

Chasing Monoecious Hydrilla from the Cayuga Inlet, Ithaca, NY

Adirondack
Region
Hydrilla
Workgroup

Bob Johnson

April 11, 2014



Cayuga L. Inlet Ditch
at Case Park Walkway
Aug 5, 2011 RLJ

To Finding Hydrilla in Fall Creek



2013 Cayuga Inlet Treatment

- Use of two herbicides
- (July 16, 2013) “June 26, 2012”
 - Aquathol K (endothall)
- (August 14 – October 15, 2013)
 - “July 12 – October 31, 2012”
 - Sonar Genesis (fluridone - liquid)
 - Sonar One (fluridone - pellet)

July 16, 2013 Endothall

- Allowed hydrilla to emerge and elongate to ~ 6 inches before the application, granting any late tuber germination.
- Within 3 days most plants died and turned into mush.
- No regrowth found.

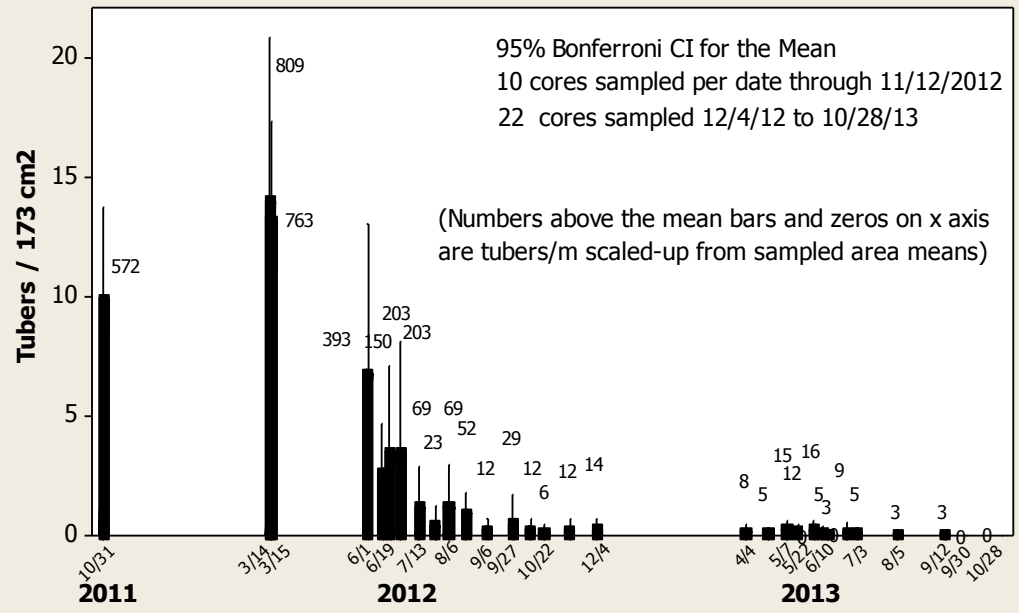
2013 Fluridone

- Sonar Genesis applied via boat and automatic injection units.
- Pellets applied in areas with low flow.
- Treatment started on August 14, 2013 and continued through October 15, 2013
- No growth observed in the Cayuga Inlet following the July 13, 2013 Endothall application through October 28, 2013

First ! The Positive Findings in the Cayuga Inlet

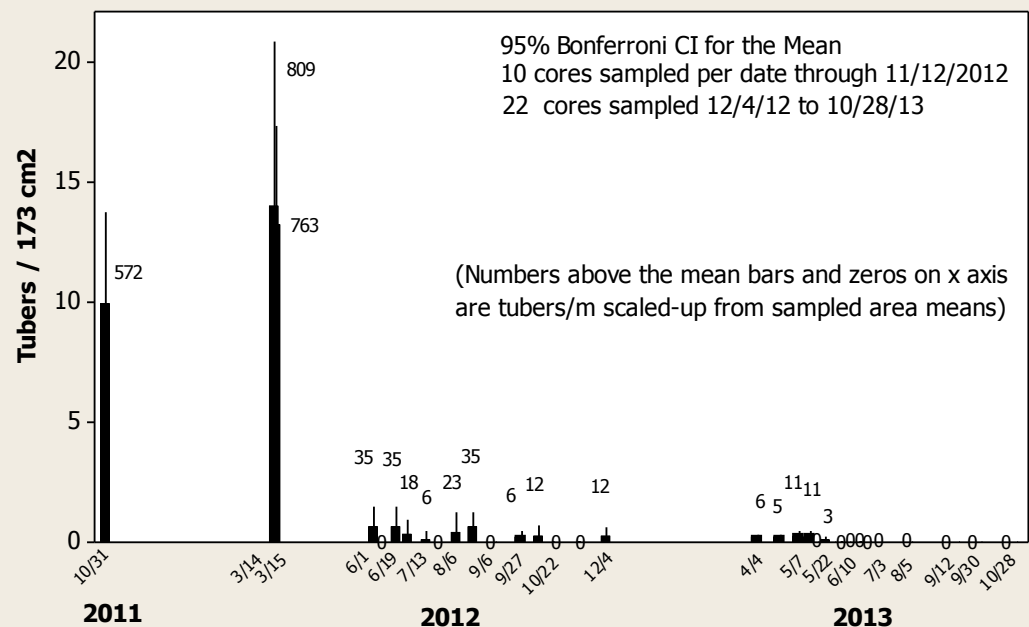
Results of Hydrilla Tuber Density Measurements

Sprouted + Unsprouted Tubers at Cayuga Inlet S of Rt 79 Bridge



0
3/19/14

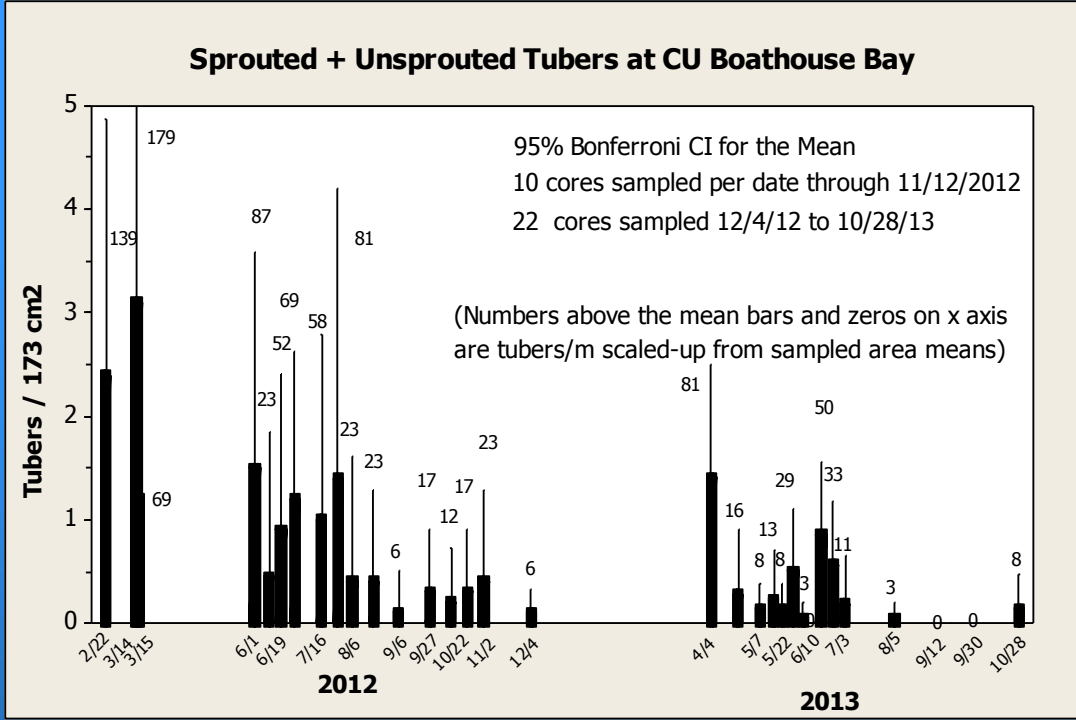
Unsprouted Tubers at Cayuga Inlet South of Rt 79 Bridge



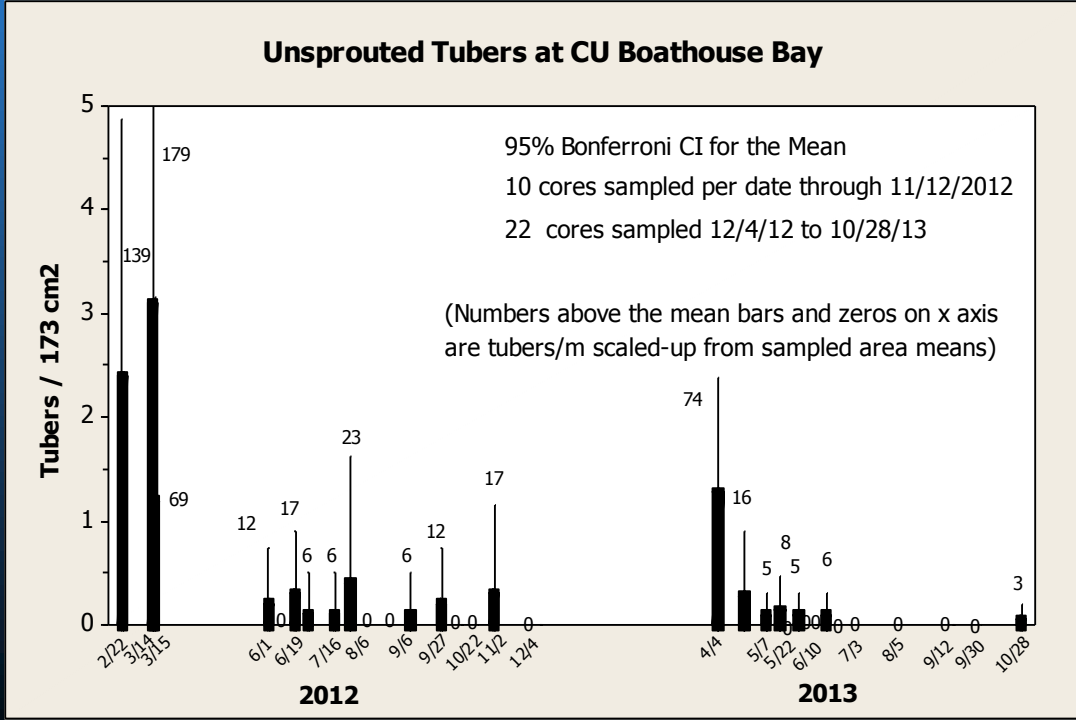
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Declining Tuber Densities Continued in 2013

Finding fewer unsprouted tubers that would germinate in the future

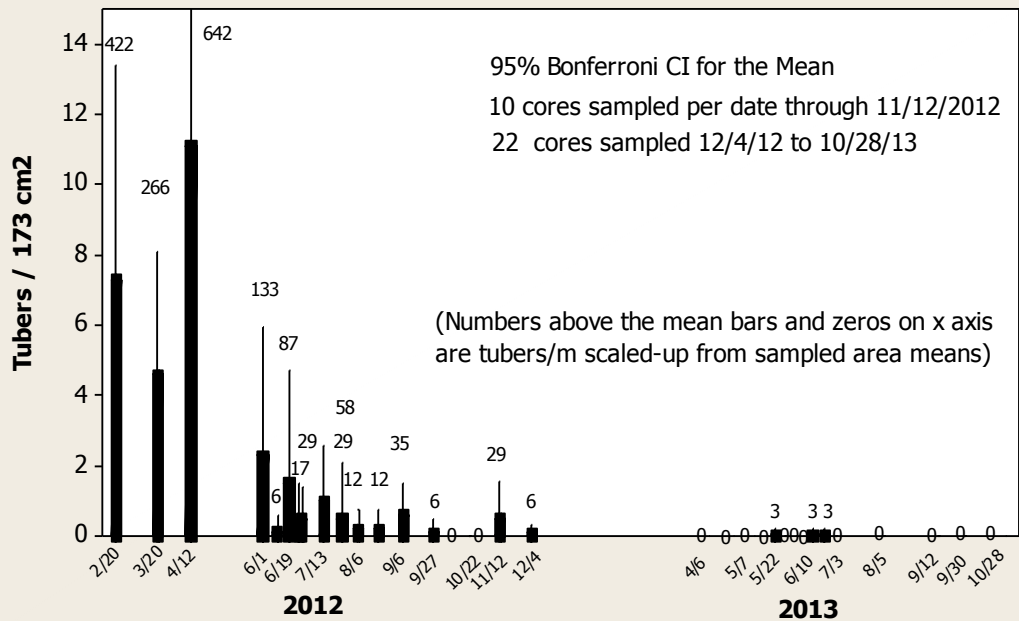


0
4/2/14



0
4/2/14

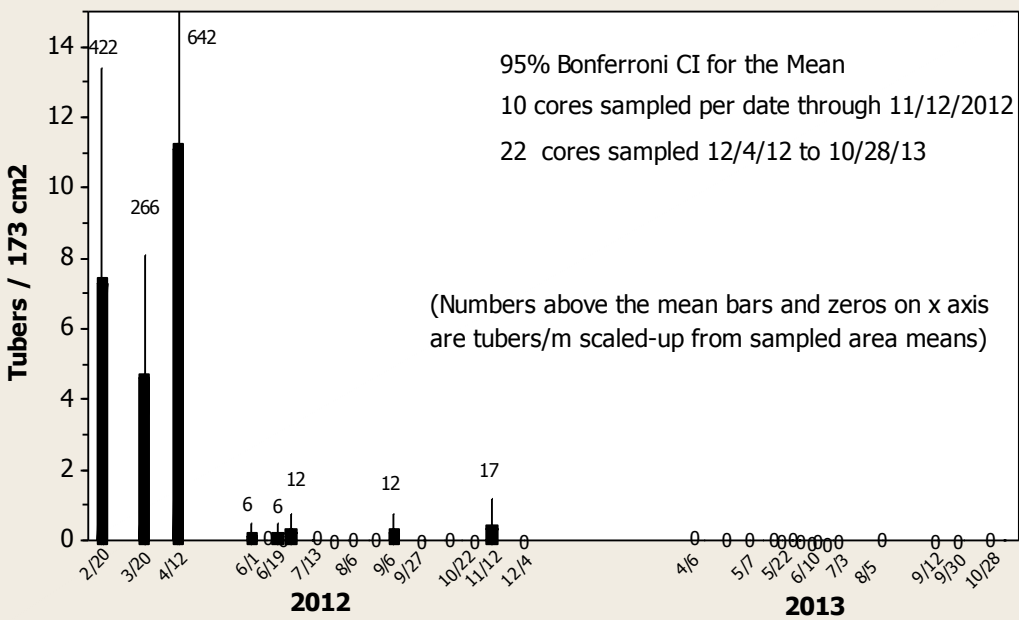
Sprouted + Unsprouted Tubers in Cayuga Inlet at Linderman



In the Cayuga Inlet at Linderman Creek we have not recovered any un-sprouted tubers since Dec 2012

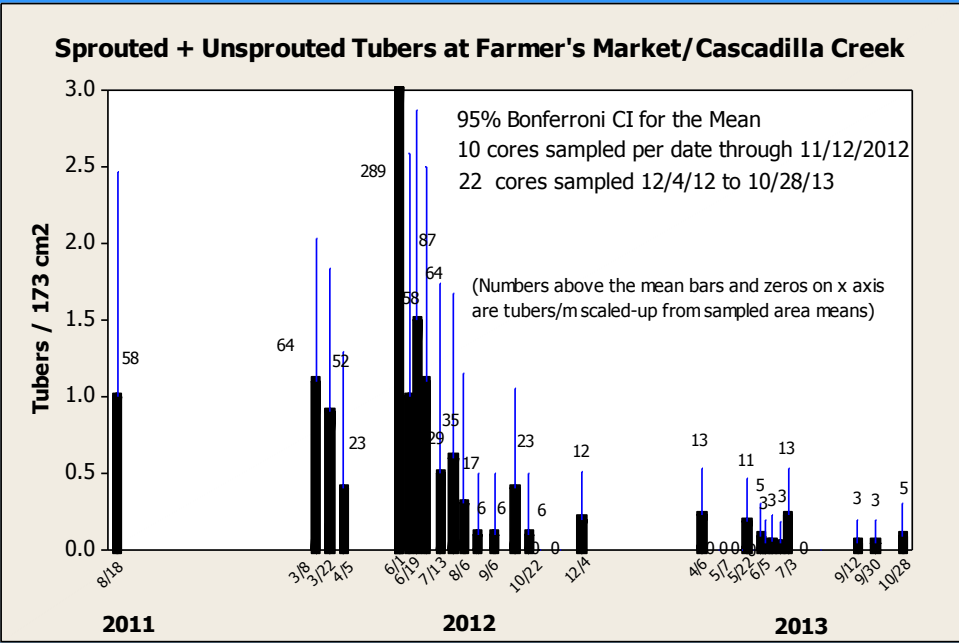
0
4/3/14

Unsprouted Tubers in Cayuga Inlet at Linderman



0
4/3/14

At Farmer's Market / Cascadilla Creek we have not recovered any unsprouted tubers since April 6, 2013



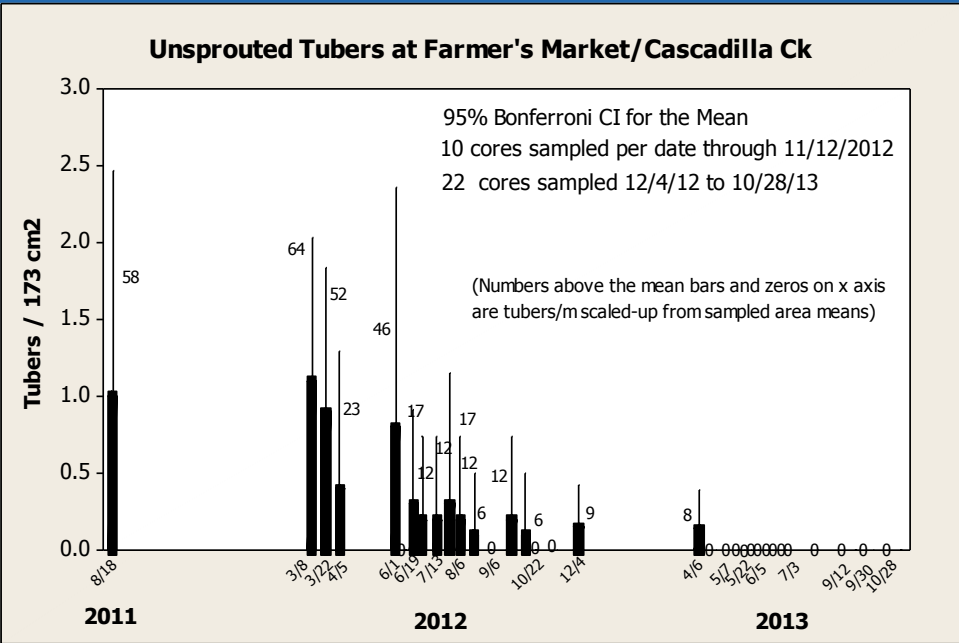
**0.045 tubers / 273 cm²
or 1.6 tubers / m²**

4/2/14



0

4/2/14





**Sprouted at Farmer's Market but
not frozen in 2013 -2014 winter**

**Frozen in 2013-2014
winter ~ 3months**

**Frozen in 2013 -2014
winter ~ 3 months**



12+ months (~375 days) since planting tubers and ~ 11 months since germination and sprout formation, however no emergence



Depth planted ~ 7 in



Elongated sprouts for 10 months



Sprouts 3 to 4 inches in length



100 % grow when placed in light

Tuber Sampling from Inlet



*Start of Lake's
Rake Toss Plant
Survey finds
Hydrilla in Fall
Creek*



August 8, 2013



*Overnight of
August 8 and
into the 9th
Large Storm
Occurs*



*August 10th
water receding
at Fall Creek*



*Lots of
Hydrilla
swept into
the lake*

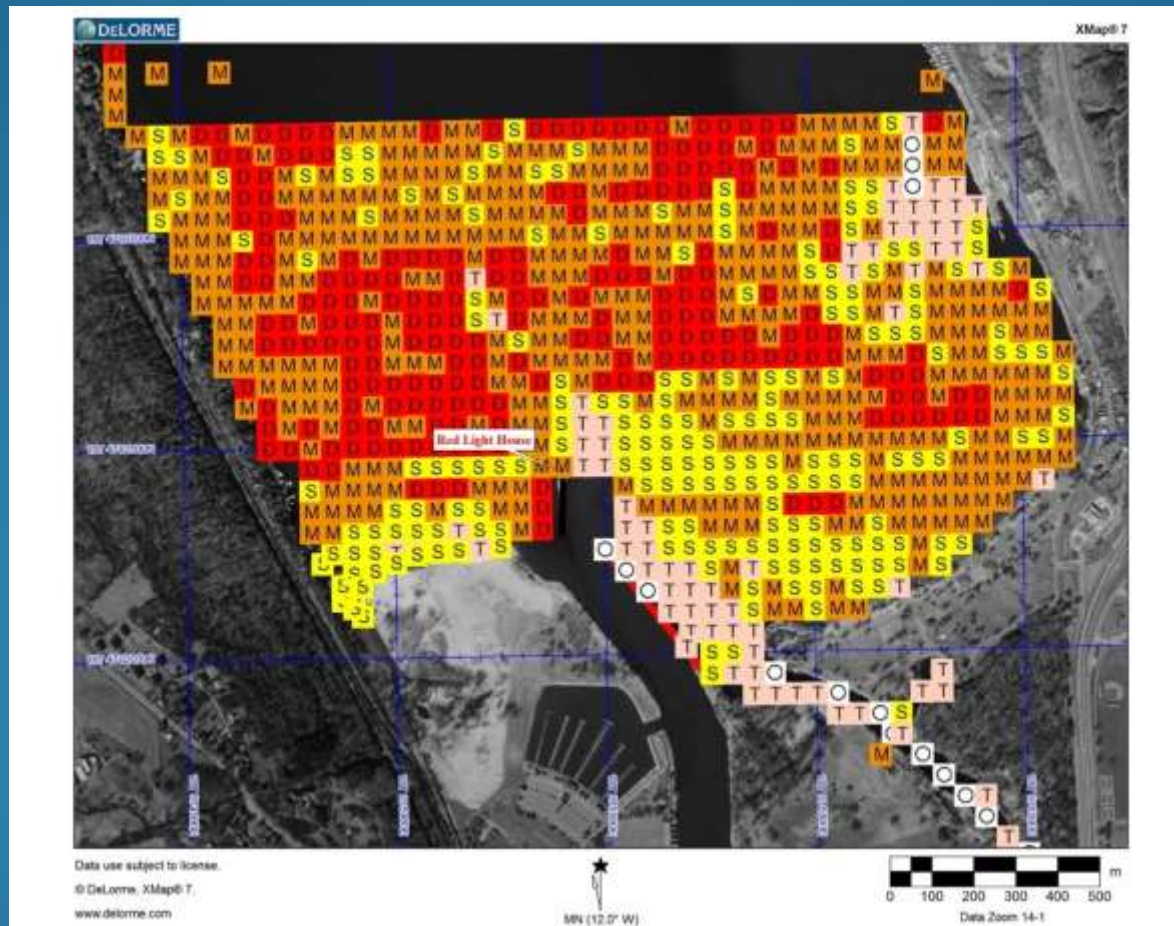


*Sediment
Plume
extends
>1 mile north*

2013 Rake-toss plant survey of 1535 locations or 3070 rake tosses in Cayuga Inlet and Southern Cayuga Lake



Evaluation of Plant Species' Diversity and Abundance in southern Cayuga Lake while Searching for Hydrilla using 2 Rake-tosses on a 50X50m UTM Grid



*During the
Lake Rake-
toss
Survey
found
Hydrilla*



*August 21,
2013*

Three patches found in Southeast corner in ~ 40 inches of water depth



Hand removal first, then benthic barrier placed on bottom over removal area

Attempted to remove all plant material with this large bed likely producing the smaller bed next to it by a stem runner



*Smaller patch
north of other
two hydrilla
beds*



No Tubers
found in
this smaller
bed

*Plants removed by hand on Aug. 28, 2013
were beginning to initiate rhizomes that
would produce overwintering tubers late
Summer and Fall 2013 in Cayuga Lake*



*On Aug. 28, 2013
“New”
overwintering
tubers had
already begun
forming with our
finding of fully
formed and large
tubers on the
“Mother Plant” of
the larger bed.*

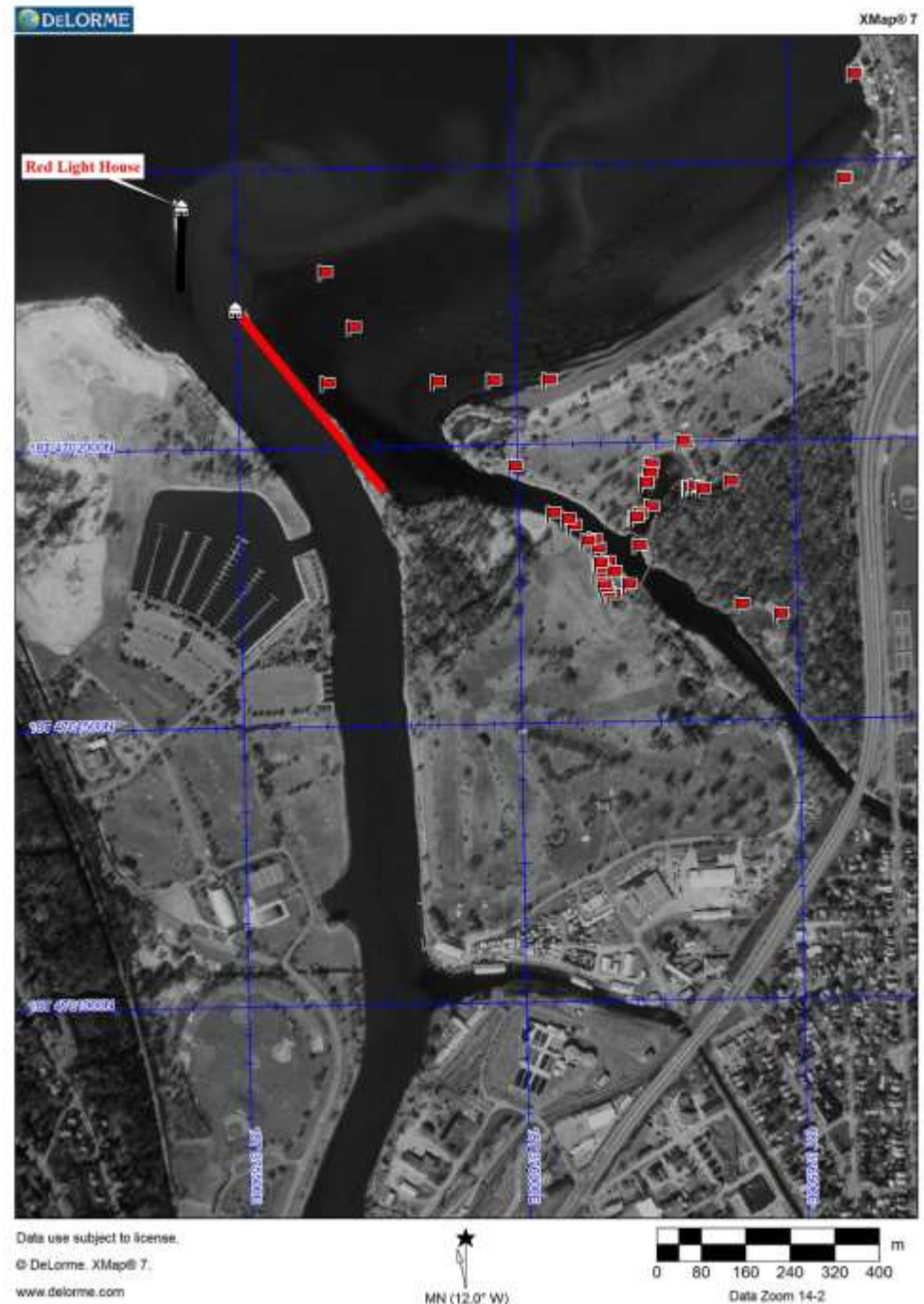


*Sampling the Fall
Creek Hydrilla just
before Sept. 26th
Endothall
application*



*2013 hydrilla finds
in Fall Creek
before Endothall
Treatment on
September 26th*

*Lake areas were
not treated with
herbicide*



*Lush Hydrilla
Growing in
November 2013
along Fall Creek
after Endothall
Treatment on
September 26th*



*Difficult
herbicide
application
areas*



Thanks to the NYS
and Local Ithaca
Hydrilla Task
Forces

*Questions
???*