

# EXOTIC AQUATIC PLANT WATCH: Development of a volunteer monitoring program for invasive species in Michigan lakes

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# Outline

- \* History of EAPW 2011-2015 brief
- \* Program challenges -> research questions
- \* Methods
- \* Results & Actions Taken
- \* Outcomes
- \* Future Goals & Take Home Messages
- \* SPOTLIGHT Presentations by current EAPW volunteers!



# EAPW – Watch List

Eurasian milfoil  
(*Myriophyllum  
spicatum*)



Curly-leaf pondweed  
(*Potamogeton  
crispus*)



Starry stonewort  
(*Nitellopsis obstusa*)  
Macroalgae



**Hydrilla (*Hydrilla  
verticillata*)**





# Michigan's Aquatic Invasive Plant Watch List

Aquatic invasive species on the watch list have been identified as being an immediate and significant threat to Michigan's natural resources. These species either have never been confirmed in the wild in Michigan or have a limited known distribution. Early detection and timely reporting are crucial for preventing establishment and limiting impacts. For more information on these plants, visit: [www.misin.msu.edu](http://www.misin.msu.edu)

***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.

**If you have seen any of these aquatic invaders, note their location and contact:**

Michigan DNR Wildlife Division  
Phone: (517) 641- 4903 ext. 260  
[www.mi.gov/invasivespecies](http://www.mi.gov/invasivespecies)



Questions about other aquatic invasive plants? Contact the DEQ Aquatic Nuisance Control Program at 517-284-5593, [www.mi.gov/anc](http://www.mi.gov/anc)

# Brief History – EAPW Challenges 2011

- \* **Low program enrollment:** While training sessions were popular, only **26 of the 221 CLMP lakes (12%)** enrolled in EAPW 2011
- \* **Low reporting:** Only **ten (38%)** of EAPW enrolled lakes reported
- \* **No volunteer-friendly identification guides for Michigan exotic species**





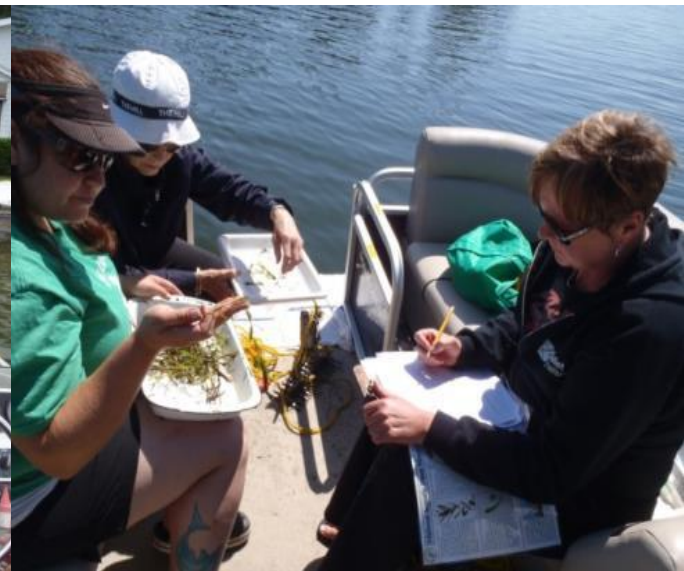
# EAPW staff research questions

1. Why are volunteers not enrolling in the EAPW?
2. Why are enrolled volunteers not completing surveys & submitting data?
3. How can EAPW staff improve both recruitment and reporting of volunteers in EAPW program?



# Methods - overview

1. Distributed pre & post season surveys / questionnaires
2. EAPW staff conducted lake visits to train hands-on and address specific challenges with volunteers
3. National AIS monitoring program review
4. Conducted interviews with current EAPW volunteers



# Methods - Enrollment

## 1. Distributed surveys pre & post season (2013)

- \* Awareness & perception of EAPW
- \* Why volunteers enroll or do not enroll in EAPW





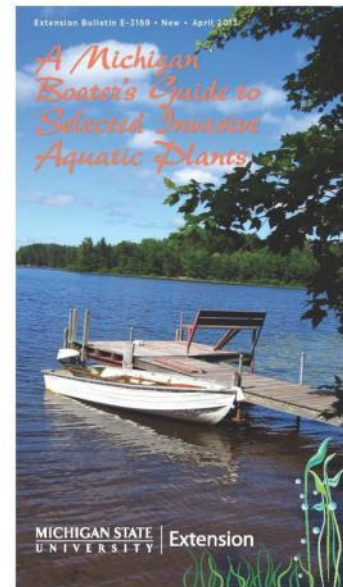
# Results & Actions - Enrollment

## 1. Survey Results

- \* 87% of CLMP volunteers aware of EAPW program (n=36)
- \* Most common reasons for NOT enrolling in EAPW:
  - \* Lake community pays a professional to manage weeds
  - \* Low confidence in plant ID
  - \* Volunteers do not have time

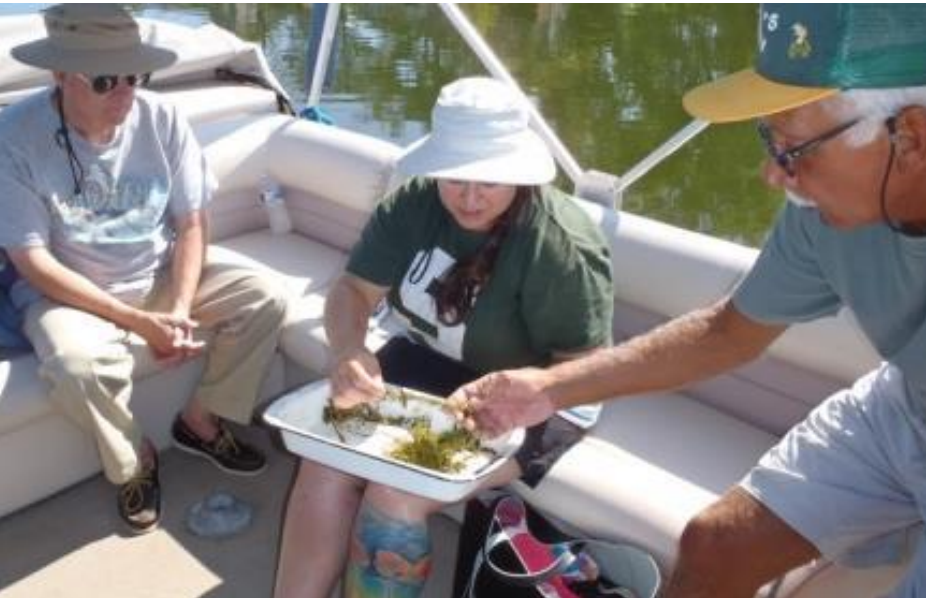
## Actions Taken:

- \* Increased awareness & advertisement of program
  - \* Emphasize why it's important and necessary!
- \* Improved & distributed informational and identification materials
  - \* Created & distributed a Michigan-specific ID Field Guide



# Methods–Surveying & Reporting

2. Staff field visits (n=31) from 2013-15 assessed volunteers' ability to:
- \* Conduct sampling – where and how
  - \* Record and map data
  - \* Report data



# Results & Actions– Surveying

## Lake Visit Results suggested Volunteers want

- \* Knowing and planning where to sample for
- \* Asking for help with plant identification
- \* How to recruit help from others

## Actions Taken

- \* Clarified Sampling protocol
- \* Plant ID help → Encouraged digital photos
- \* Teamwork Training
  - \* Presented at 2015 Boyne Mnt. (Ongoing 2016)

## TEAMWORK TIPS!



Everybody needs a little help now and then! Teaming with others will help you succeed with the Exotic Aquatic Plant Watch, but sometimes it's hard to ask for help, and harder still to know *how* and *where* to ask for help. Use this quick, informative guide as you embark on improving teamwork within your EAPW volunteer sampling effort.

### Step 1) Understand why teamwork is important.

- a) Volunteers are more likely to complete sampling, submit data and continue in the program if work is distributed among multiple volunteers.
- b) Some of the most successful EAPW volunteers have extensive support & help networks!
- c) Volunteering can be more fun and feels less like work with more people.

### Step 2) Acknowledge what kind of help you need.

- a) Long-term assistance – recruiting another volunteer(s)?
- b) Short-term, for one event – do you just need some extra hands right now to complete sampling?

### Step 3) Use materials & resources to advertise and recruit!

- a) Brochures, field guides and factsheets can be presented to your lake association to attract new monitors
- b) Emphasize that the EAPW Program is not only important, but fun!



### Improving overall teamwork: CLMP Staff can help you!

- We can provide materials for advertising & recruiting
- We may be able to visit your lake & help with training you and your team.
- Find our contact information on the other side of this flyer!





# Results & Actions– Reporting

## Lake visits & post-season conversations show volunteers:

- \* Didn't submit data if they didn't find invasive
- \* Were unsure HOW to collect data in format e for submission.
- \* Wanted more options in mapping their data

## Actions Taken

- \* Specified Reporting requirements
  - \* No Invasives found = Important DATA!
- \* Provided Datasheet template
- \* Mapping tutorials and encouragement to use technologies (Ongoing actions 2016)

❖ If no exotic aquatic plants were found during the survey, check here ☒  
Use Page 2 to document the locations you surveyed on your lake.

❖ If exotic plants were found, check the species found below:

- |  |   |
|--|---|
| <input type="checkbox"/> Eurasian milfoil    | <input type="checkbox"/> Starry Stonewort |
| <input type="checkbox"/> Curly-leaf pondweed | <input type="checkbox"/> Other _____      |
| <input type="checkbox"/> Hydrilla            | <input type="checkbox"/> Other _____      |

Include the following items in your report:

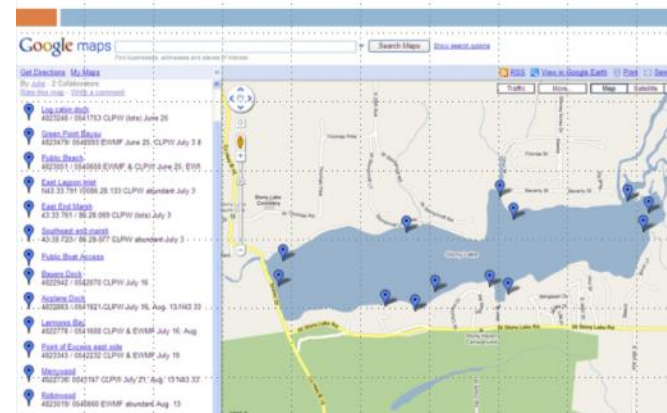
- ☐ This completed data form (Pages 1 and 2)
- ☐ Lake map with numbered site locations
- ☐ Any photographs taken of collected plants

Send your complete report to the CLMP contact listed in the project procedures.  
Keep a copy of the report for your records.

Use this table to document the results of your survey. You may also create your own table; just be sure to include a copy in your Survey Report.

Site / Transect # (match to sites on your map)	Latitude (or location description)	Longitude	List any exotics found in this transect (or "None")	Any photos taken at this site?	Notes
1	43°40'16.34"N	89°15'48.24"W	CLP, EWM	Yes (2)	

## Mapping Options: Google Maps



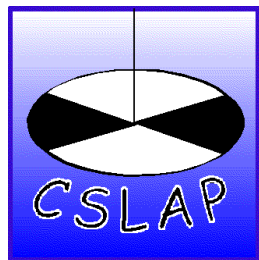
# Methods – Staff & Program improvement

## 3. National AIS monitoring program review

- \* What other similar programs have done

## 4. Interviews with current EAPW volunteers

- \* Learn from those who are successful!



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# Results & Actions – State program improvement

## Results AIS program review showed:

- \* Hands-on training & personal communication required for success
- \* Acknowledgement and reward system
- \* Regional training and teamwork emphasis
- \* Videos & interactive websites are essential!

## Actions Taken

- \* Continue lake visits and spring training
- \* Encourage Blog / Newsletters / Presentations for and by volunteers
- \* NEW CLMP website and EAPW Video (2016!)

### MiCorps training aids in early detection of invasive species

It takes many volunteers to help keep Michigan's lakes and streams healthy. What volunteers found at Eagle Lake in Cass County was a surprise.

Posted on **August 18, 2015** by **Beth Clawson**, Michigan State University Extension and Lori Mroczek, Michigan Lake & Stream Leaders Institute

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Aquatic plant infestations have damaged many inland lakes in Michigan. Locating and identifying exotic aquatic invasive plants (AIS) is crucial in disrupting their spread across a lake. Participating in the Michigan Clean Water Corps (MiCorps) the Exotic aquatic plant watch (EAPW) program of the Cooperative lakes Monitoring program (CLMP) is a great place to start. When enrolled in MiCorps and trained in the CLMP program volunteers learn how to monitor lakes for exotic and native plant species introductions. If AIS are detected, a rapid response strategy can be implemented.





# Results & Actions – Staff & program improvement

## 4. Results from interviews with current EAPW volunteers

- \* Themes of teamwork and camaraderie!
- \* Words of wisdom!
- \* *Sampling on a clear day with nice weather with flat water and sunshine makes it a LOT easier to sample and see plants.*
- \* *Get help from **garden clubs**...they will give you confidence for identifying plants*
- \* *Tell yourself and everyone that **volunteering DOES matter**... monitoring and inspection can prevent the green carpet!*
- \* *Feel good about what you're doing!*
- \* *If you don't know what you're looking for or doing, just keep at it and keep going, don't give up!*
- \* *As your going ... **take photos and press specimens** for reference collections.*
- \* *Try to get 2-3 committed people to help you*

# Outcomes



**Eagle Lake, Cass Co.**



**Big Bear, Otsego Co.**



**Manitou, Owosso Co.**



**Klinger, St. Joseph Co.**



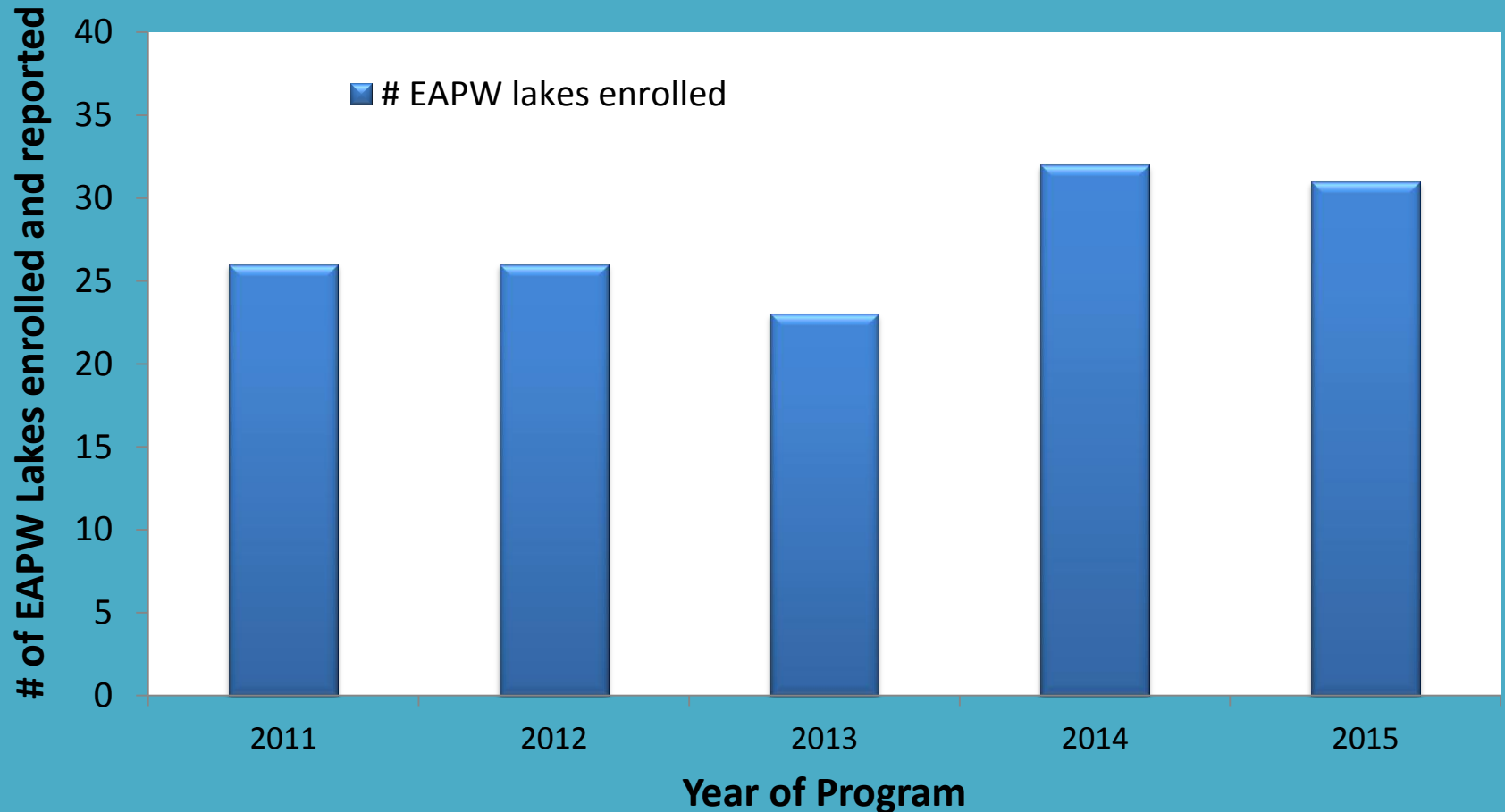
**Rennie Lake, Grand Traverse Co.**



**Independence Lake, Marquette Co.**

# Outcomes : Enrollment

**Figure 3a: EAPW enrollment 2011-2015**

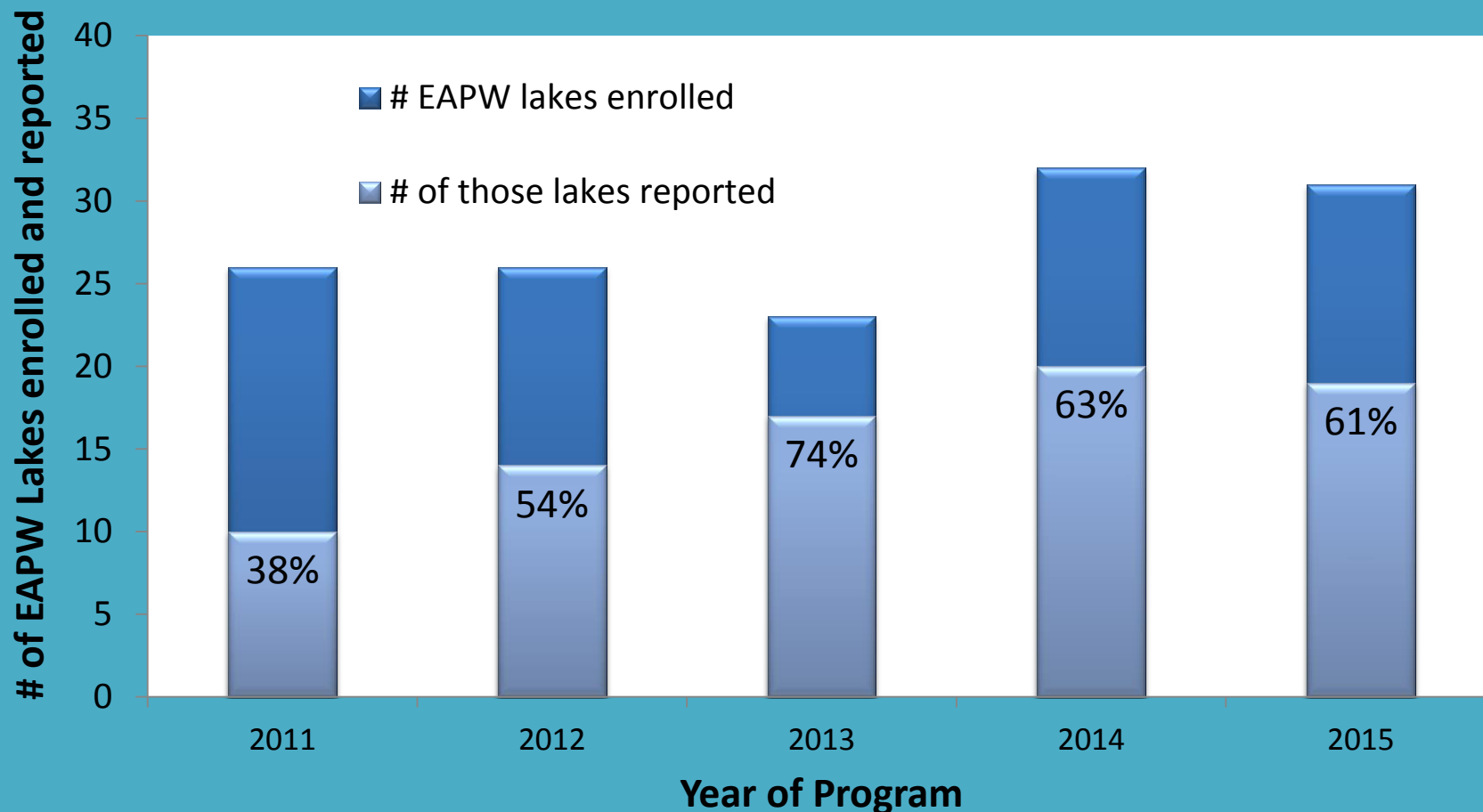


**\*Since 2013 total 50 lakes have enrolled in EAPW program.**



# Outcomes : Enrollment & Reporting

**Figure 3: EAPW enrollment and reporting 2011-2015**



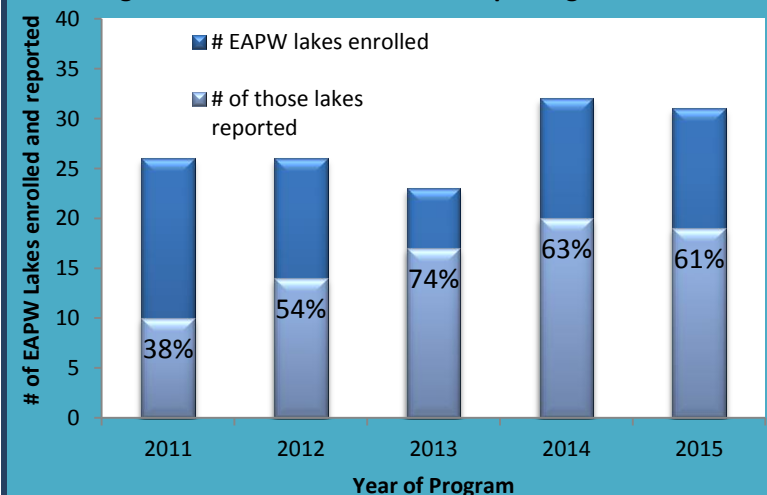
# Outcomes : Enrollment & Reporting

## Notables:

- \* 53% reporting lakes had visits from EAPW staff 2015
- \* 63% reporting lakes had a staff visit during 2013, 2014 or 2015
- \* 14 Lakes enrolled in EAPW 3+ years
  - \* 11 of those lakes still enrolled 2015
- \* **38% lakes enrolled in 2015 are NEW to EAPW!!!**



Figure 3: EAPW enrollment and reporting 2011-2015



# Future Goals EAPW

- \* Increase enrollment of \*NEW\* lakes
- \* Streamline Training and Access
  - \* Training videos!
  - \* It's a balance – want to provide the right information to make it easy to complete the program, but don't want to overwhelm volunteers.
- \* Evaluation!
  - \* What works and what doesn't
  - \* Volunteer Feedback - Sharing is Caring!



# Take Home Messages

- \* Staff and program coordinators
  - \* Promote importance and ease
  - \* Remain flexible, responsive and engaged
- \* Volunteers
  - \* Promote program importance
  - \* Provide feedback to staff
  - \* Share experiences and lessons learned
    - \* Today's Volunteer Presentations!



# Like always...

- \* CLMP staff is **ALWAYS** available
- \* Email Jo Latimore [latimor1@msu.edu](mailto:latimor1@msu.edu)
- \* Call 517-432-1491
- \* Email Angela D. [depalmad@msu.edu](mailto:depalmad@msu.edu)
- \* **Need Plant ID?**
  - \* Take photos and send:  
[latimor1@msu.edu](mailto:latimor1@msu.edu)





Thank you!  
Questions?

