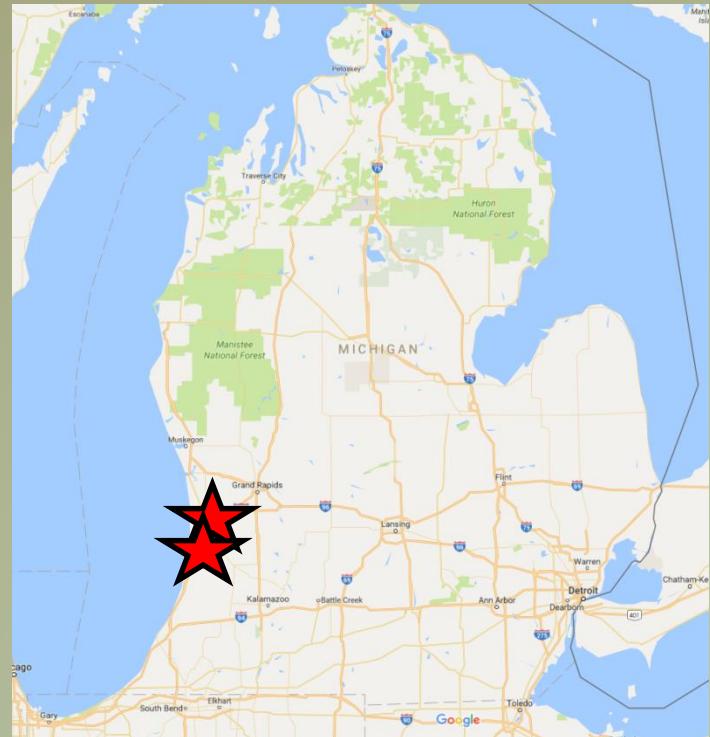
The Michigan Department of Natural Resources recently discovered that anglers are purchasing red swamp crayfish (a prohibited species) from food markets and using them as live bait. As part of a DNR crayfish monitoring study, a discovery of several dead red swamp crayfish recently was made in the vicinity of a popular fishing area at Lake Macatawa in Ottawa County.



It is illegal to import any live species of crayfish into Michigan for commercial bait purposes. As of this year, red swamp crayfish (*Procambarus clarkii*) are a prohibited species in this state, meaning it is illegal to possess this invasive species alive. Red swamp crayfish are native to the southeastern United States and are considered an invasive species in Michigan.

Red Swamp Crayfish

- 2013 reports of bait use
 - Crayfish parts found
- 2 locations in SW MI
- Source- Live food markets



Red Swamp Crayfish

- 2013 Intensive trapping effort
- 2014 added to prohibited and restricted species list
- 2014 MSU research project
- 2015 reports of bait use



Red Swamp conclusion

- To date, no live red swamps have been found
- Continued outreach
- On-going investigations
- Regional concern

No sign of live invasive crayfish after DNR trapping on Lake Macatawa

Officials with the Department of Natural Resources Fisheries Division set 46 baited traps in Lake Macatawa this week in search for the invasive red swamp crayfish. Much to their delight, they haven't found any yet.

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On going work

- Early detection monitoring
 - High risk areas
 - High threat taxa
- Collaborate with researchers and volunteers

More info can be found at

<http://www.michigan.gov/invasives/>

Questions?

