

Lake Gaston Stakeholders Meeting March 1, 2018

Steve Hoyle, Tyler Harris and Dr. Rob Richardson
North Carolina State University

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Aquatic Plant Management

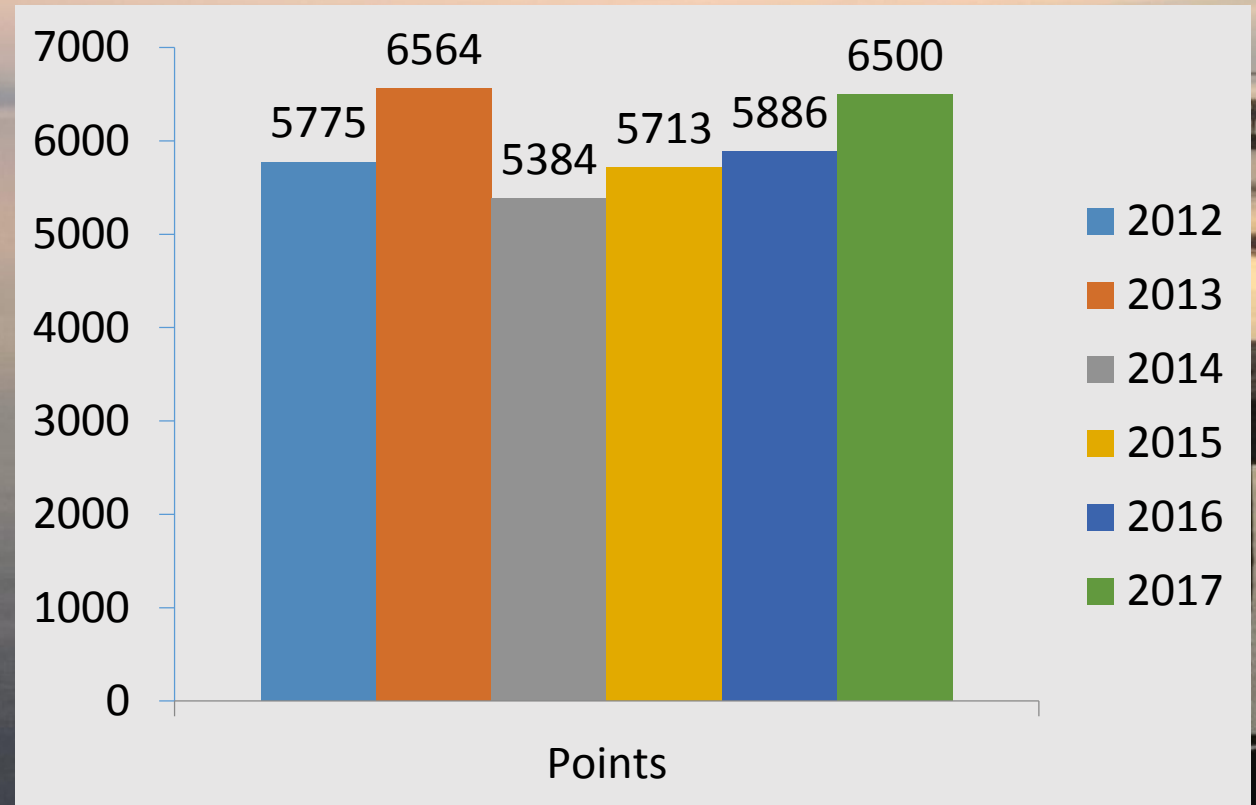
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Lake Gaston

Volunteer Aquatic Plant Survey

- ❖ Conducted from September 1st to October 30th each year
- ❖ Rake Toss every 200ft along shoreline
- ❖ Volunteers attend training for both tablets and aquatic plant ID
- ❖ Data uploaded to cloud server for NCSU download





2012

Rake Toss:63.7%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, swisstopo, and the GIS User Community

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2013

Hydrilla acreage: 671
Rake Toss: 48%

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, swisstopo, and the GIS User Community

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2014

Hydrilla acreage: 335
Rake Toss: 21%

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, swisstopo, and the GIS User Community

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2015

Hydrilla acreage: 325
Rake Toss: 29%

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, Swisstopo, and the GIS User Community

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2016

Hydrilla acreage: 145
Rake Toss: 6%

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, swisstopo, and the GIS User Community

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2017

Hydrilla acreage: 374
Rake Toss: 13%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGA, Swirestopo, and the GIS User Community

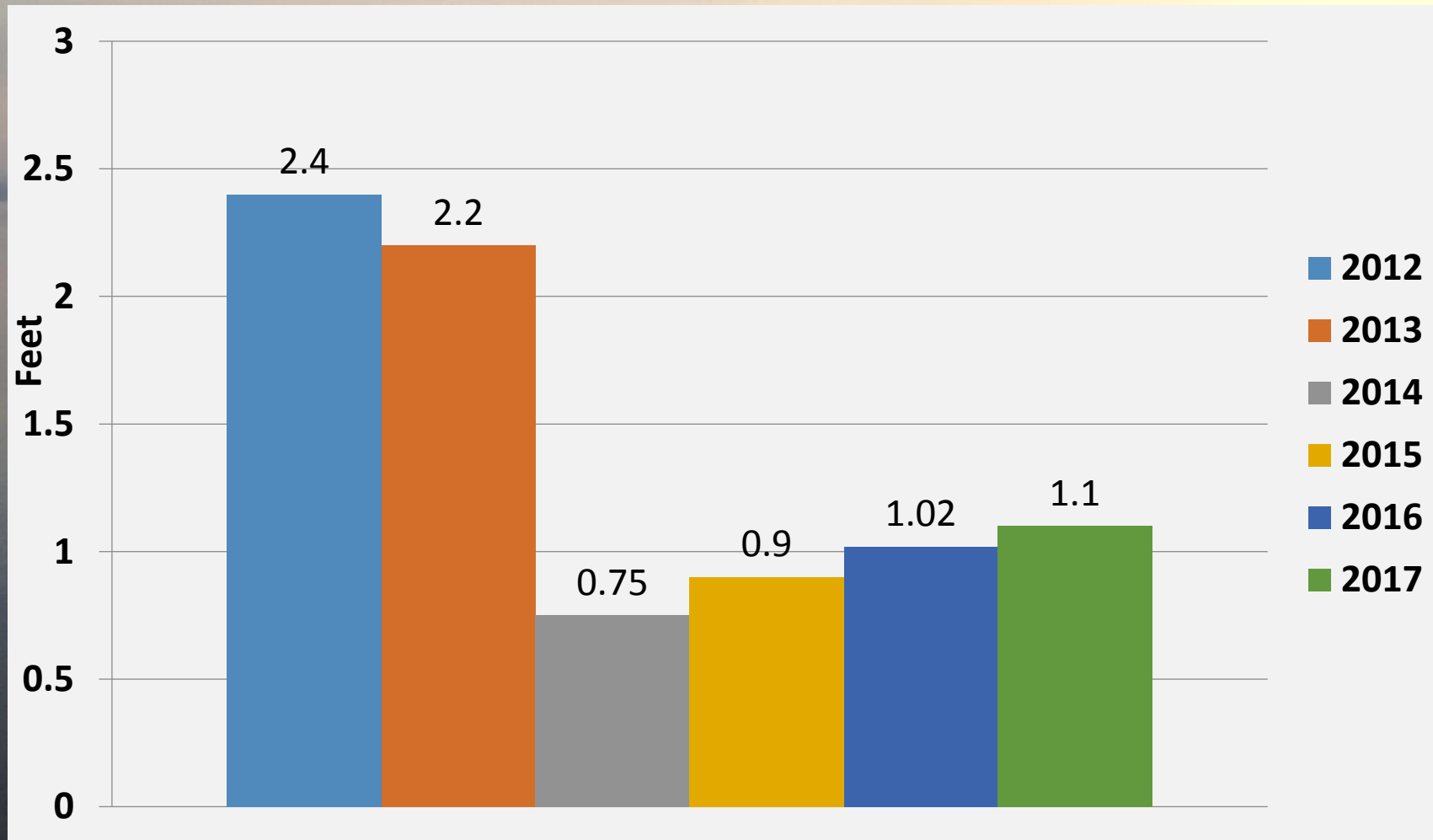
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Mean Hydrilla Height



2017

Hydrilla Height

0.5-1.5



1.51-4.0



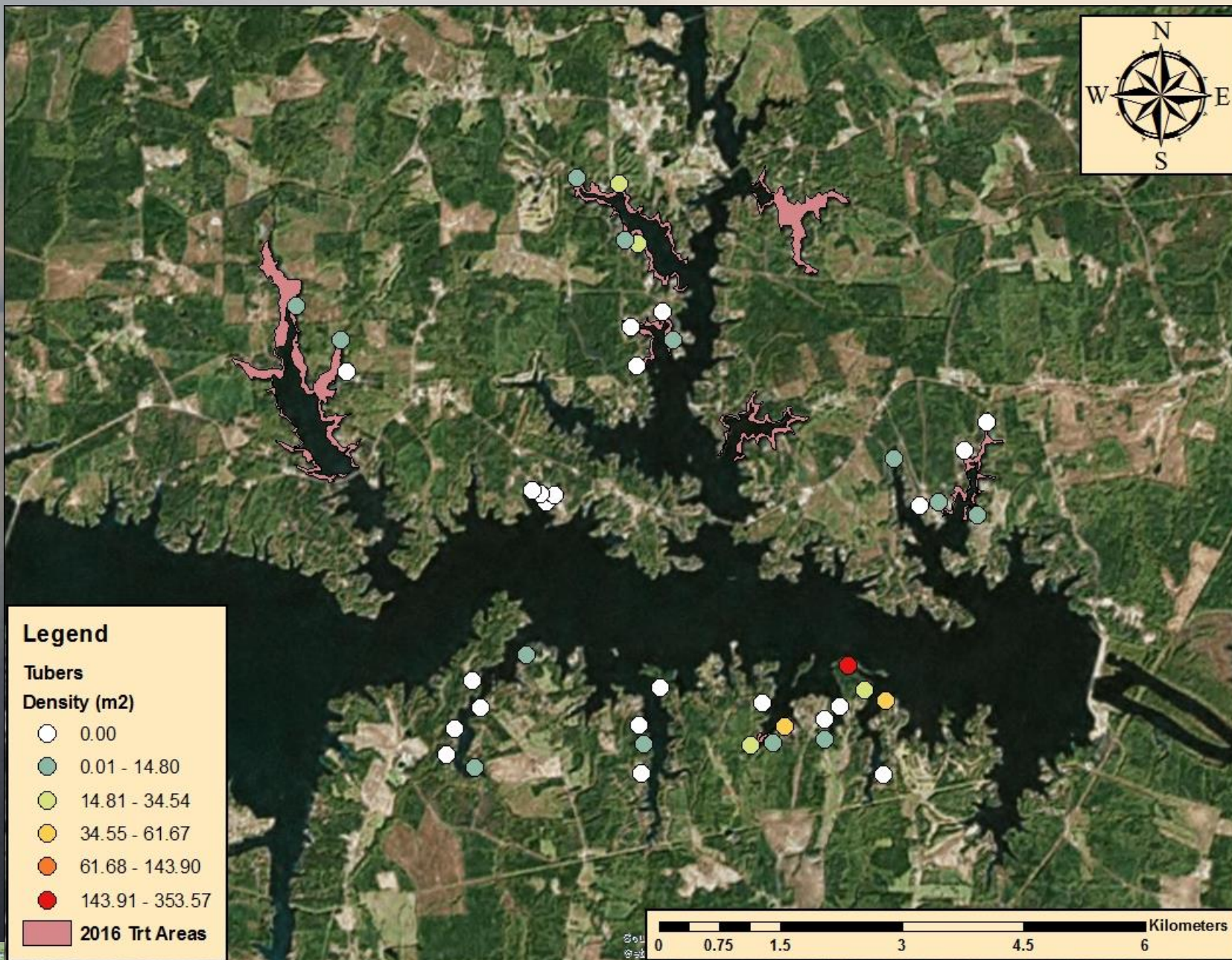
4.1-8.0

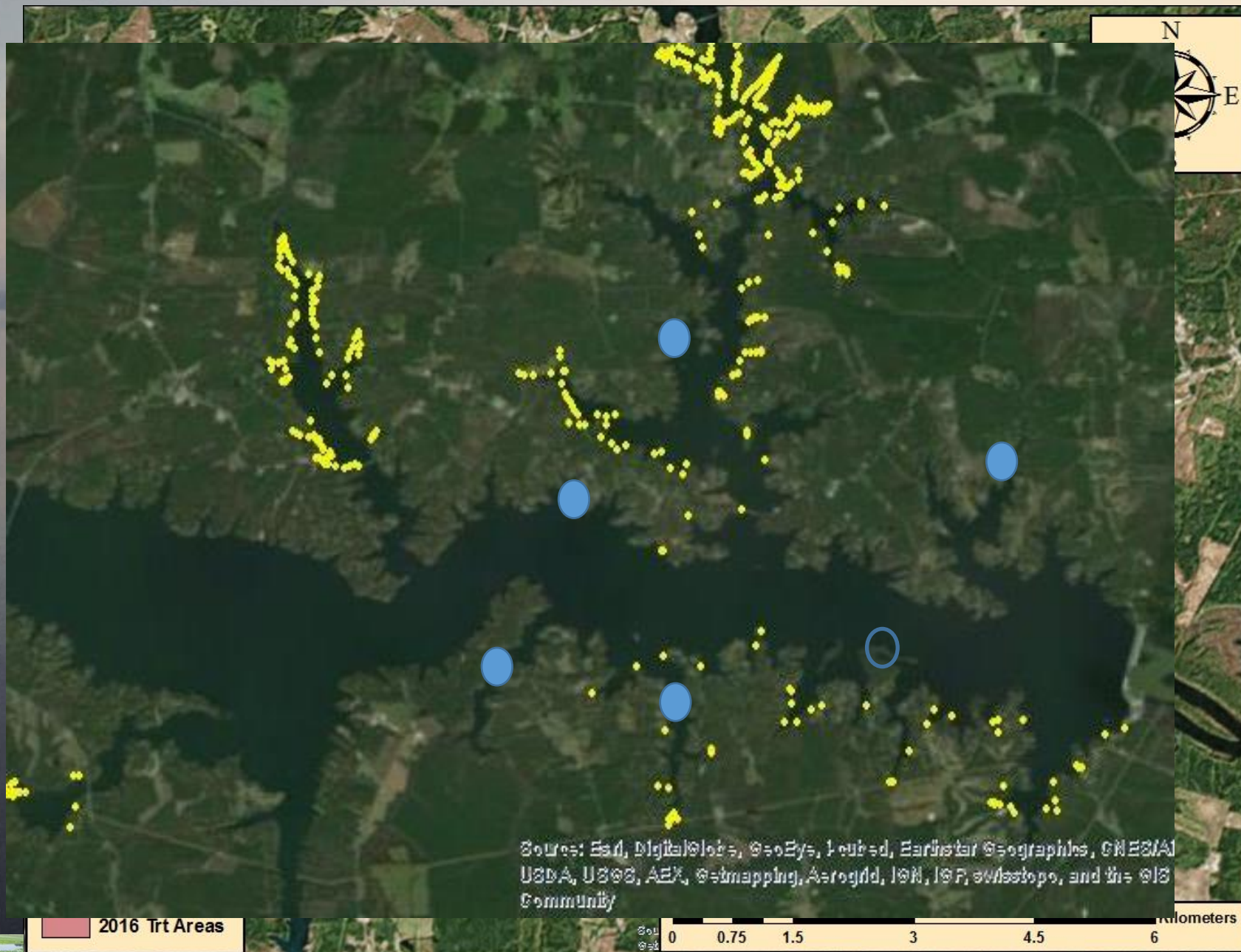


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USDA, AEA, GeoMapping, AeroGRID, IGN, IGP, swisstopo, and the GIS User
Community

Tuber Sites	2015 (m2)	2016 (m2)	
Big Stone House	0.82	0.49	↓
Cold Springs Branch	60.64	16.03	↓
<u>Cotton Creek</u>	104.15	165.82	↑
<u>Flats</u>	30.15	21.93	↓
Hamlin	64.75	75.24	↑
<u>Hawtree</u>	33.92	29.19	↓
<u>Hubquarter</u>	59.20	53.12	↓
Jimmies Creek	21.24	2.06	↓
Lakeview	0.00	0.00	↔
Lizard Creek	30.15	3.29	↓
<u>Lyons Creek</u>	31.86	22.82	↓
Poe Creek	2.06	3.70	↑
<u>Poplar Creek</u>	11.51	15.95	↑
Pretty Creek	4.11	3.29	↓
Sledge Creek	8.22	4.11	↓
<u>Smith Creek</u>	4.11	0.00	↓
Timberline Shores	2.74	0.62	↓
Woodland Hurst	61.67	18.91	↓



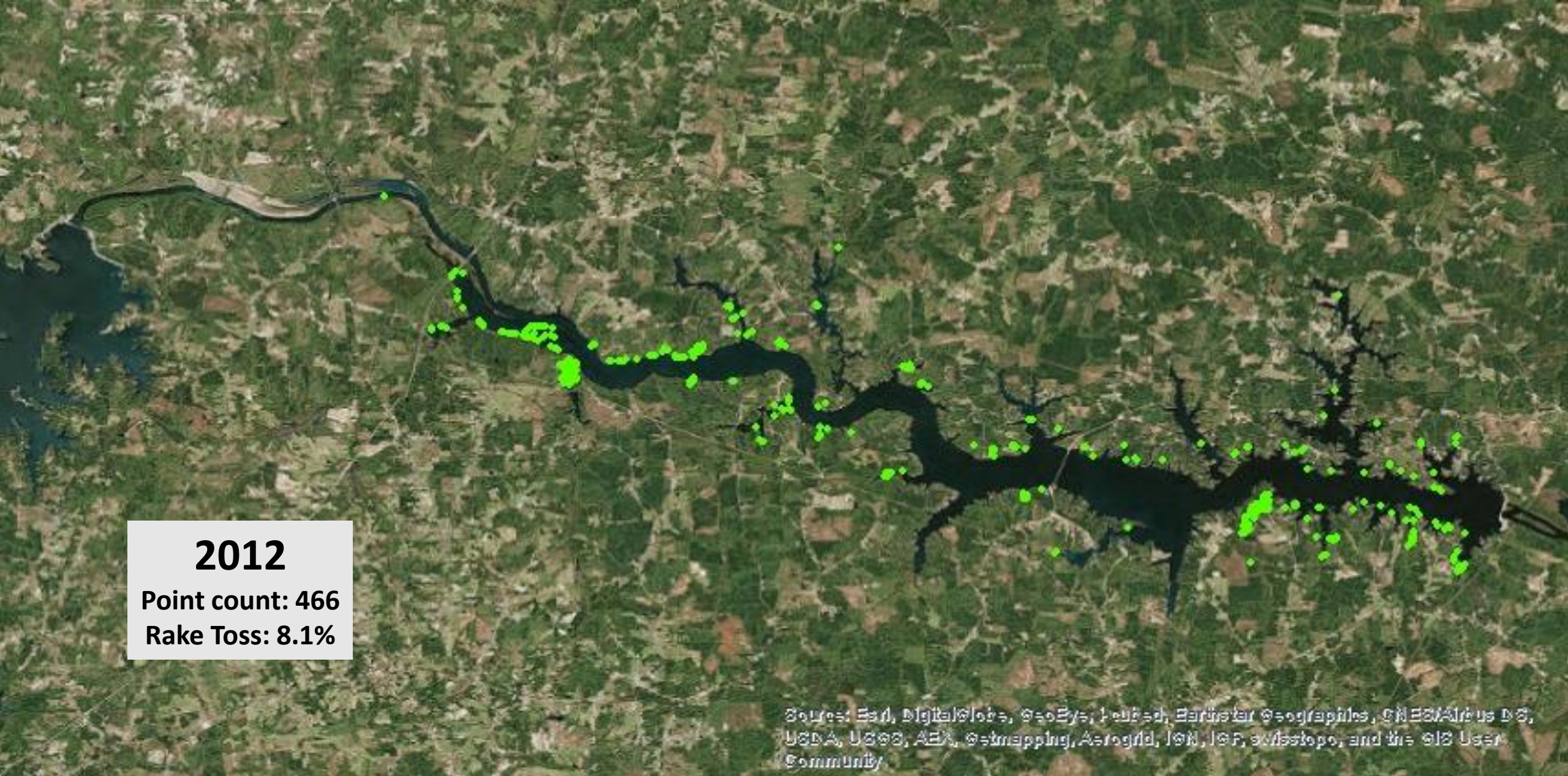




Lyngbya wollei

- Filamentous Cyanobacteria
- Surface mats prevalent during summer months
- Experimental treatments done in fall of 2015 and spring/fall of 2016
- Operational/Experimental treatments in 2017



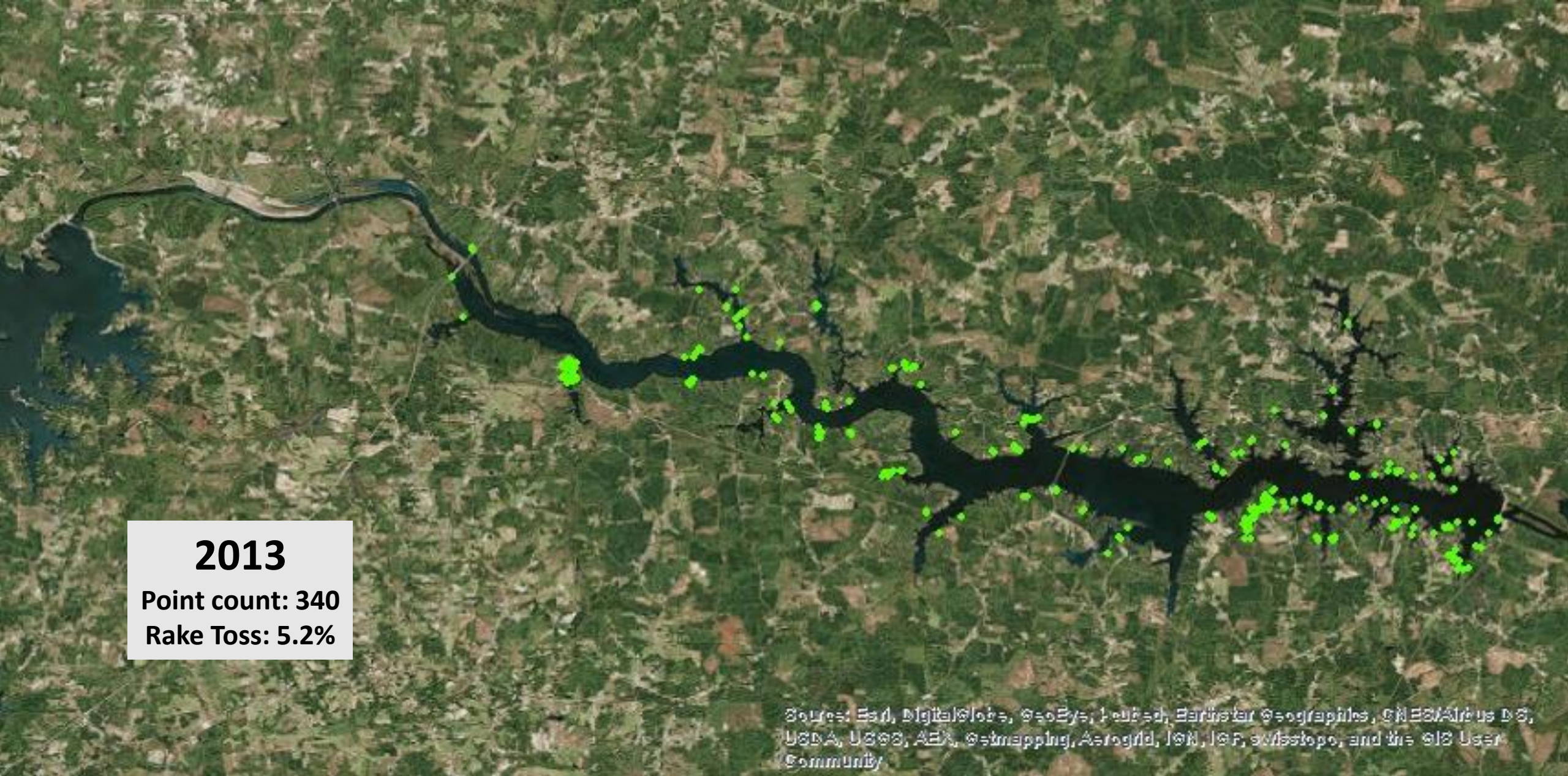


2012

Point count: 466

Rake Toss: 8.1%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



2013

Point count: 340

Rake Toss: 5.2%

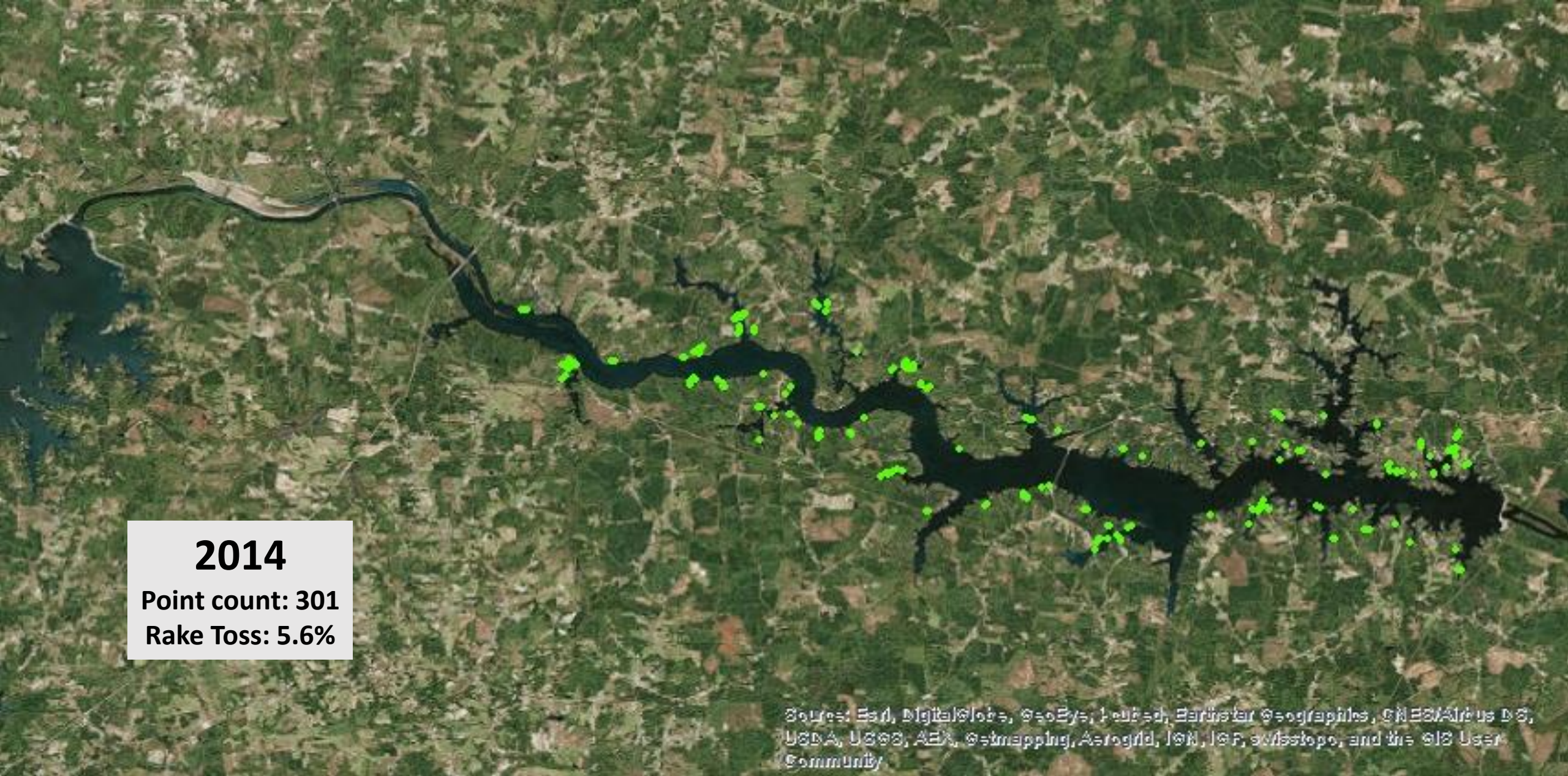
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2014

Point count: 301
Rake Toss: 5.6%

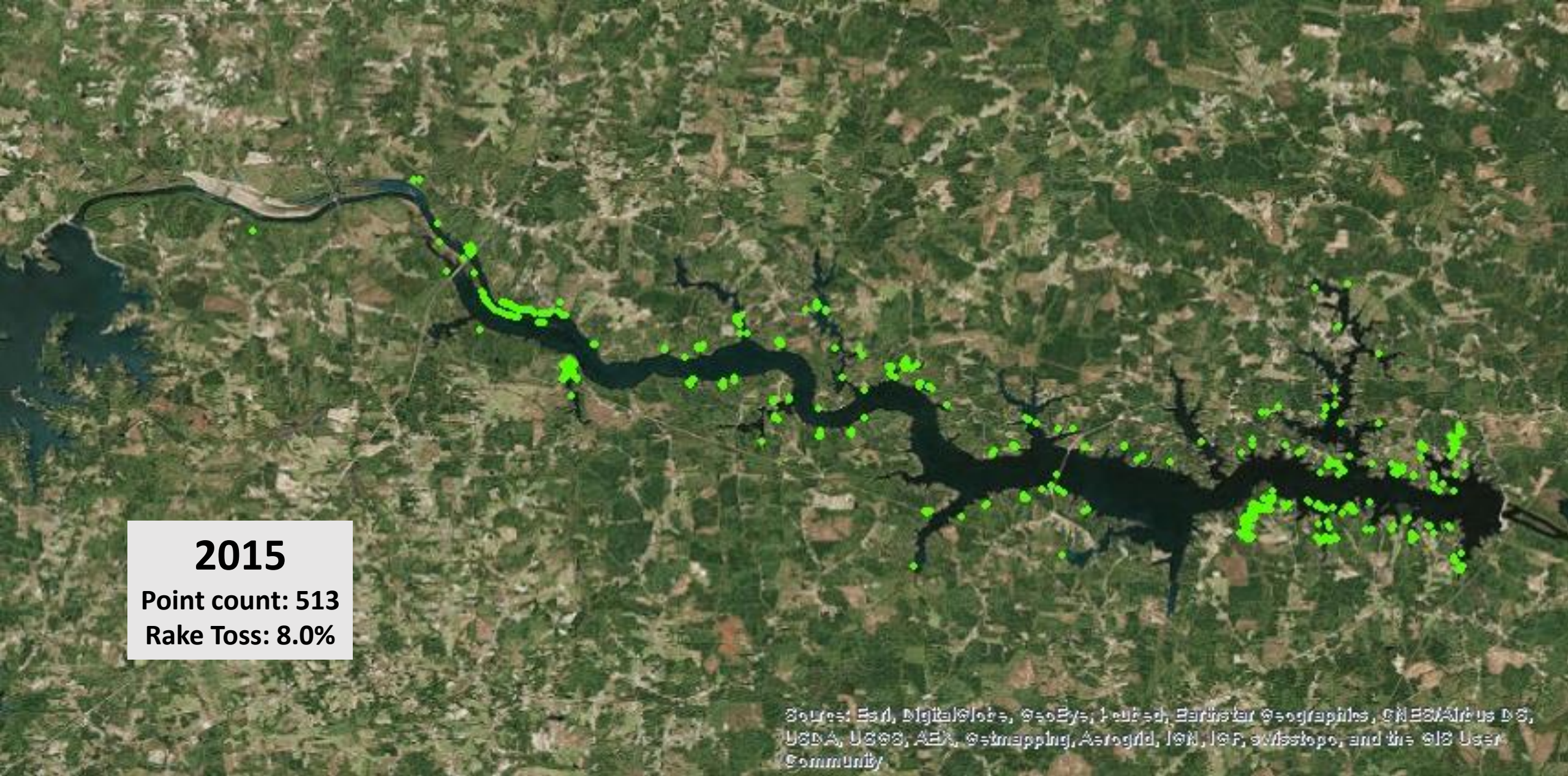
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

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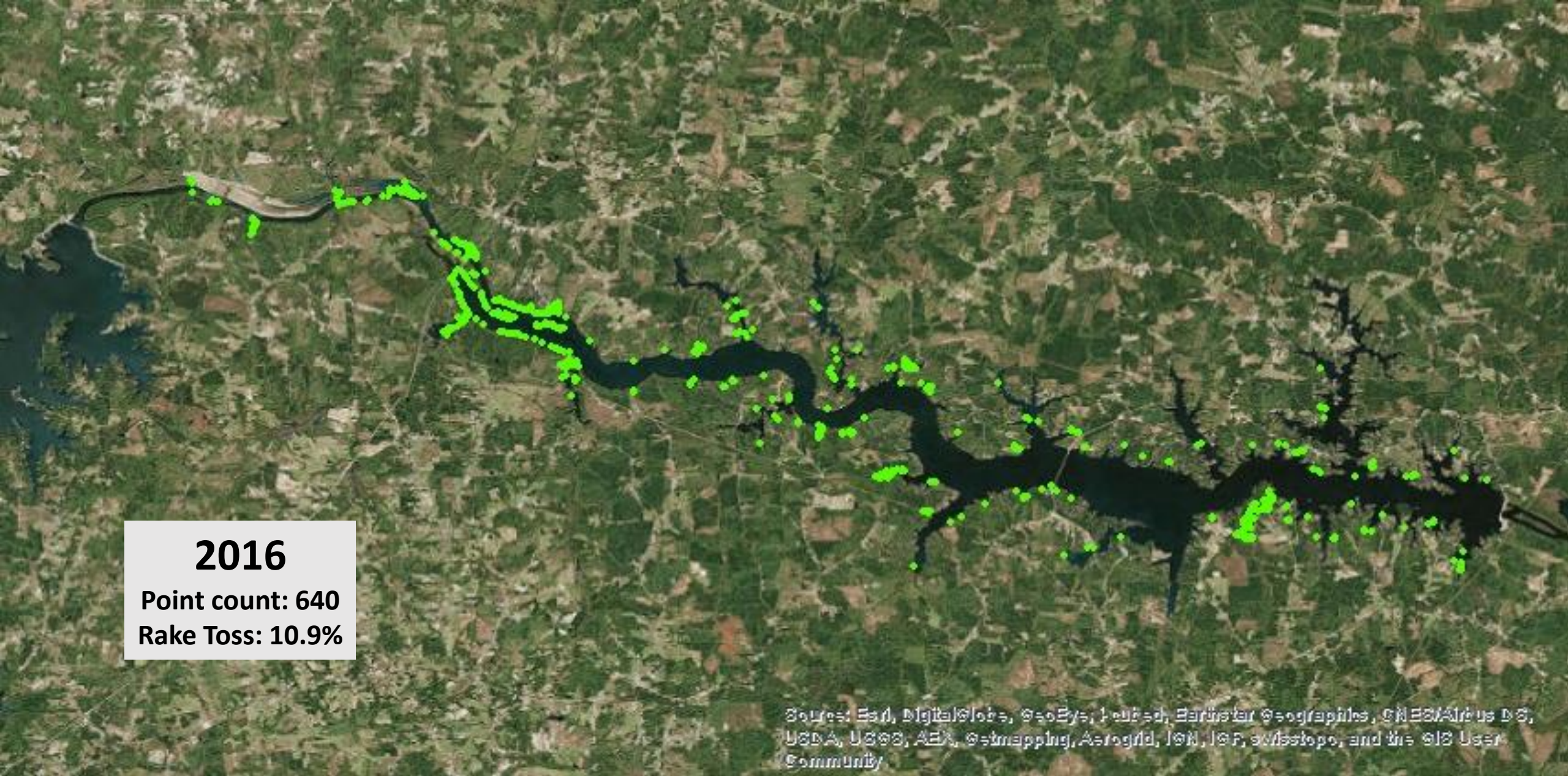


2015

Point count: 513

Rake Toss: 8.0%

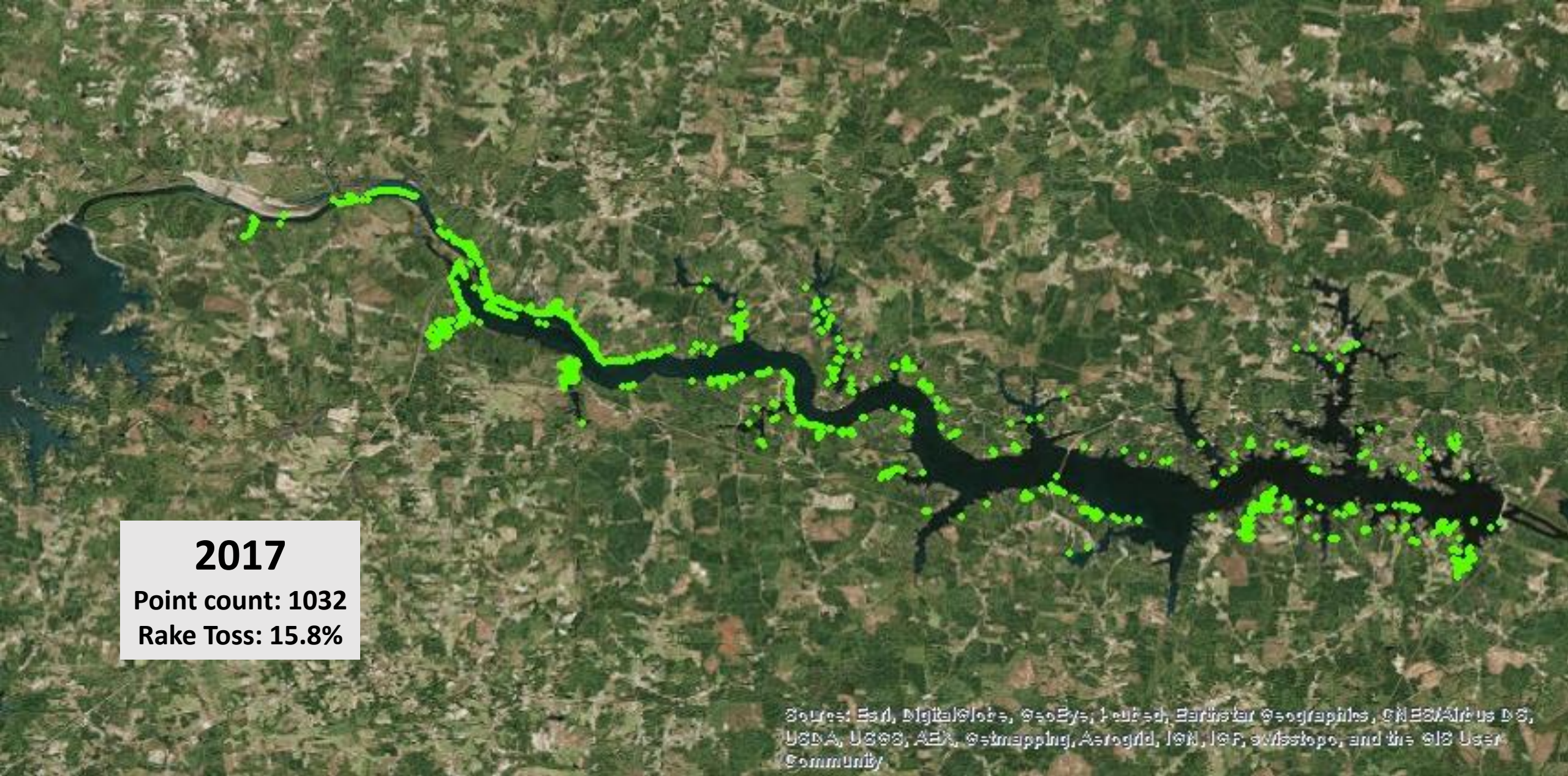
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



2016

Point count: 640
Rake Toss: 10.9%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community



2017

Point count: 1032

Rake Toss: 15.8%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

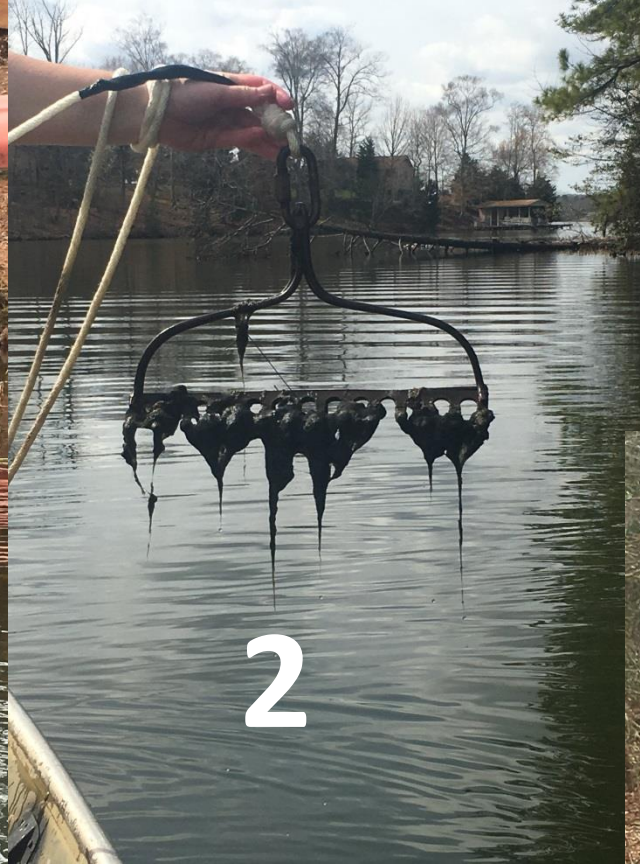
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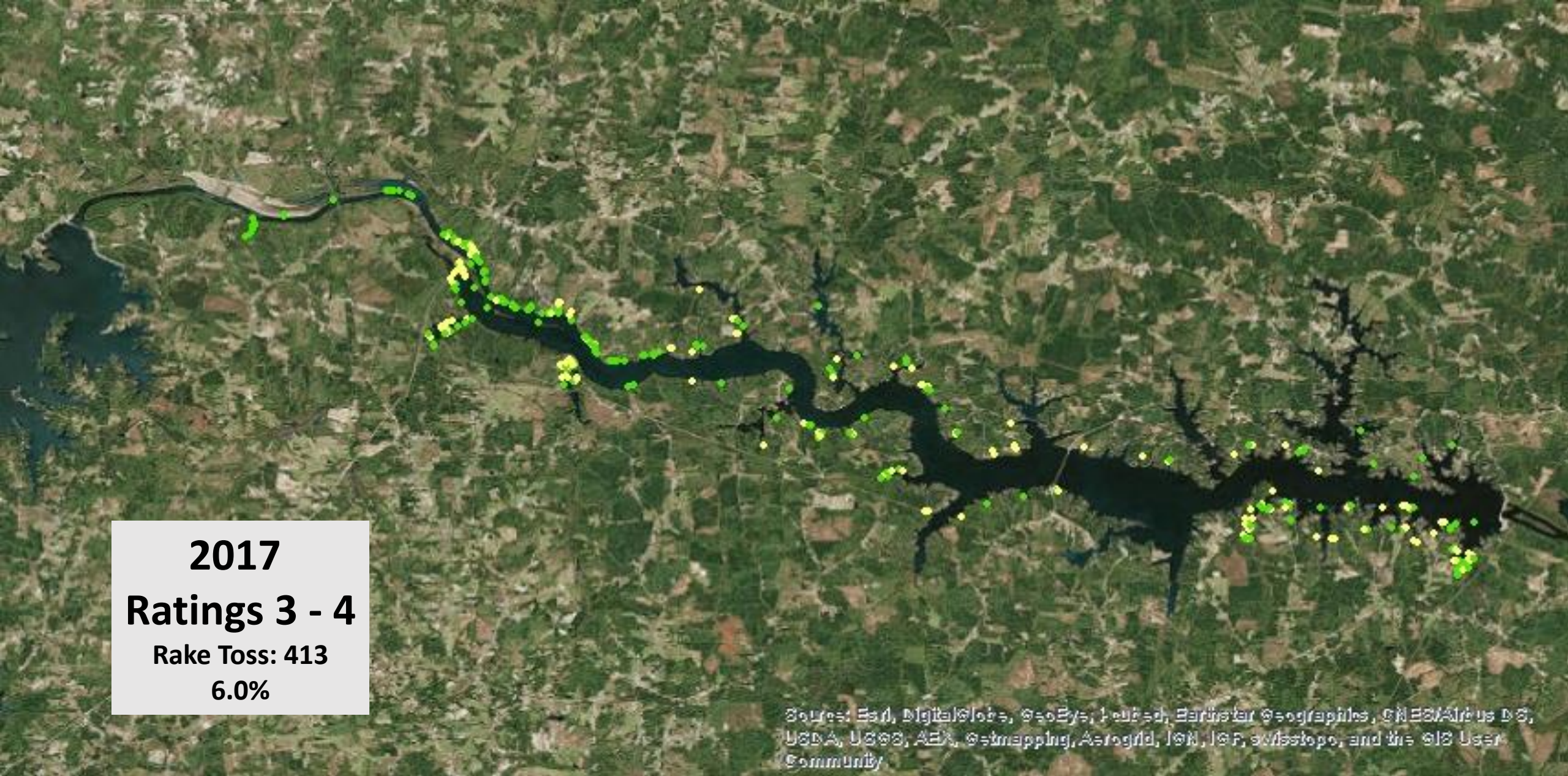
Lyngbya Rating System





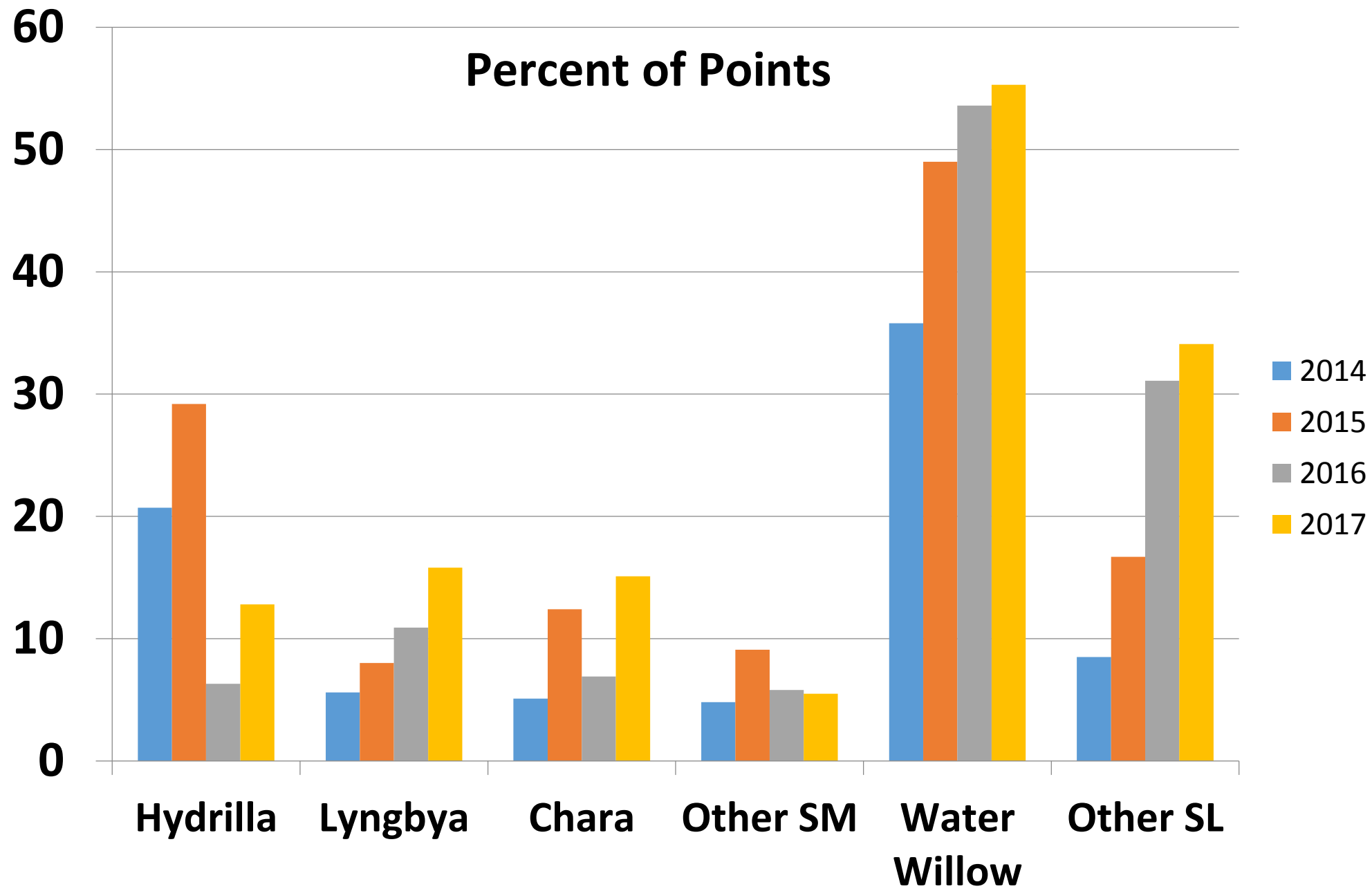
2017
Ratings 2 - 4
Rake Toss: 700
10.0%

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

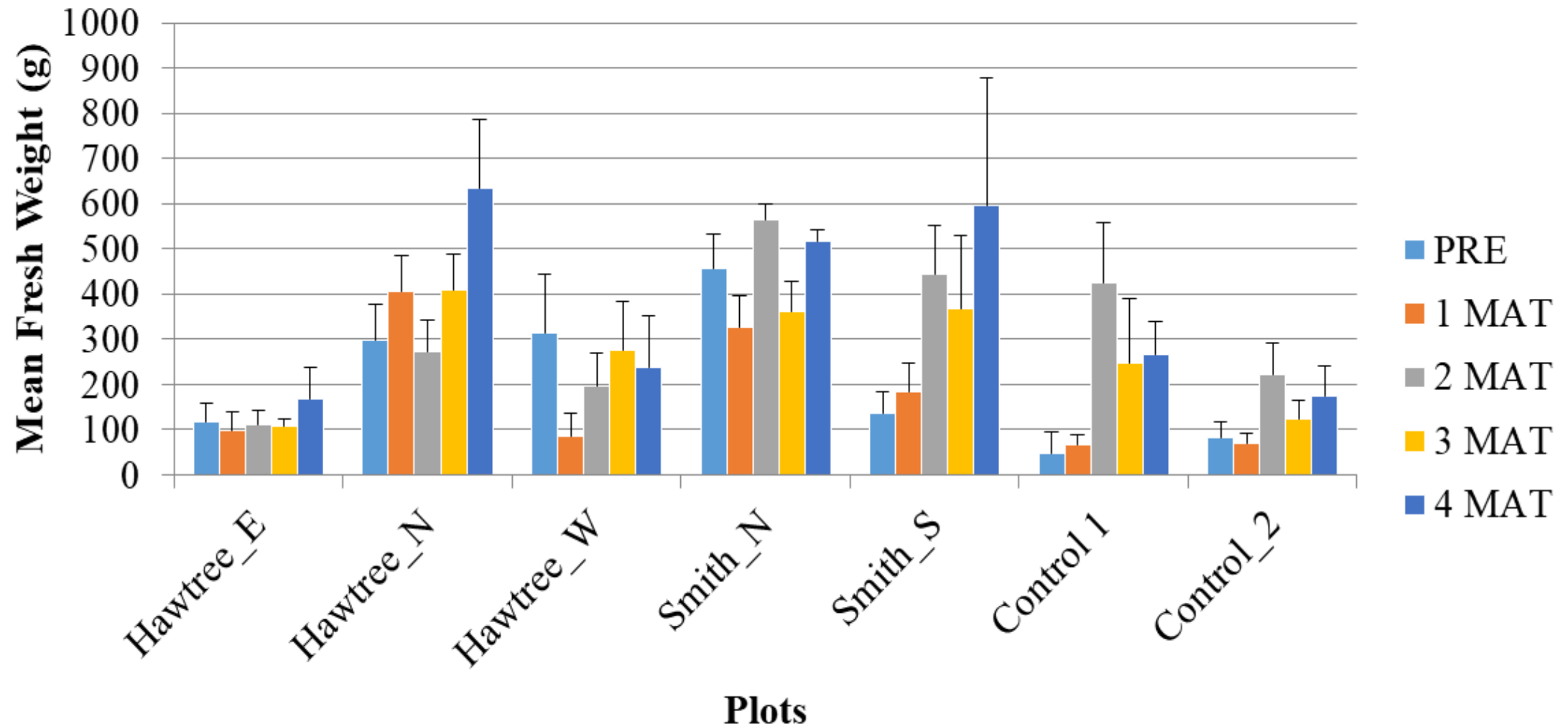


2017
Ratings 3 - 4
Rake Toss: 413
6.0%

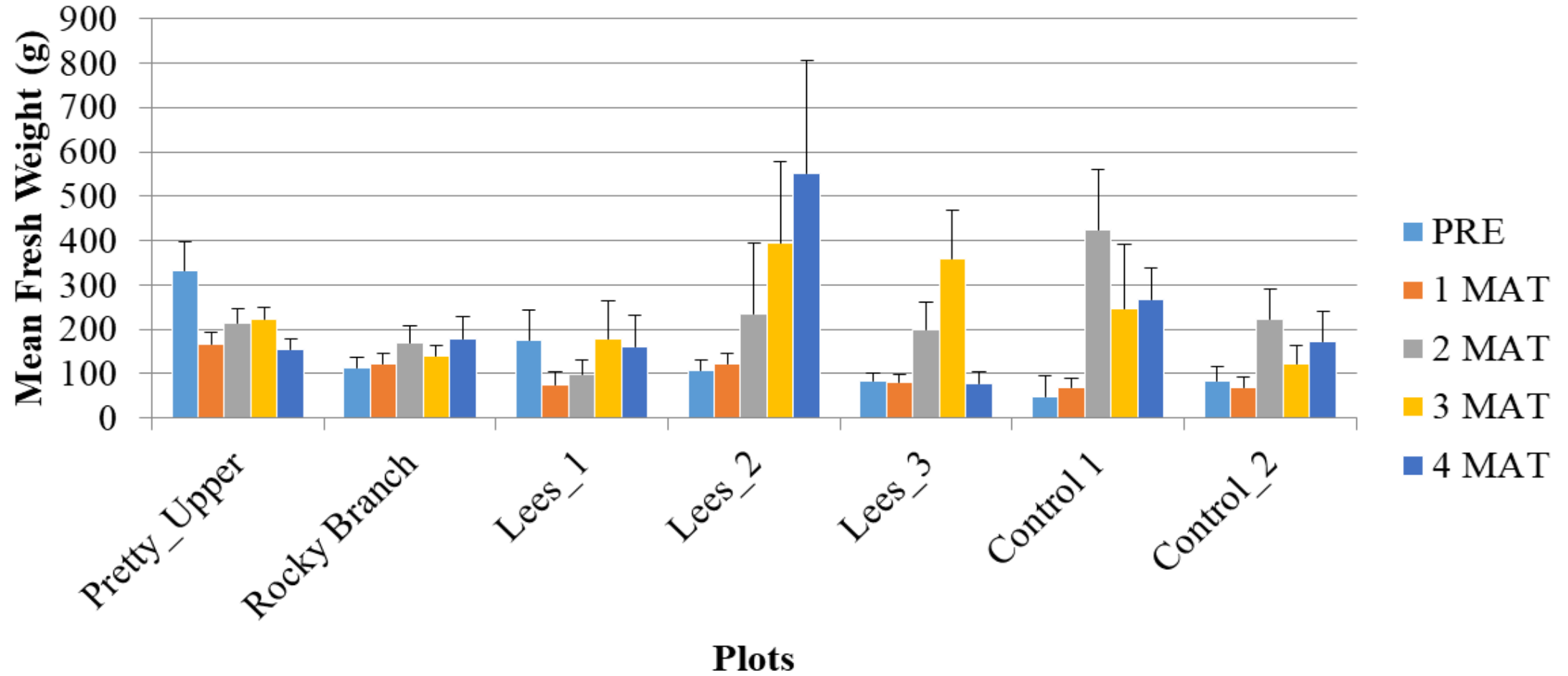
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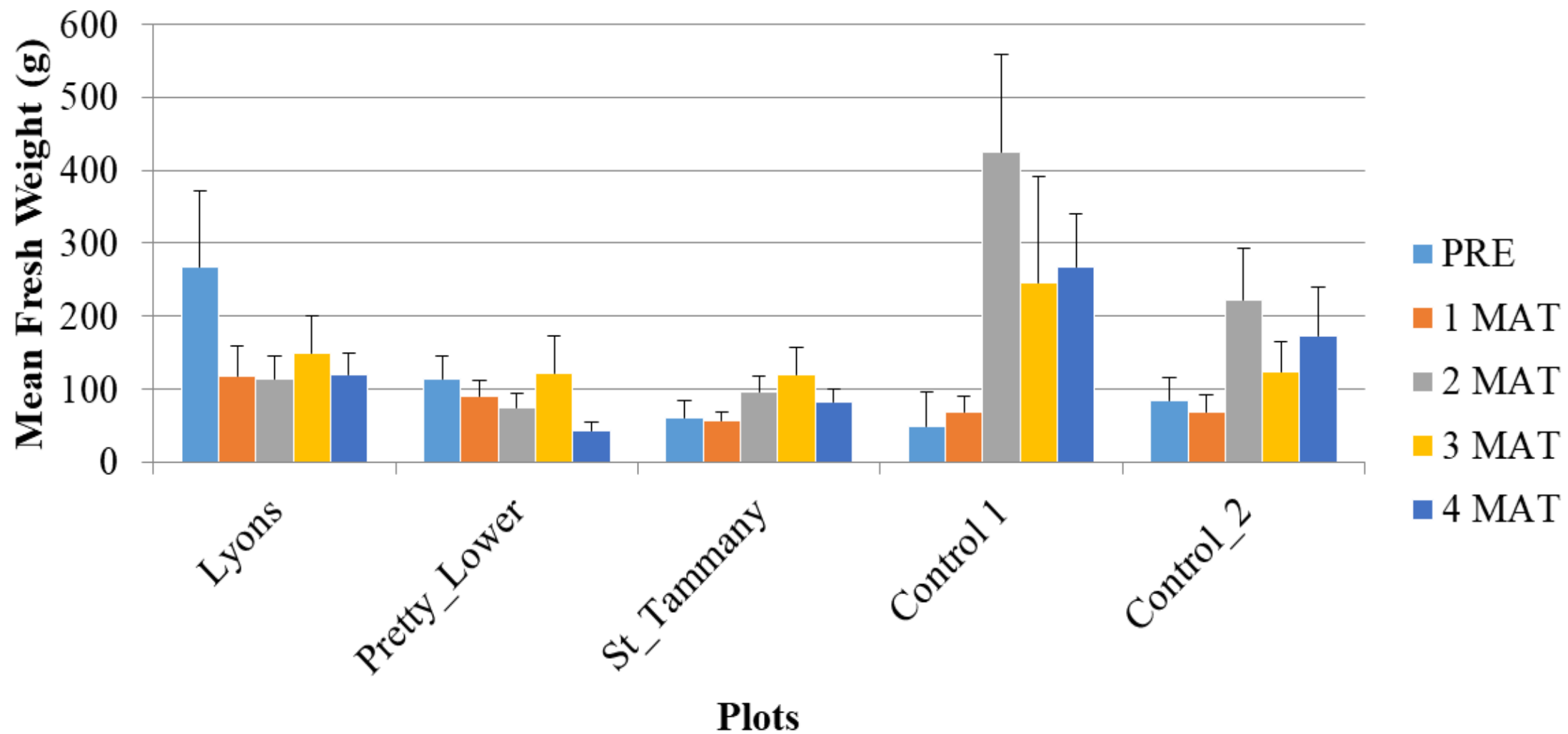
UPI/BIO



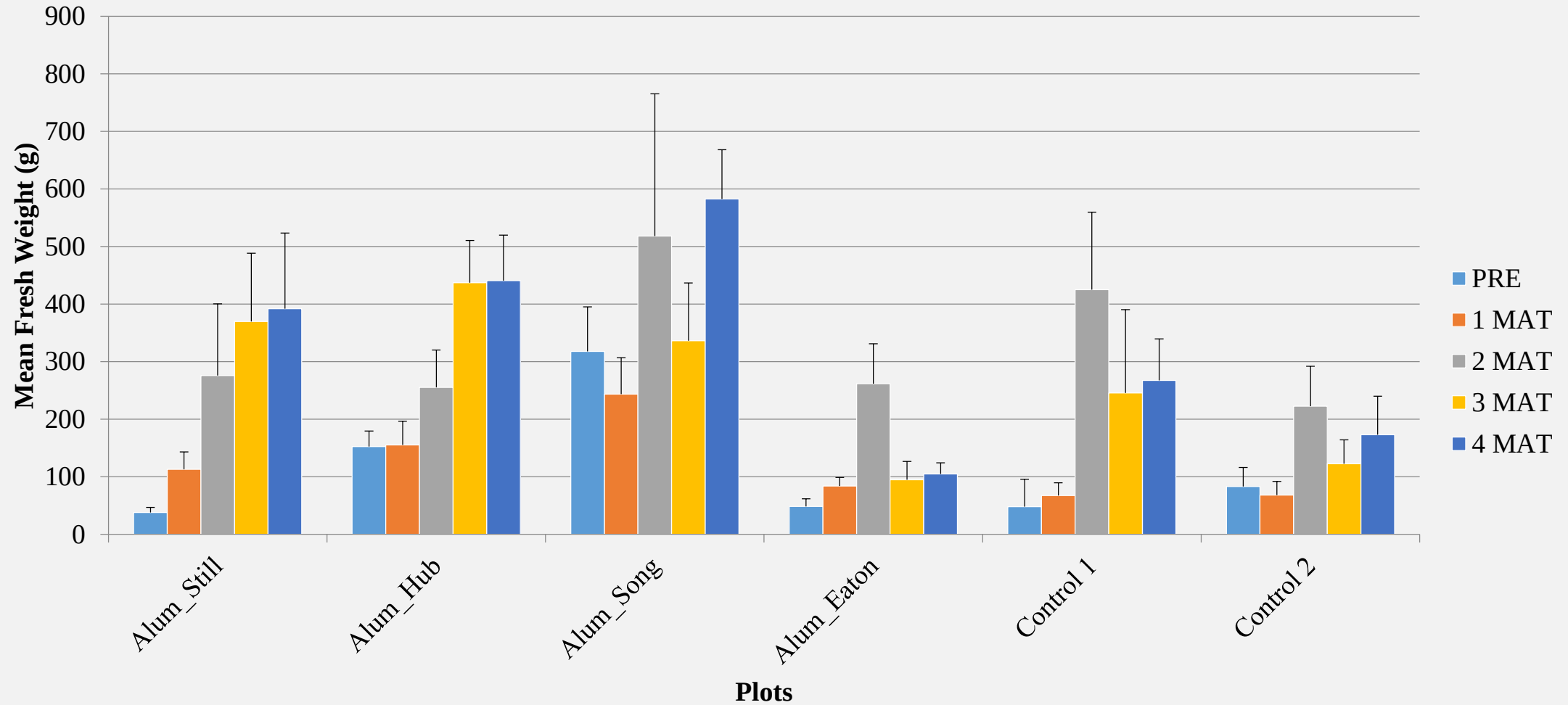
Lonza



SePRO



Alum Plots



Tag Recommendations 2018

Vegetation Project

- 1. Continue funding for 2018**
- 2. Put together an additional 3 to 5 year plan**
- 3. Volunteer labor – needed, but understand limitations**

Other

- 1. Water Willow – is this a problem TAG should address?**
- 2. Refer back to Dominion**

Tag Recommendations 2018

Hydrilla

- 1. Treat no more than 200 acres with herbicides**
- 2. Treat revegetation cage areas and adjacent areas as needed**
- 3. Stock crass carp in numbers to maintain population**

Lyngbya

- 1. Continue experimental/demonstration areas**
- 2. Applicator needs to improve techniques**
- 3. Add demonstration areas - new or different products / rates**

Questions?

Aquaticplants@ncsu.edu

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