



Lake Gaston Extension Associate Update

LGA Monthly Meeting
November 2nd, 2016

AJ Reyes

Lake Gaston
Weed Control
Council



Outline

- Overview of 2016 activities
 - Revegetation
 - Hydrilla treatments
 - Preliminary results from the volunteer survey
- Lyngbya
 - Brief overview
 - 2016 treatments
 - Plan for 2017



Summary of Volunteer Effort

2015

LGA = 250 hours

NCSU = 174 hours

NCWRC = 163 hours

VDGIF = 16 hours

~ 4000 Linear Feet of Fence

TOTAL: 603 HOURS

2016

LGA = 266.5 hours

NCSU = 199 hours

NCWRC = 220 hours

VDGIF = 24 hours

~ 4000 Linear Feet of Fence

TOTAL: 709.5 HOURS



2014

Beechwood Flats



2015



2016





2014

Lower Poplar Creek



2015



2016

2015

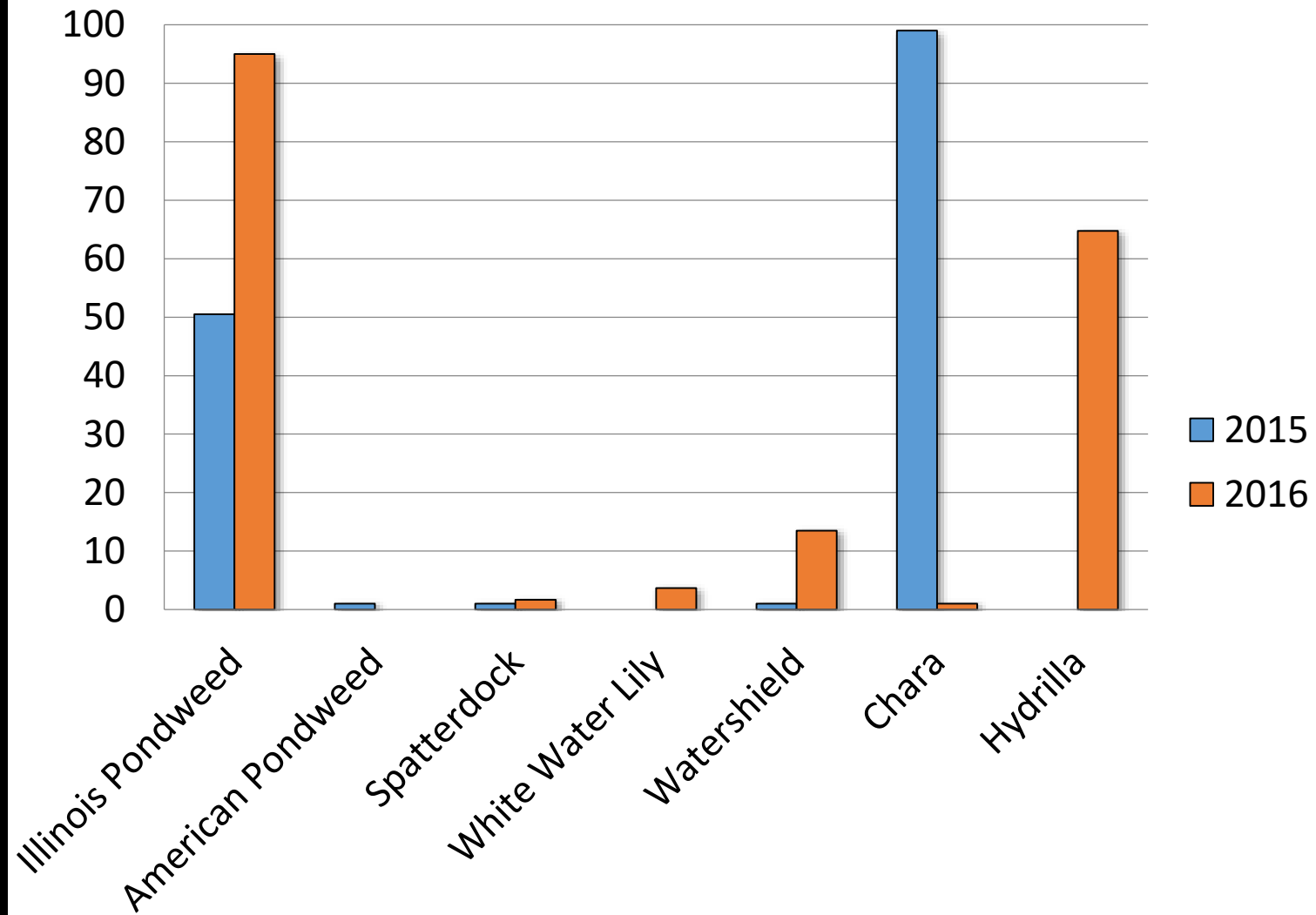


Upper Poplar Creek

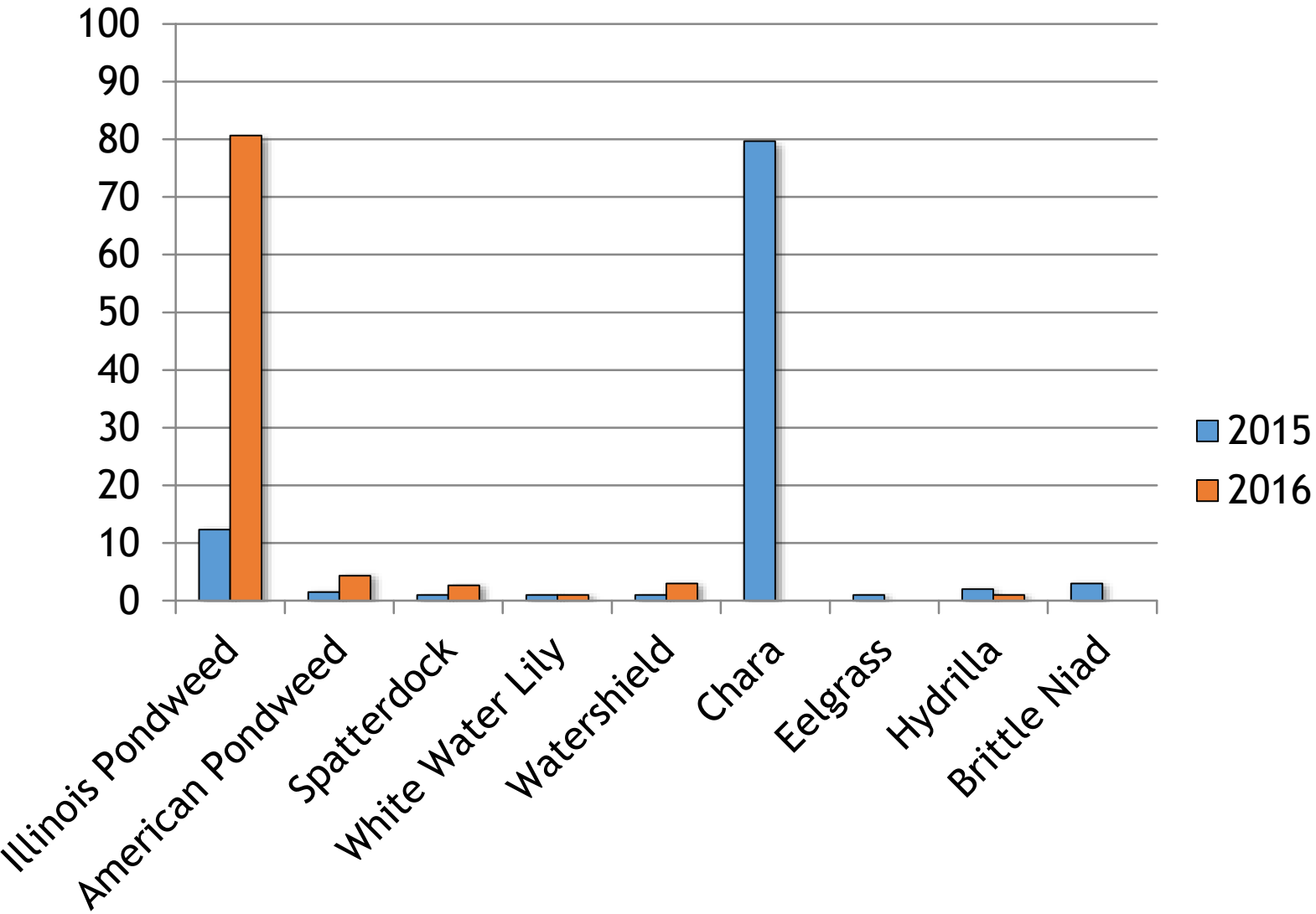
2016



Big Stonehouse



Lower Poplar Creek





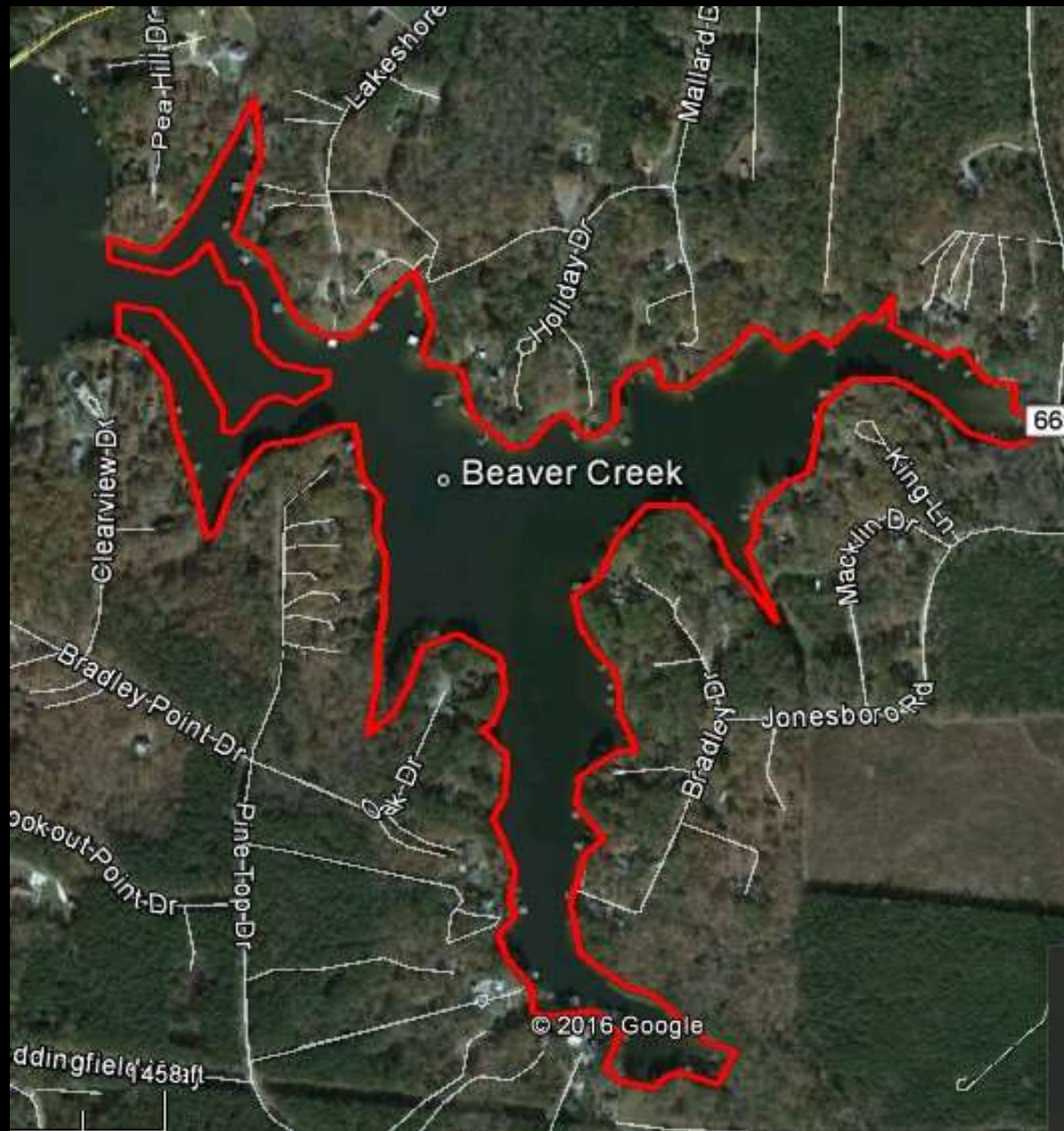
Summary

- 2016 volunteer effort greater than 2015
 - 200 more ft of fence put out
- Many cages have hydrilla growth within them
 - Mostly from tubers we suspect
 - Great creek may be from fragmentation
- Plenty of cages with strong native growth as well
 - Great creek
 - Lower and upper poplar
 - Beechwood

Hydrilla Treatments

- 3 treatments
 - June, July and August
 - August only cages
- Last treatment dropped due to absence of hydrilla



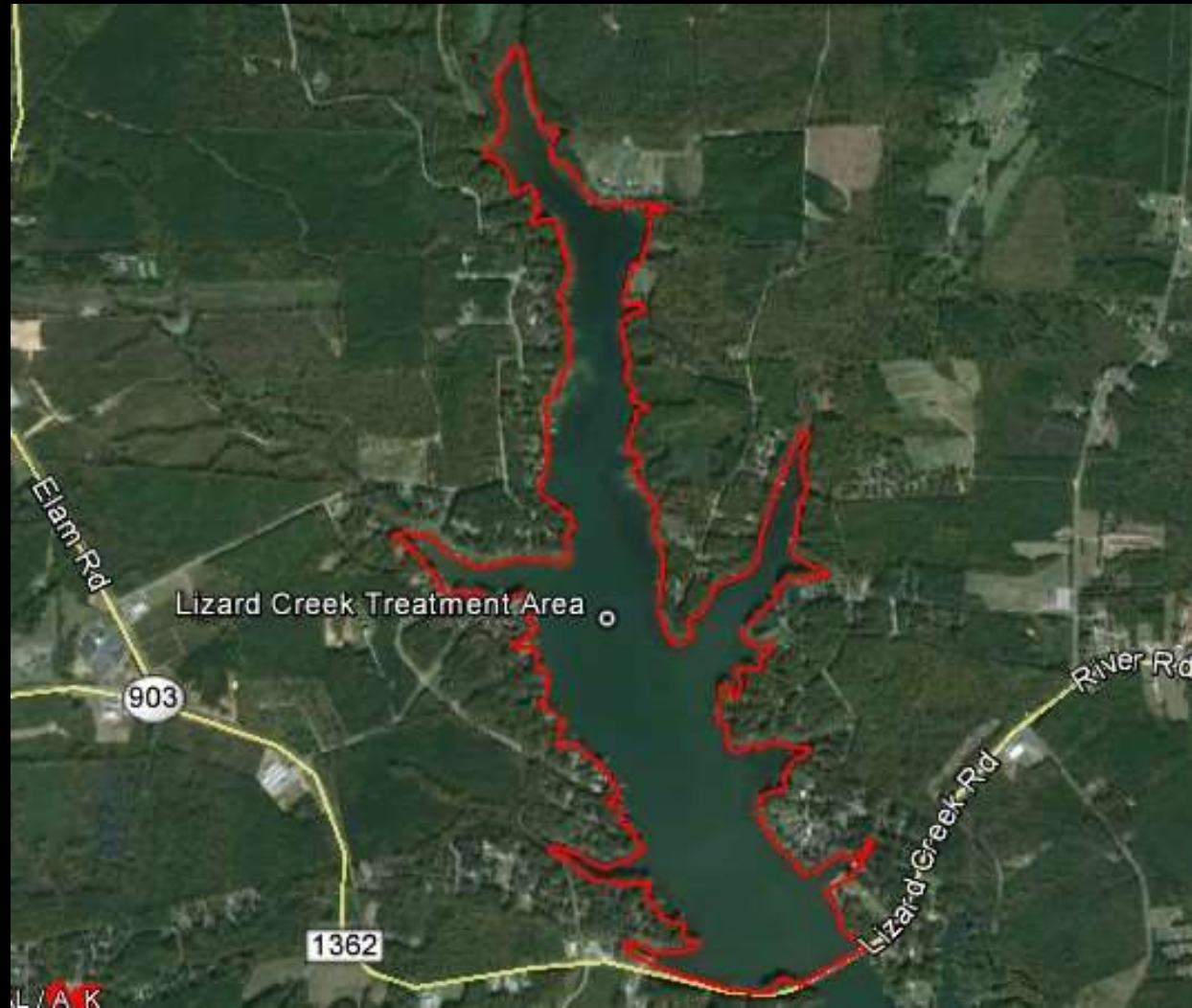




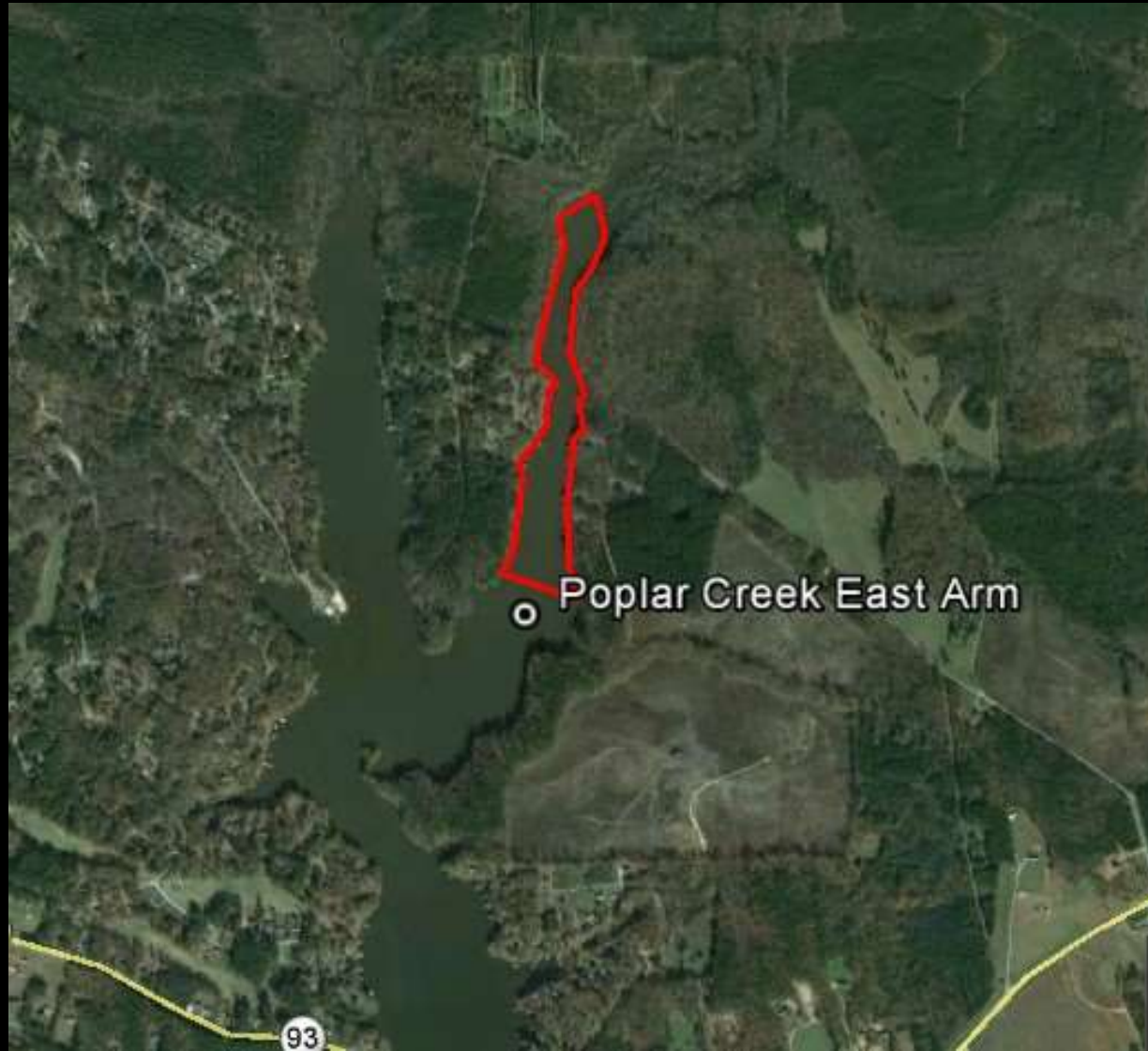
◦ Beechwood Cages

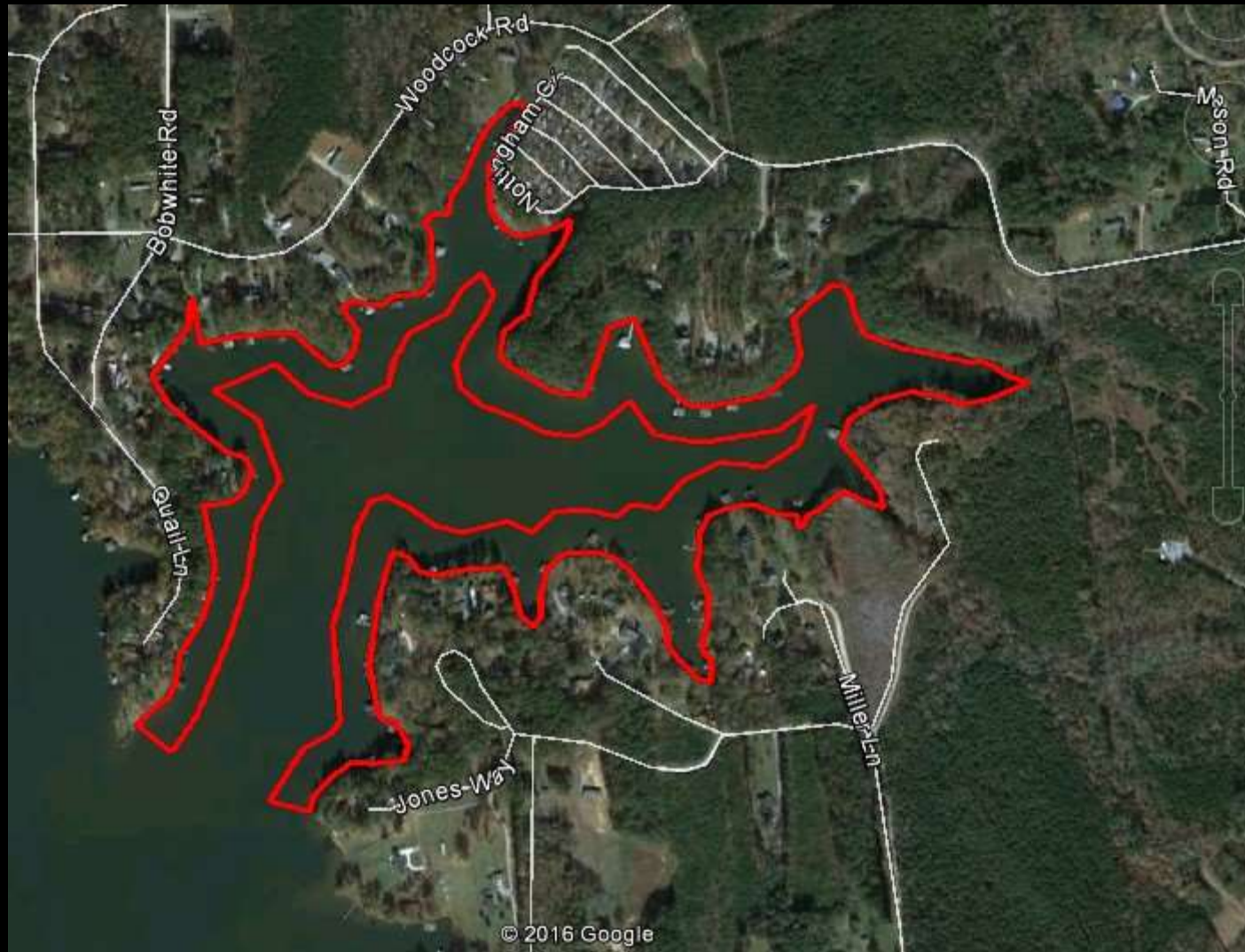




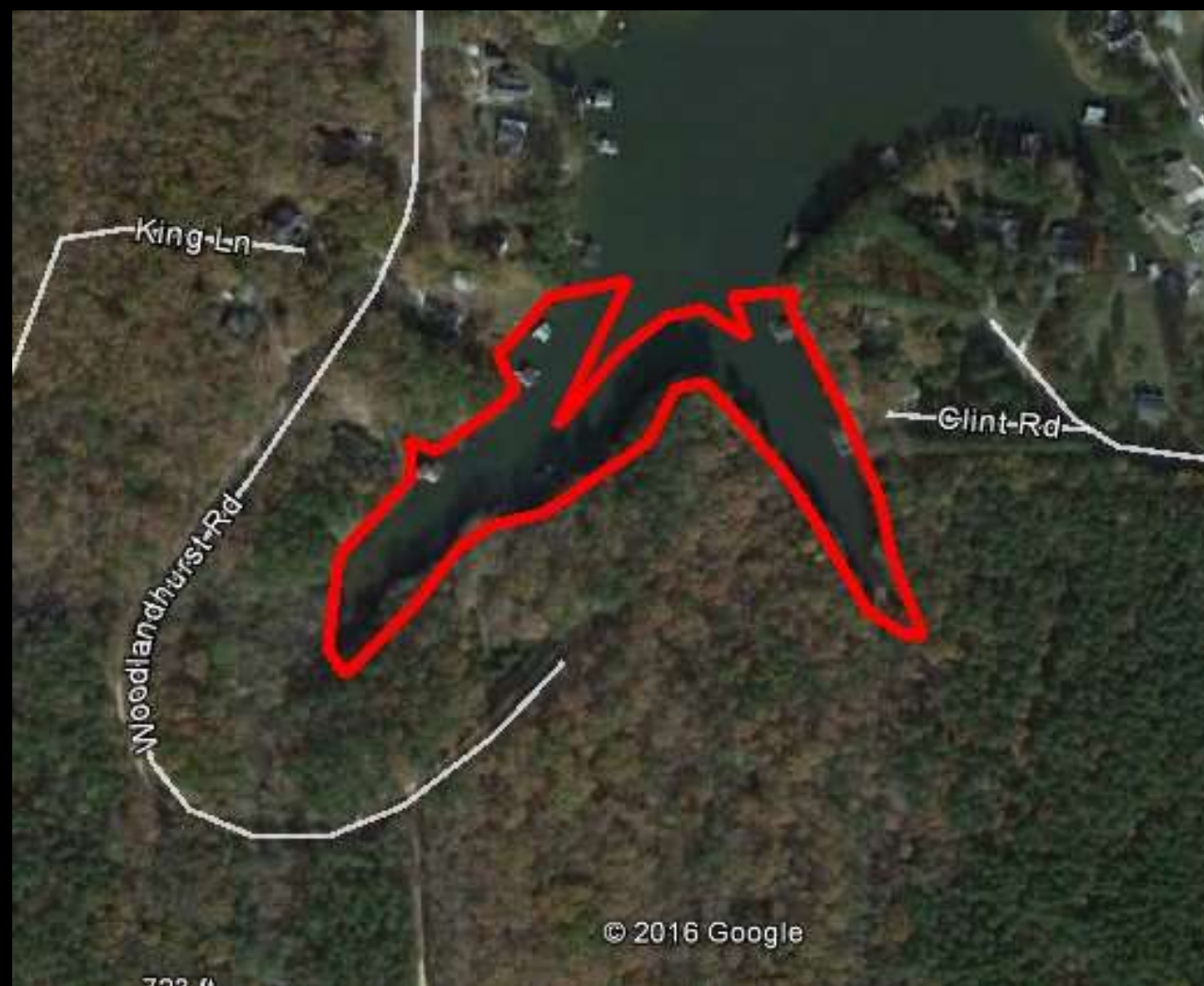










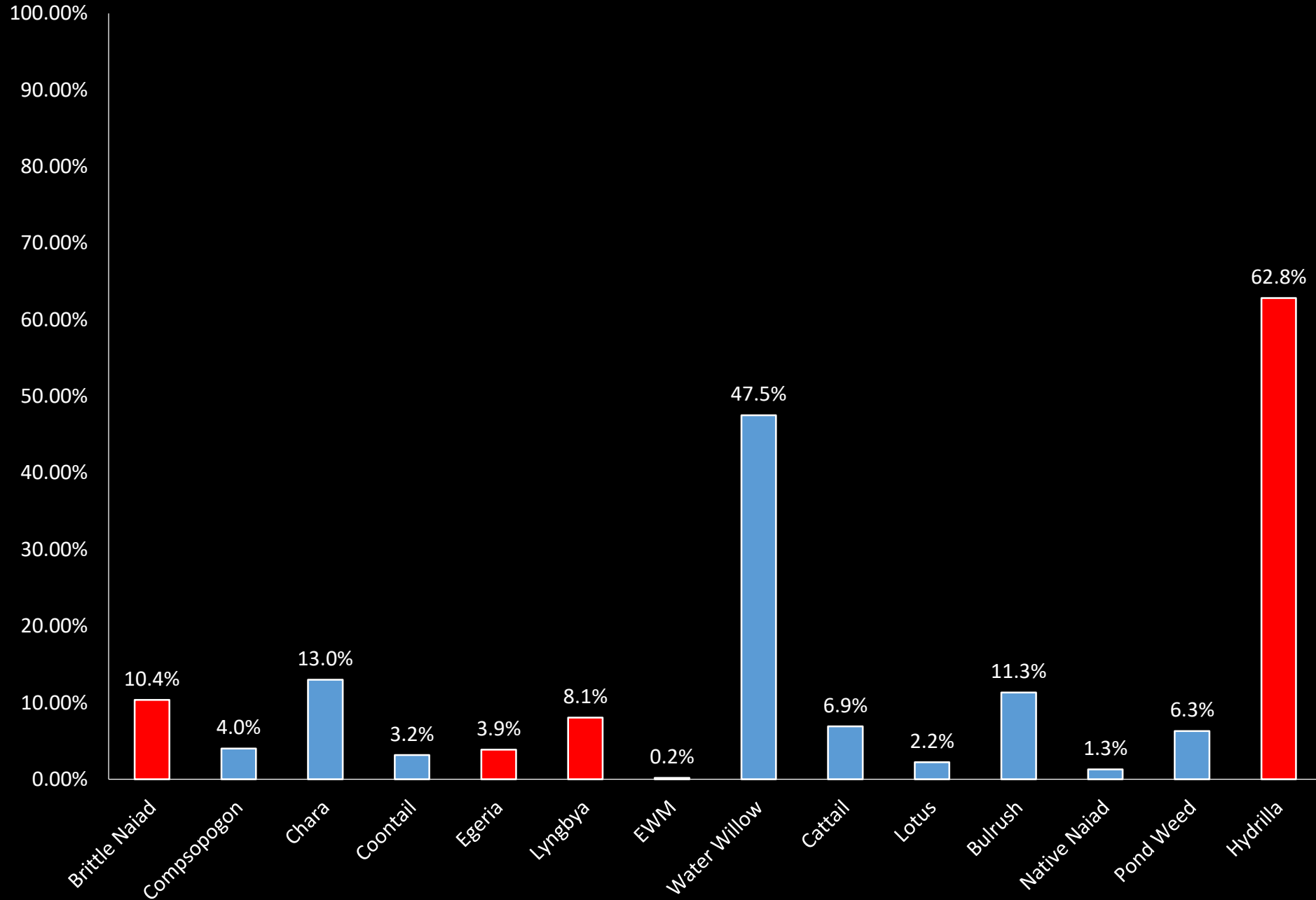


Volunteer Survey

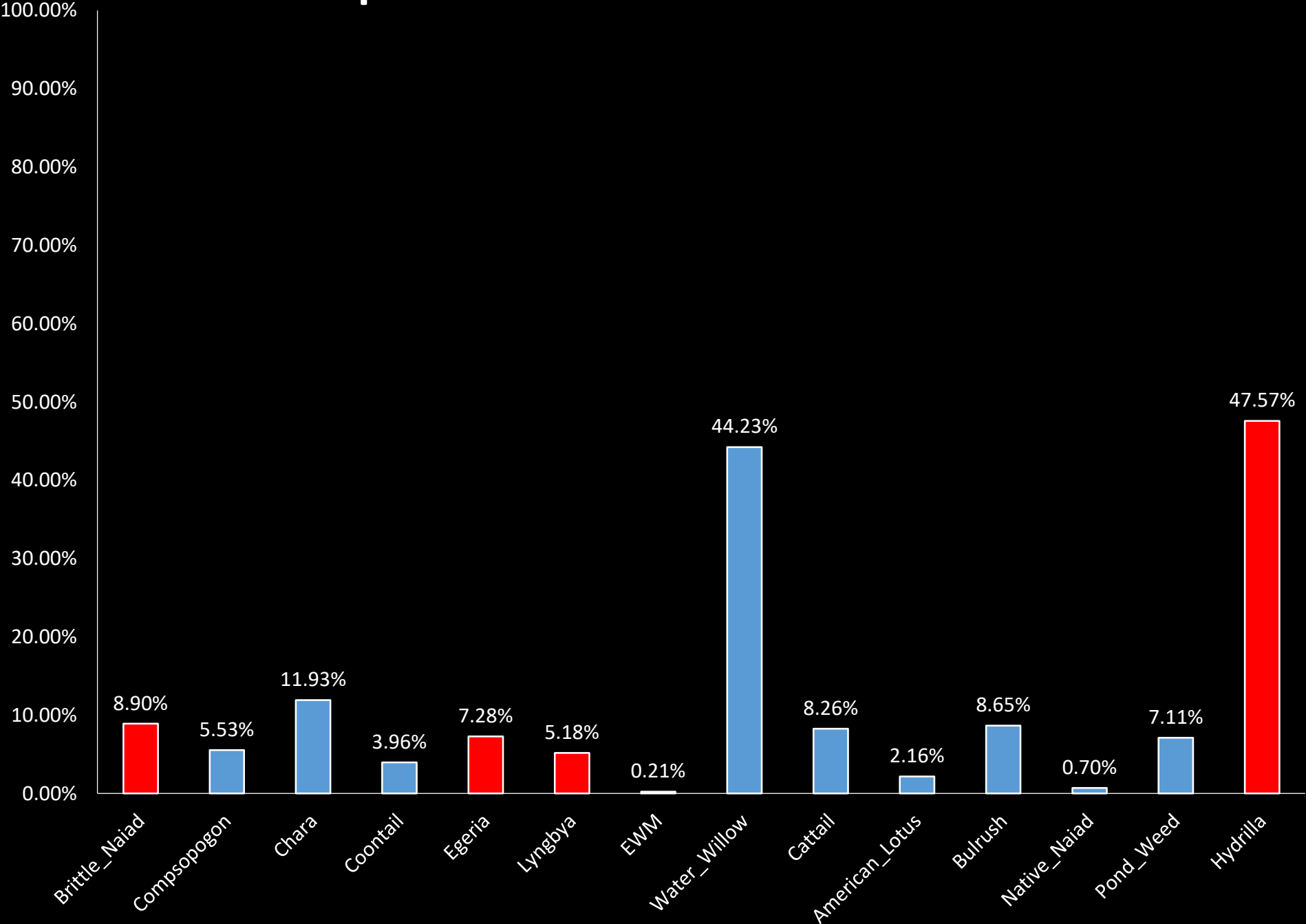
- Conducted from 9/1/16 to 10/31/2016
- 6006 points (10/31)



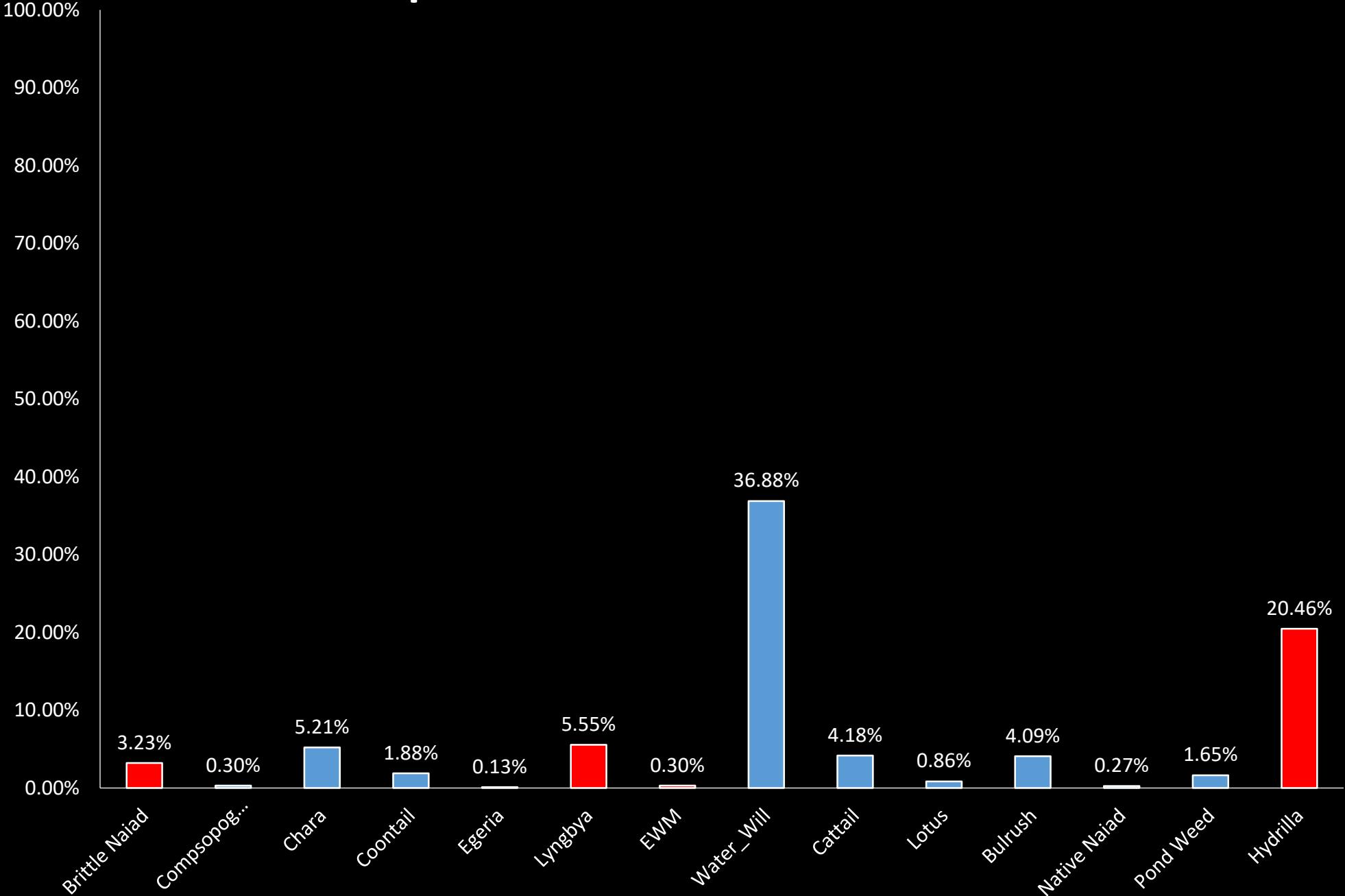
Aquatic Plant Abundance - 2012



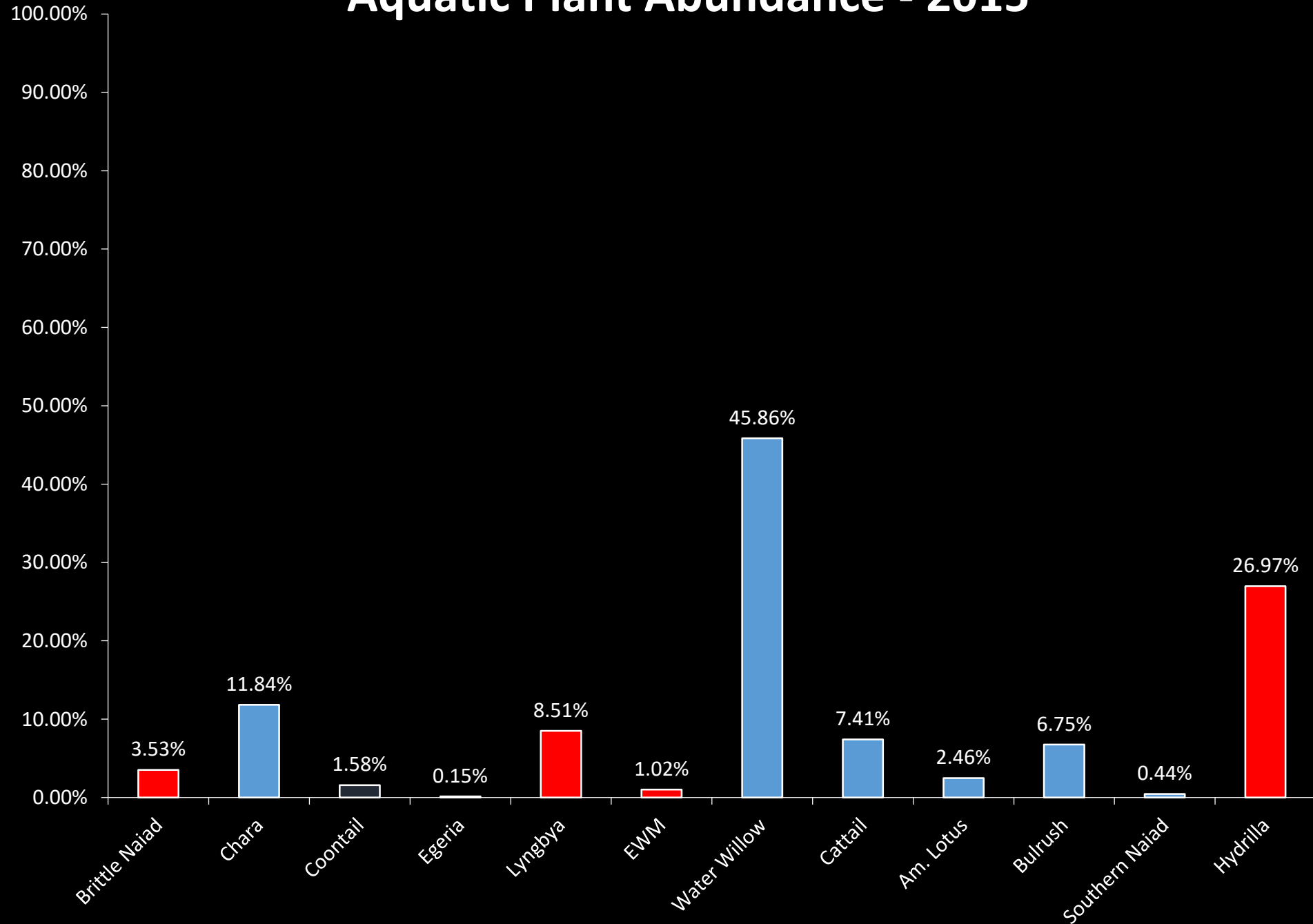
Aquatic Plant Abundance - 2013



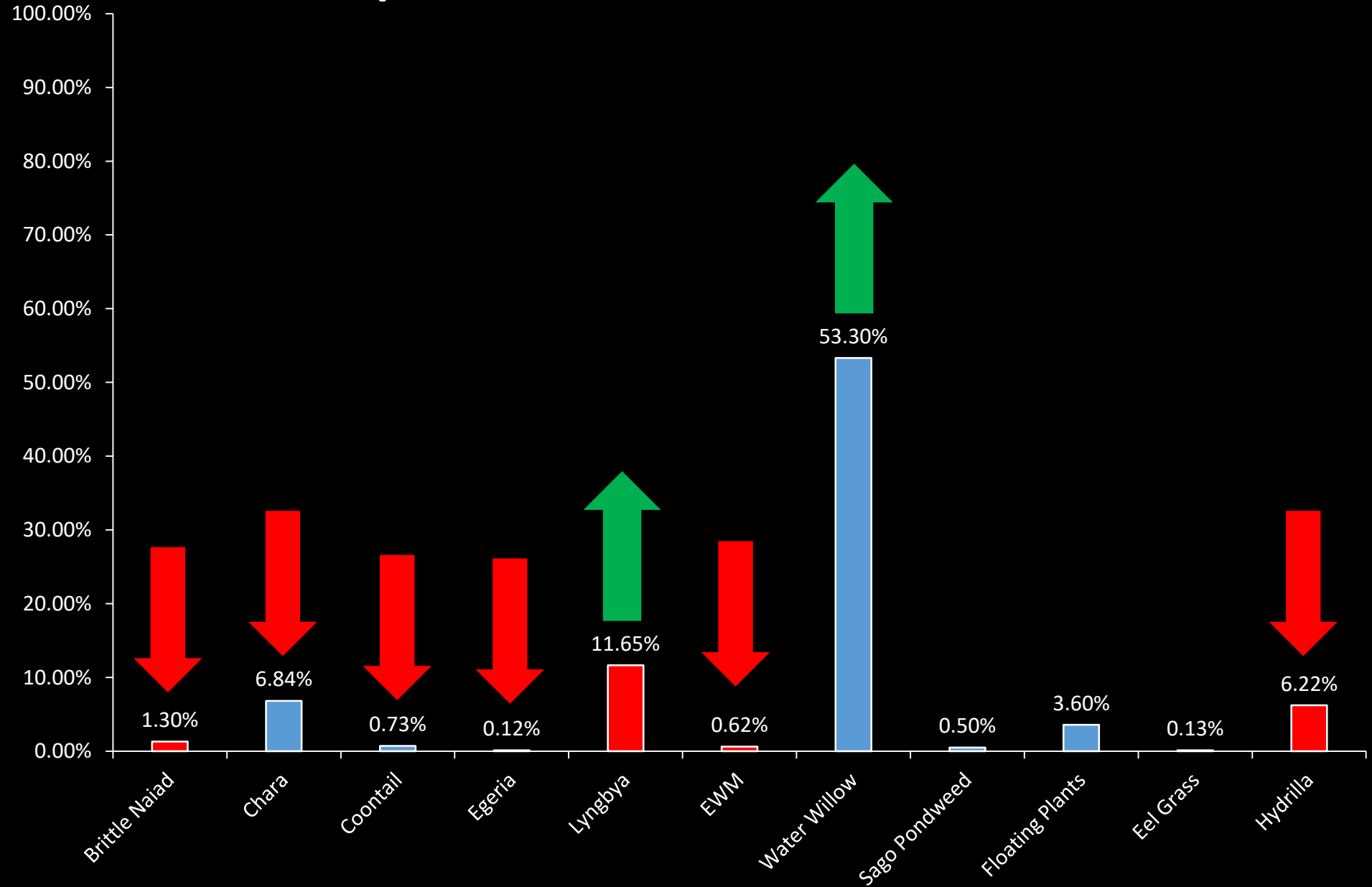
Aquatic Plant Abundance - 2014

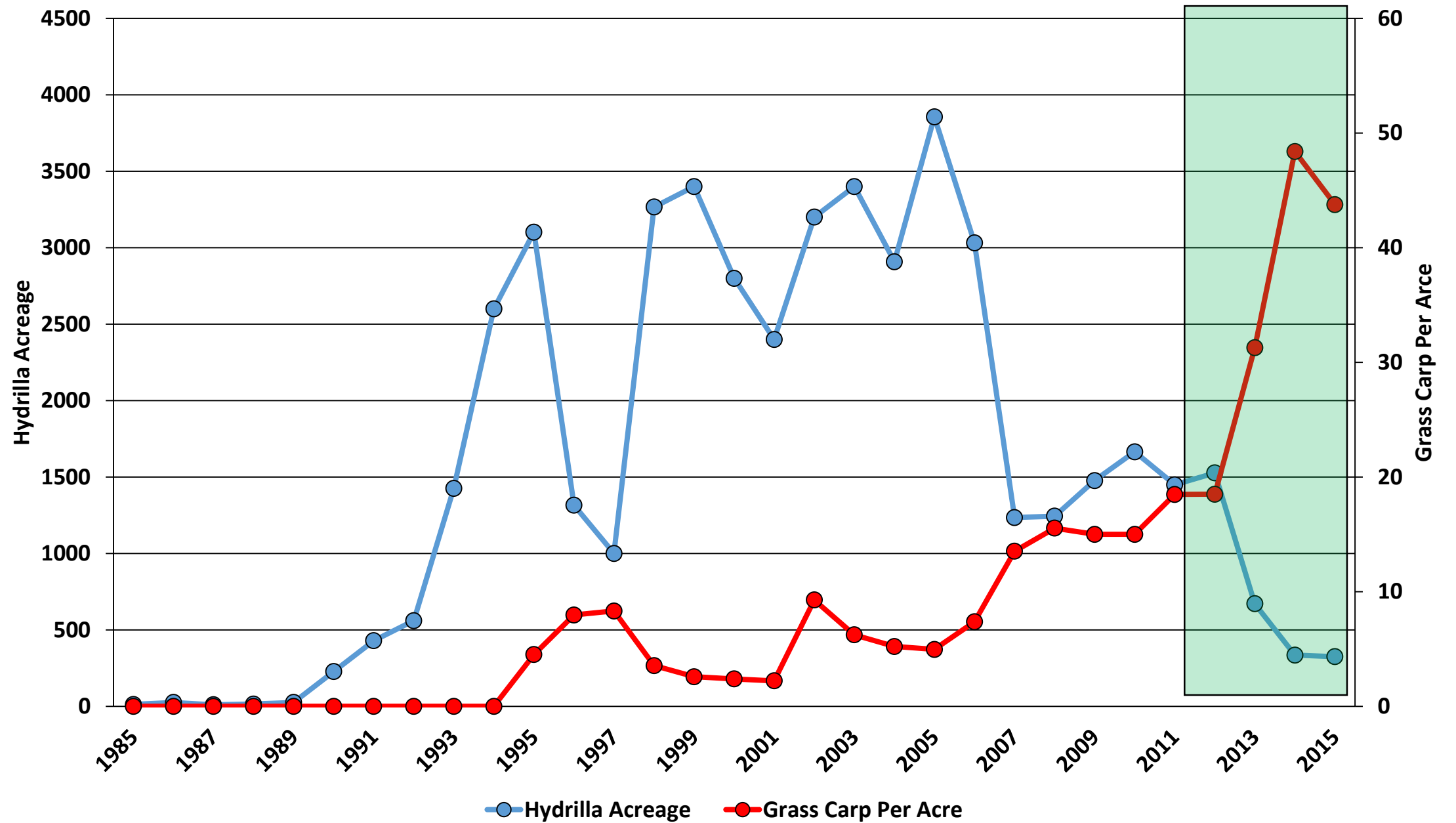


Aquatic Plant Abundance - 2015



Aquatic Plant Abundance - 2016





Summary

- Hydrilla not as abundant in 2016 as 2015
- Lyngbya “frequency of occurrence” higher than hydrilla
- Water willow increased
- Most all submersed plants decreased from 2015



Lyngbya wollei

- Filamentous algae
- Cyanobacteria (blue-green)
- Found from Florida to Manitoba (CA)
- Grows along the bottom, mats come to the surface when “gases get trapped under mats”
- Can grow with little to no light





Issues Associated with Lygnbya

- Outcompete native species
- Can produce toxins (skin rashes)
- Aesthetically unpleasing
- Restricts boating and fishing opportunities



Lyngbya in Lake Gaston

- Been in the lake since the 1990's
- Last few years ----- recreational impediment
- Experimental treatments started in fall of 2015
 - 2 treatments in spring of 2016
- No noticeable difference in biomass



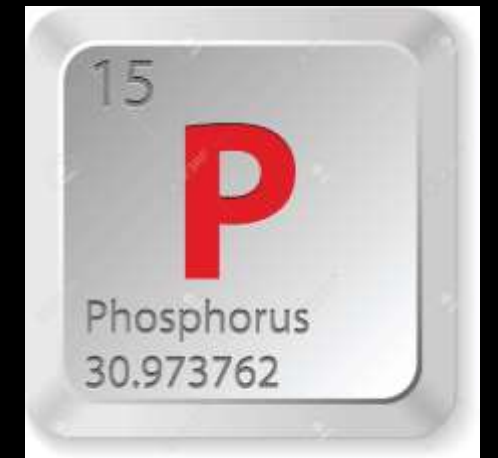
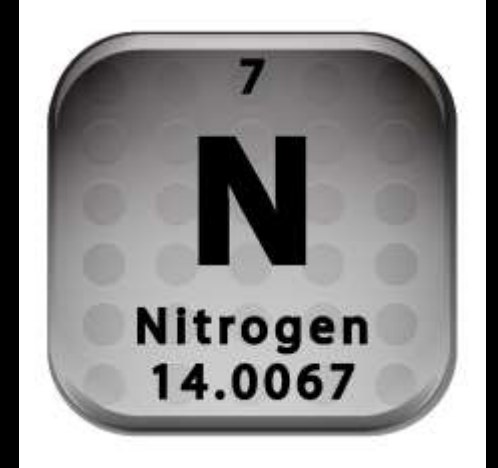
2017 Plan

- Continue Experimental Treatments in Pretty Creek and Woodland Hurst
 - Early season treatments
 - Idea is to reduce Benthic (Bottom) biomass over time
 - Intensive monitoring
- Mechanical harvesting
 - Test run May 2017
 - Possibly combining with herbicide treatments
 - Monitoring pre and post treatment



NCSU Research

- Understanding why Lyngbya is growing
 - Water quality
- Nutrients control growth of algae and plants
 - How have (if they) nutrients changed in gaston?
- Timing of surface mats
 - Can we predict when mats come to the surface



What Can You Do?

- Be conscious of excess nutrients
 - Excess fertilizer on lawns
 - Impervious surfaces
- Shoreline buffers
- Proper septic system maintenance



Questions?

Aquaticplants@ncsu.edu