

Webster Lake Aquatic Vegetation Management Plan Review & Update



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The Solutions for Lake Problems

LARE Review

- State funds received from fee on boat registration
- Administered by IDNR/Division Fish & Wildlife/Lake & River Enhancement Program (LARE)
- Funding for control of invasive aquatic species and plan updates
- LARE Grant History
 - 2005-\$26,000 (plan update, sampling, & treatment WLCA 20% match)
 - 2006-\$26,000 (plan update, sampling, & treatment WLCA 20% match)
 - 2007-\$25,400 (plan update, sampling, & treatment WLCA 20% match)
 - 2008-\$25,400 (treatment, sampling, & plan update WLCA 20% match)
 - 2009-\$25,400 (treatment, sampling, & plan update WLCA 20% match)
 - 2014-\$5,000 (treatment with WLCA 50% match)
 - 2015-\$5,000 (treatment with WLCA 50% match)
 - 2016-\$41,500 (treatment, sampling, & plan update WLCA 20% match)


Aquatic Plant Ecology Review

- Most aquatic plants occur naturally in lakes
 - Seed or fragment introduction
 - Sunlight
 - Proper Substrate
 - Nutrients
- Most aquatic plants are beneficial to your lake
 - Reduce erosion
 - Cover for fish and invertebrates
 - Improve water quality/clarity
 - Food for waterfowl
- Type of plants in a lake often determined by water quality/clarity
- Some species can lead to nuisance conditions or create ecological problems



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Eurasian watermilfoil (EWM)
Myriophyllum spicatum

- Invasive non-native submersed plant
- Competes with nuisance species for space and light
- Spreads through fragmentation
- Can be detrimental to lake ecosystem



Curlyleaf pondweed (CLP)

Potamogeton crispus

- Invasive non-native submersed plant
- forms dense monocultures which can impede boating, fishing and limit native growth
- reaches maximum density in late spring and drops out in early summer



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Starry Stonewort (SSW)

Nitellopsis obtusa

- Invasive non-native submersed algae
- forms dense monocultures which can impede boating, fishing, and limit native growth
- reaches maximum density in mid to late summer

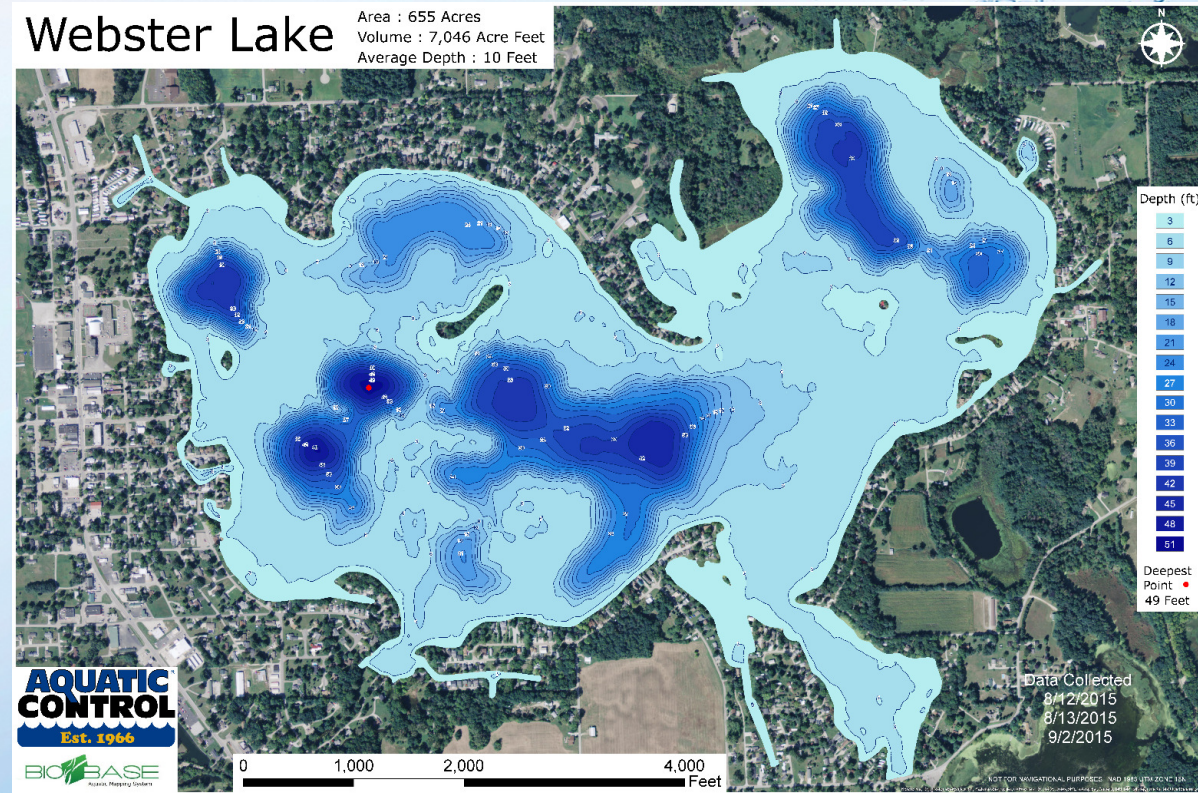


Starry stonewort

Photo by Scott Brown

Webster Lake

- Impounded Tippecanoe River and flooded several smaller lakes
- 655 acres
- 10 ft avg depth
- Heavy boating, fishing, and residential use
- Public ramp in Backwater
- Nutrient rich
- History of invasive plant problems

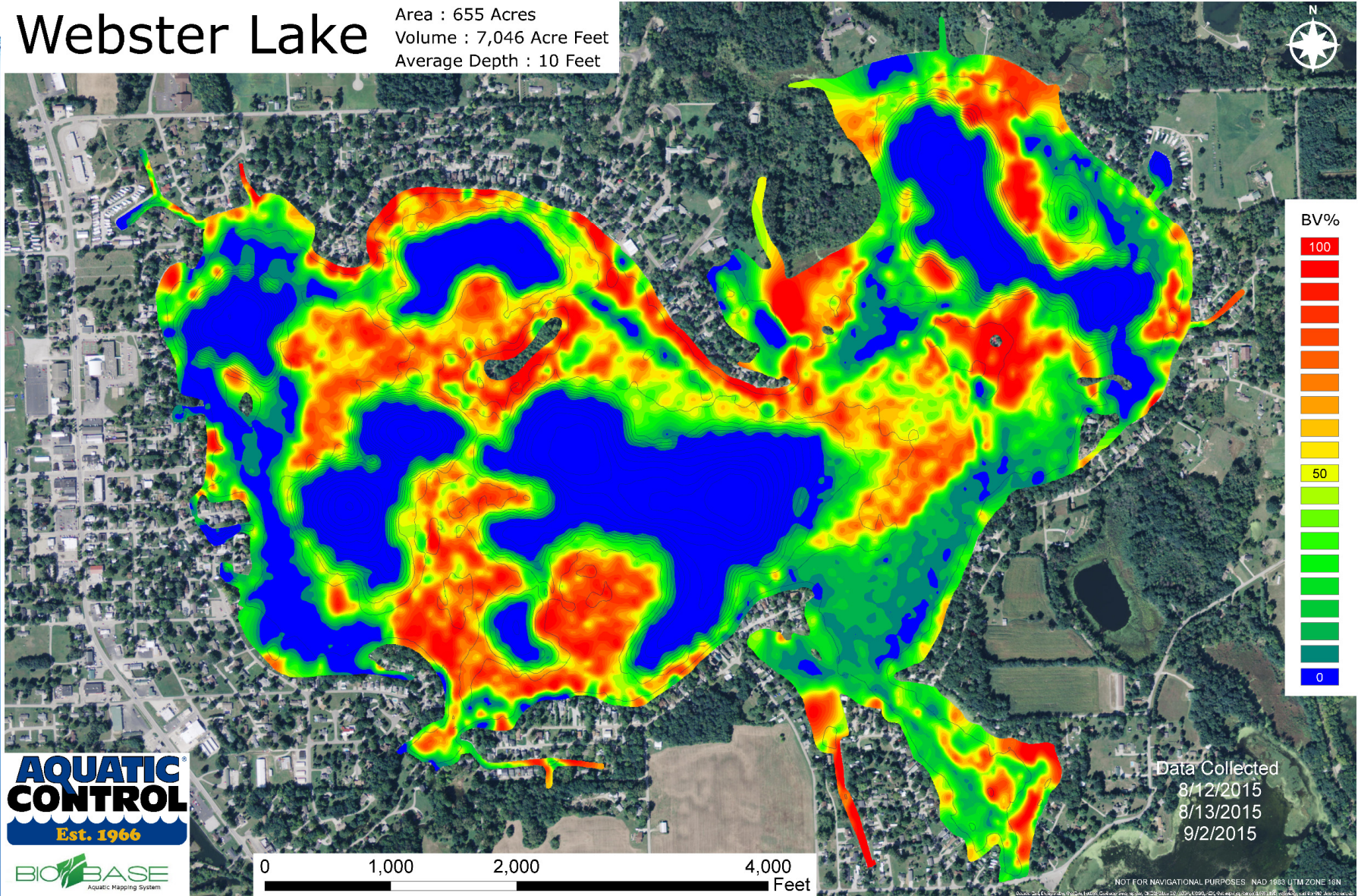


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Webster Lake

Area : 655 Acres
Volume : 7,046 Acre Feet
Average Depth : 10 Feet



Webster Lake Vegetation Management History 1984-2010

- 1984-1998
 - Primarily near-shore contact herbicide treatment
 - 60-90 acres
 - Very little invasive milfoil treatments off shore
- 1999 & 2002
 - Whole lake Sonar herbicide treatment
 - systemic herbicide
 - milfoil very susceptible
- 2003-2009
 - Attempt to stop milfoil from overtaking lake requiring future Sonar treatments
 - IDNR reluctant to approve future Sonar treatments due to native plant reductions following applications
 - Held off 7 years between Sonar treatments
- 2010
 - 160 acres of milfoil in spring
 - Sonar application delayed and then approved by late April
 - Maintained very low levels of fluridone
 - Still saw reduction in native abundance likely due to clarity reduction



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Webster Lake Management History 2011-2015

- 2011
 - No milfoil detected in Webster Lake
 - Small patch in Backwater treated in late summer
 - Reduction in native plant growth, primarily coontail
- 2012
 - 15 acres of milfoil detected and treated in Webster treated with 2,4-D herbicide
 - 8 acres of shoreline treatment for control of nuisance native growth
 - Native coontail back but limited to shallow water
- 2013
 - 107 acres of milfoil detected Webster Lake in spring
 - IDNR limited treatment to 53 acres
 - \$5,000 LARE funding/50% match
 - Shoreline treatment permitted for 26 acres of mixed species
- 2014
 - 193 acres of milfoil in spring
 - IDNR limited treatment to 26.2, but allowed treatment of 69.5 acres of shoreline with contact herbicides
 - \$5,000 LARE funding/50% match
- 2015
 - 181 acres of milfoil in spring
 - IDNR limited to 26 acres treated allowed 69.5 acres of natives, treated early and came back and hit additional spots in summer
 - \$5,000 LARE funding/50% match
 - Starry stonewort detected and treated with IDNR Great Lake Restoration Initiative Funding

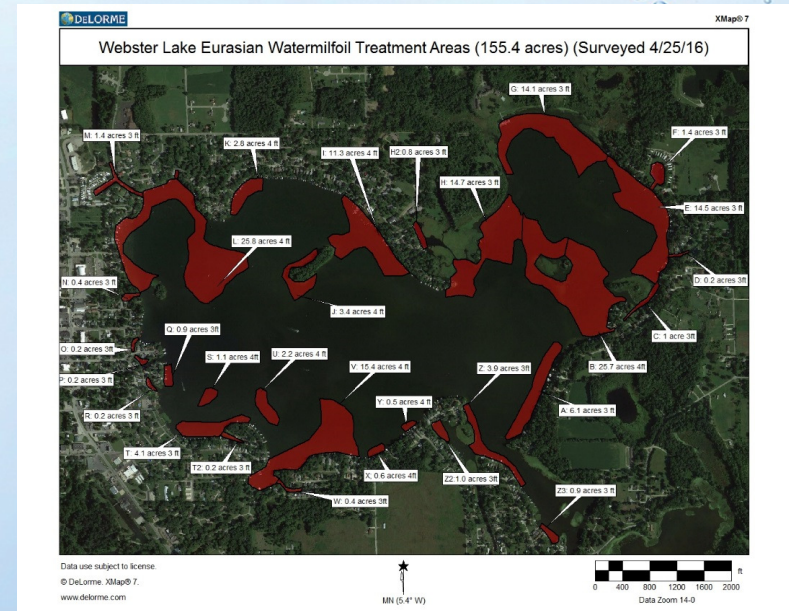


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Webster Lake Vegetation Management 2016

- LARE
 - IDNR LARE grant of \$41,500 for surveying and treatment
 - IDNR to allow for treatment of all EWM with 2,4-D herbicide
 - Shoreline treatment still permitted
 - Why the change?
- Spring survey (April 25)
 - 155.4 acres of EWM
 - 36.9 acres of curlyleaf pondweed
 - EWM at 47.8% of Tier 2 survey sites
 - Coontail at 44.4% of sites
- Early spring treatment
 - All EWM areas treated on May 4
- Late spring inspection
 - Some EWM still hanging on following treatment
 - Retreated 5 acre area and an additional new area totaling 3.4 acres
 - Starry stonewort found near original area and location sent to IDNR
 - IDNR GLRA funded treatment of 4.5 acres of SSW in late spring and mid-summer



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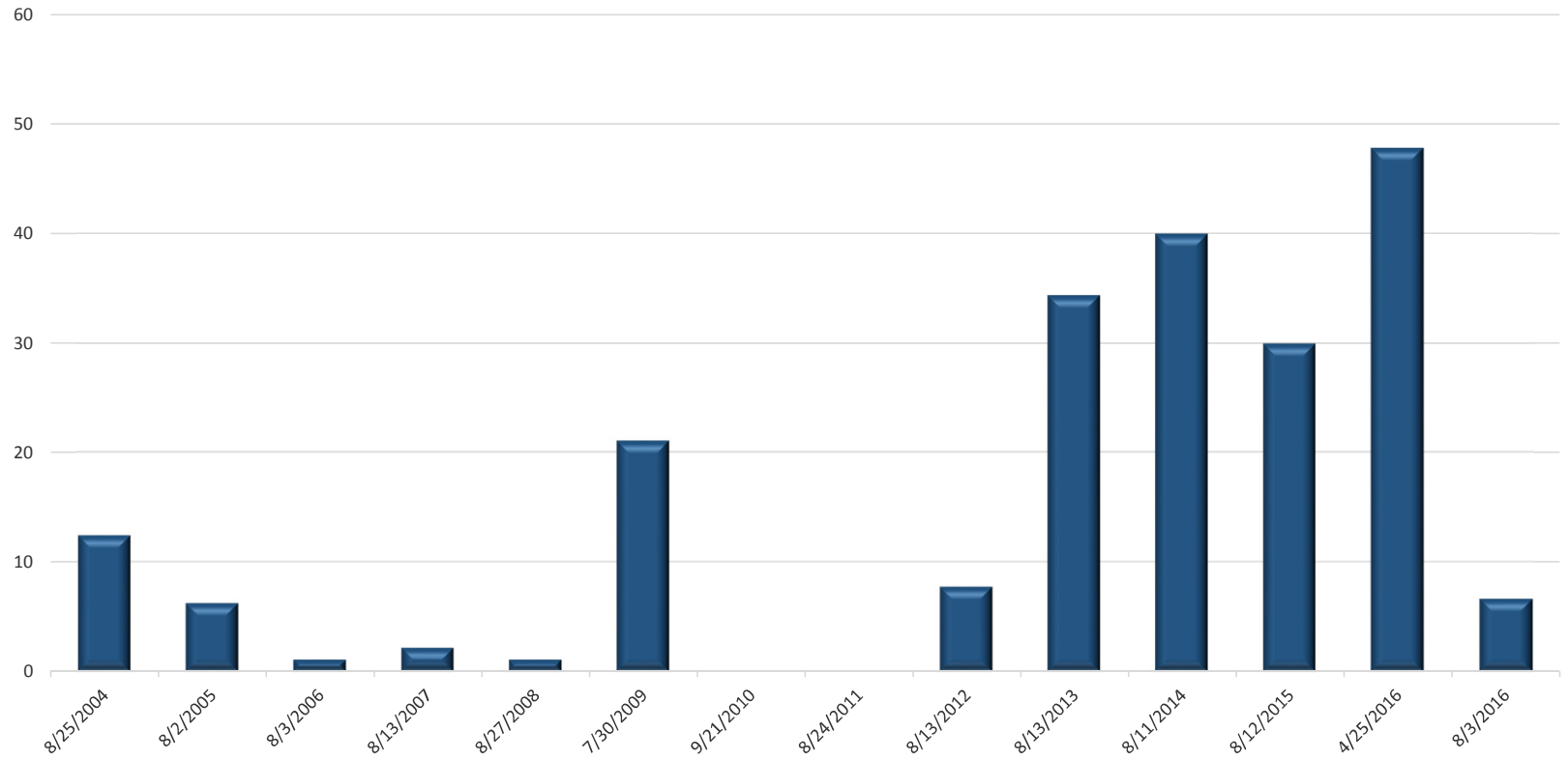
Webster Lake Vegetation Management 2016

- Shoreline treatment
 - 60.8 acres treated on June 23
 - Delayed as long as possible to get later growing vegetation
 - Possible to delay due to early invasive treatment
- Summer Survey
 - Few small spots of EWM around lake 2.9 acres
 - EWM only at 6.7% of sites down from 48% spring 2016, 30% in summer 2015 and 40% in summer 2014
 - Dense coontail beds in deeper water
 - Decline in Secchi despite plant in deep water...recent bloom?

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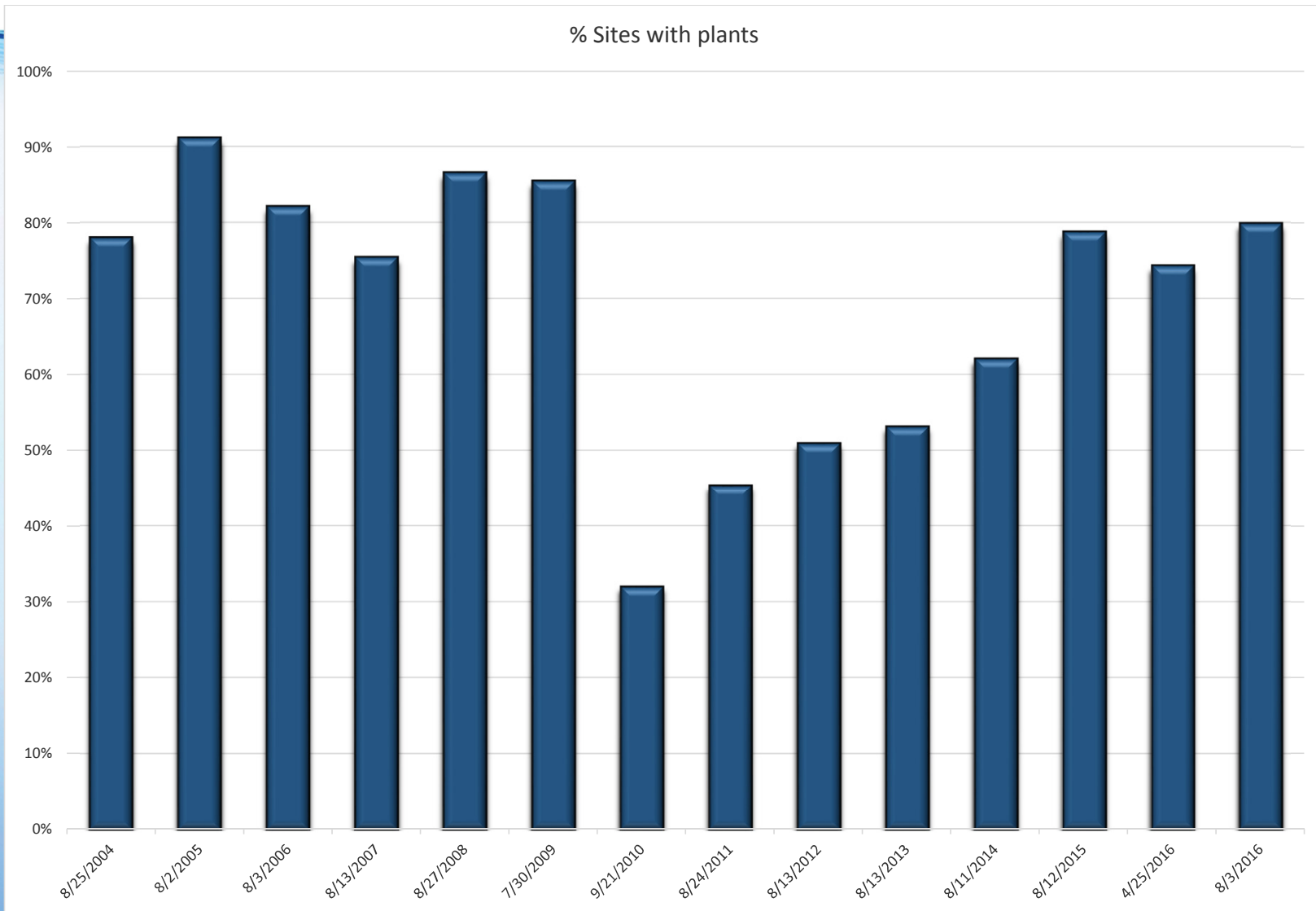


Percent Occurrence of Eurasian Watermilfoil



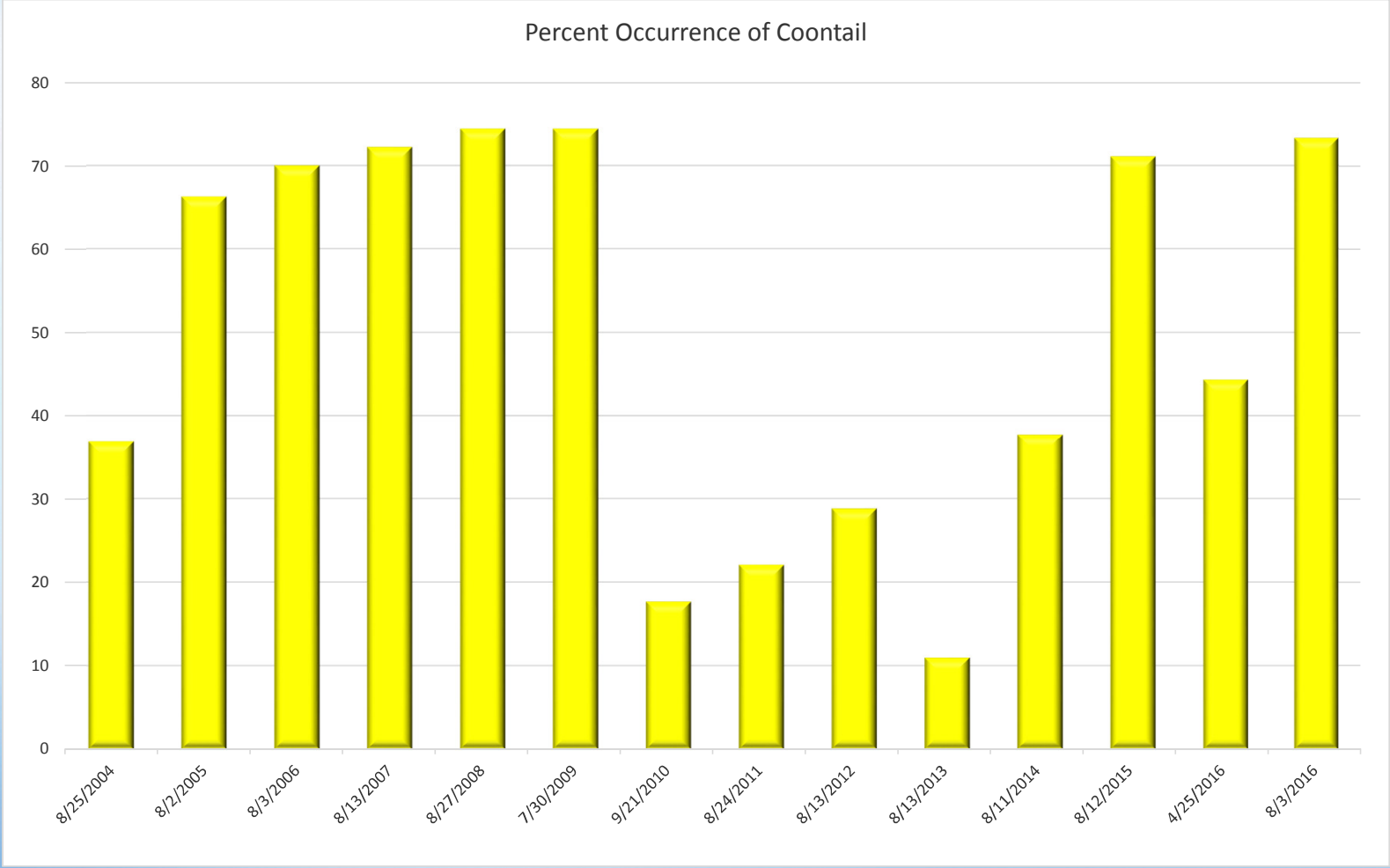
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Assessment of 2016

- We can control EWM without harming native abundance
- May be necessary to use granular herbicides in open water areas as opposed to less expensive liquid products
- IDNR is willing to compromise thanks to WLCA's patience, persistence, and willingness to independently monitor and collect data
- Native vegetation will reach nuisance levels and may require control in some areas
- EWM control is not as thorough with spot treatments as whole lake Sonar treatments
- There are many other factors impacting plant abundance besides herbicide treatments

Future Plant Control Options to Consider

- Do nothing
- Just treat shoreline with contact herbicides
- Whole lake Sonar treatment
- Combination of early season systemic spot treatment of EWM and late spring/early summer shoreline contact herbicide treatment combined with efforts to improve watershed/shoreline and continuous monitoring of plant population. Rely on IDNR to control SSW but start building a reserve in case funding runs out
 - LARE funding likely available
 - Results will likely be similar to 2016

Recommended Future Actions

- Continue with surveys
 - Invasive survey spring & summer (potentially LARE funded)
 - Tier 2 late summer (potentially LARE funded)
 - Biobase survey
- Spring invasive treatment similar to 2016 (Potentially LARE funded)
 - How much EWM will return?
 - Timing of treatment
- Early summer shoreline treatment
- IDNR control of SSW but WLCA should consider reserve fund
- Shoreline and watershed improvements (Potentially LARE funded)
- Public meetings & plan updates (Potentially LARE funded)

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2017 Budget for Recommended Action Plan

Plant Management Action	Estimated Cost
Invasive surveys (2), Tier 2 survey (Aug) and Plan Update (Dec)	\$5,500.00*
150 acre Eurasian watermilfoil treatment with 2.0ppm 2,4-D (April)	\$40,000.00*
60.5 acre Shoreline Treatment with contact herbicides (June)	\$25,000.00
Starry stonewort reserve fund	\$5,000.00
Total:	\$75,000.00/\$39,100 WLCA*

*LARE covered 80% of expense in 2016

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Remaining LARE Program Steps

- Fill out survey forms (to be included in plan and used in decision making)
- Permit Meeting Oct. 6th Columbia City
- Draft Aquatic Vegetation Management Plan due Nov. 15
- Submit grant application by Jan 15
- Submit permit application by Feb. 1
- LARE awards grants in late Feb/early March
- Send out bid requests in March
- Decide on contractor by late March/early April

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Questions?



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