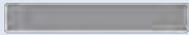


Hydrilla (*Hydrilla verticillata*) in the Croton River System: 2014 and 2015

By Chris Doyle
Sr. Aquatic Biologist



July 1, 2016

SOLITUDE
LAKE MANAGEMENT

Restoring Balance. Enhancing Beauty.

Initial Discovery

October 19, 2013

- NY Botanical Garden Survey
- Confirmed by S. Kishbaugh
 - NYSDEC
- Rooted Plants and Non-rooted fragments observed
- 2014 Point Intercept SAV Survey conducted by Allied Biological, Inc.

SOLITUDE
LAKE MANAGEMENT

CROTON RIVER INITIAL HYDRILLA DISCOVERY OCTOBER 2013

Allied
Biological



2014 Survey Results

GPS-Referenced Point Intercept Survey:

- Similar to methods employed at Cayuga Inlet
 - 50 m grid
 - 2 rake tosses per site
- 354 Sites in Nine Locations
- **Hydrilla was collected/observed at 42.3% of the sites surveyed**

2014 HYDRILLA OCCURRENCE IN THE CROTON RIVER



Funding for this project was coordinated through the LH PRISM provided from the Environmental Protection Fund as administered by the New York State Department of Environmental Conservation



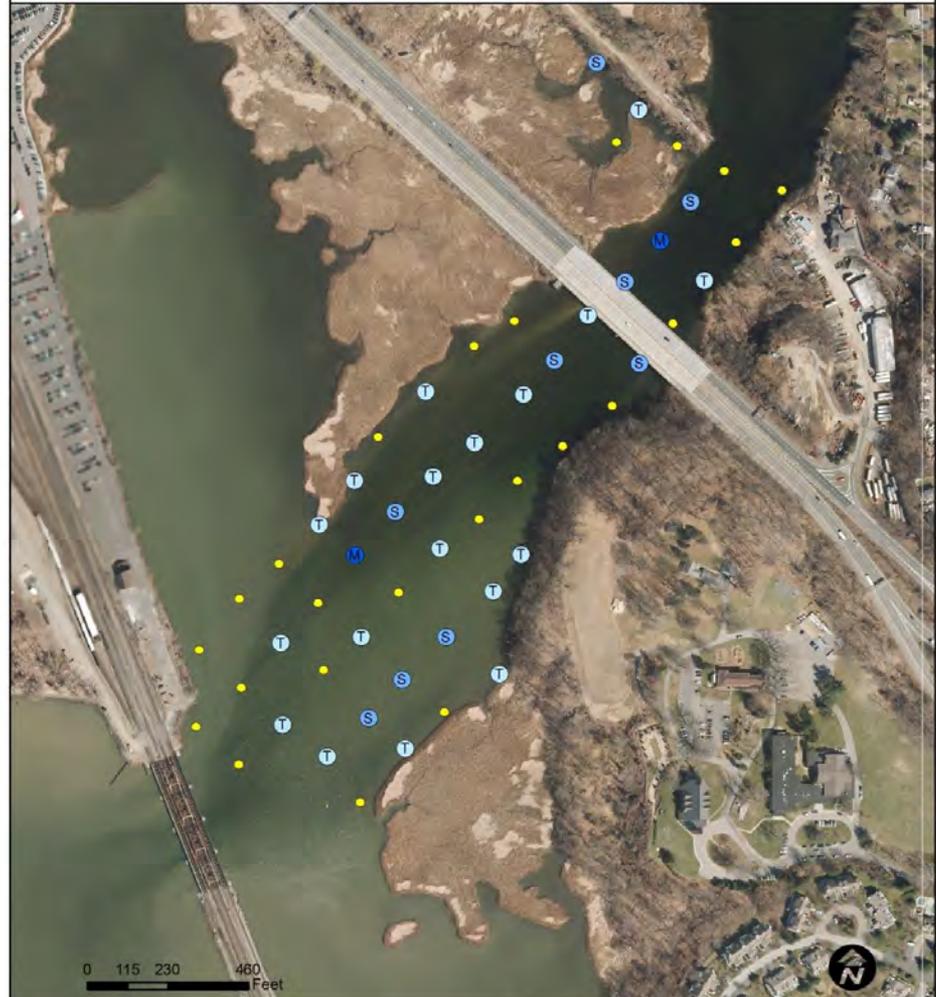
2014 Survey Results

Selected 2014 Distribution/Abundance Maps:

- Location B2
- Location B4
- In 2015, volunteer SAV mapping was conducted in part of the River



Hydrilla (*Hydrilla verticillata*) Distribution



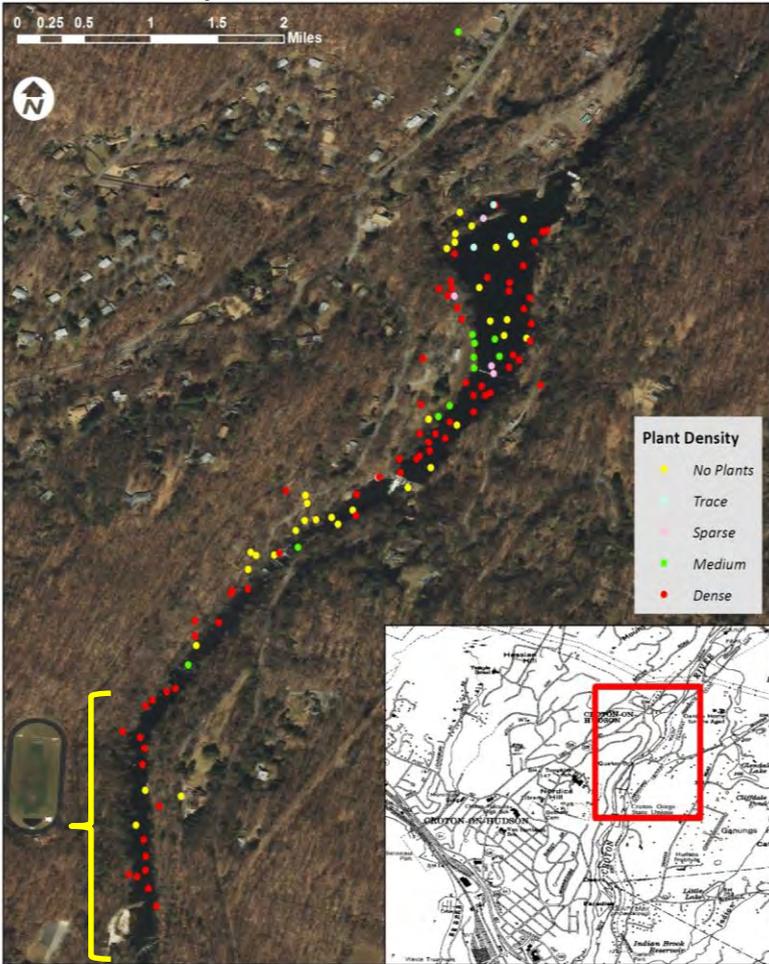
**Croton River - Section B2
Aquatic Vegetation Survey
August 26, 2014**

53 Sites

Percent Distribution	Abundance	Sites	Percent
	Total	29	55%
	Trace	18	62%
	Sparse	9	31%
	Medium	2	7%
	Dense	0	0%

Plant Density	Symbol
No Plants	Yellow circle
Trace Plants	Light blue circle
Sparse Plants	Medium blue circle
Medium Plants	Dark blue circle
Dense Plants	Red circle

2015 Hydrilla Abundance/Distribution



Hydrilla (*Hydrilla verticillata*) Distribution



Croton River - Section C
Aquatic Vegetation Survey
August 20, 2014

13 Sites

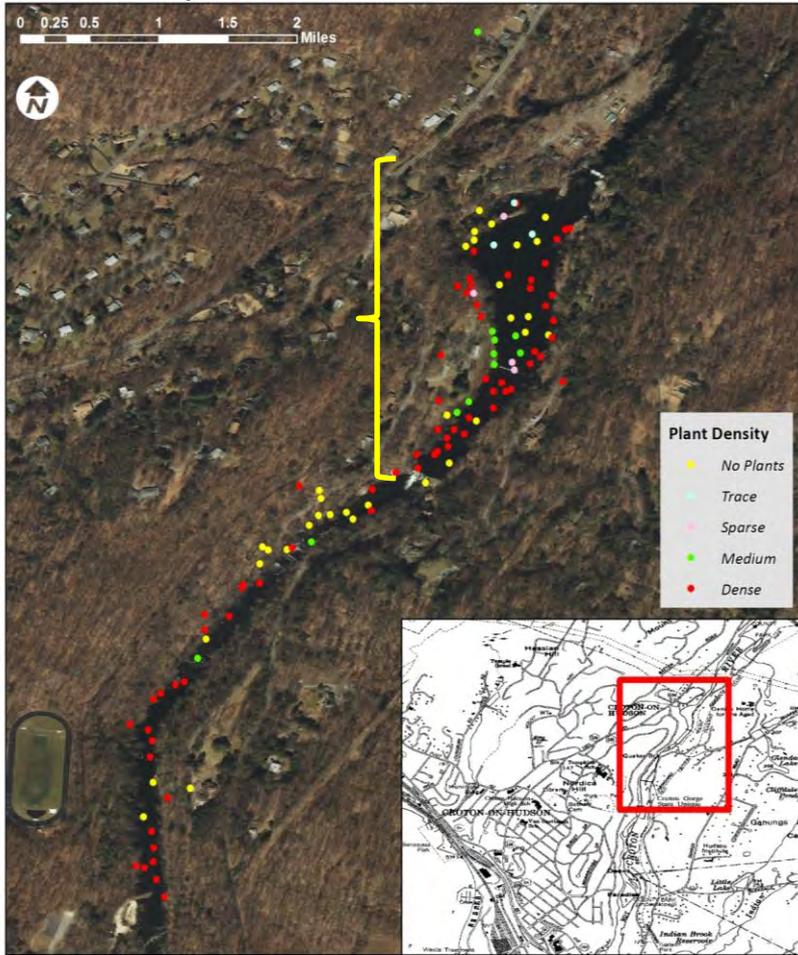
Percent Distribution	Abundance	Sites	Percent
	Total	4	31%
	Trace	3	75%
	Sparse	1	25%
	Medium	0	0%
	Dense	0	0%

- Plant Density**
- No Plants
 - Trace Plants
 - Sparse Plants
 - Medium Plants
 - Dense Plants

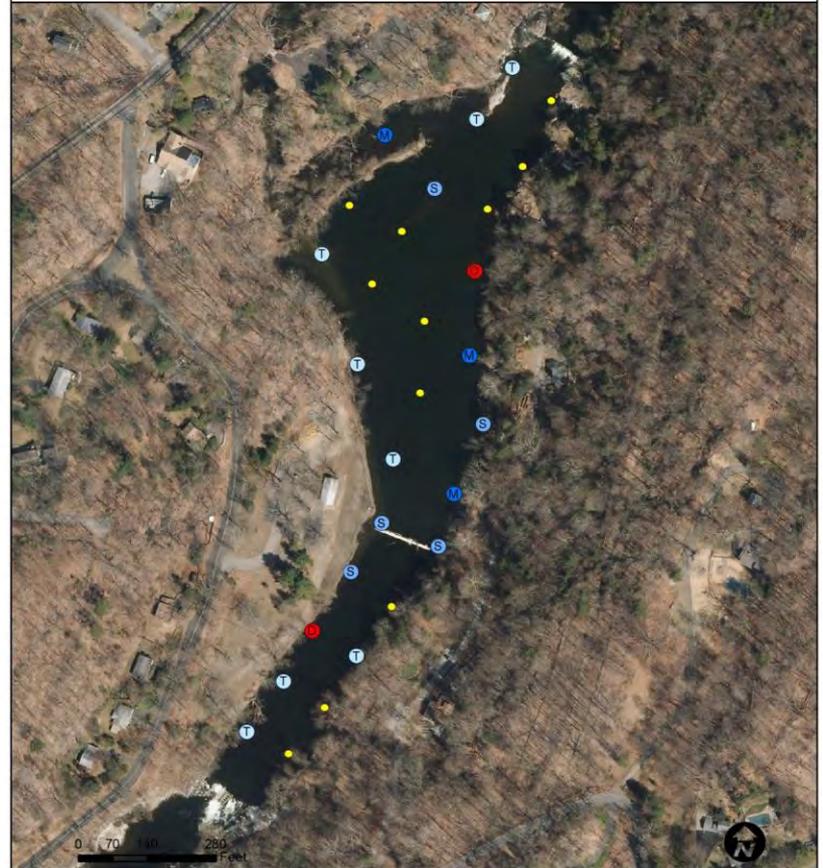


Restoring Balance. Enhancing Beauty.

2015 Hydrilla Abundance/Distribution



Hydrilla (*Hydrilla verticillata*) Distribution



Croton River - Section D
Aquatic Vegetation Survey
August 20, 2014

29 Sites

Percent
Distribution

Abundance	Sites	Percent
Total	18	62%
Trace	8	44%
Sparse	5	28%
Medium	3	17%
Dense	2	11%

Plant Density

- No Plants
- Trace Plants
- Sparse Plants
- Medium Plants
- Dense Plants



Restoring Balance. Enhancing Beauty.

Black Rock Park 2014/2015

Pictures: M. Heilman



October 30, 2014



October 14, 2015

SOLITUDE
LAKE MANAGEMENT

Restoring Balance. Enhancing Beauty.

Black Rock Park 2014/2015

Pictures: M. Heilman



Looking upstream at Black Rock Park – 10/30/2014

SOLITUDE
LAKE MANAGEMENT

Restoring Balance. Enhancing Beauty.

2015 Hudson River Survey

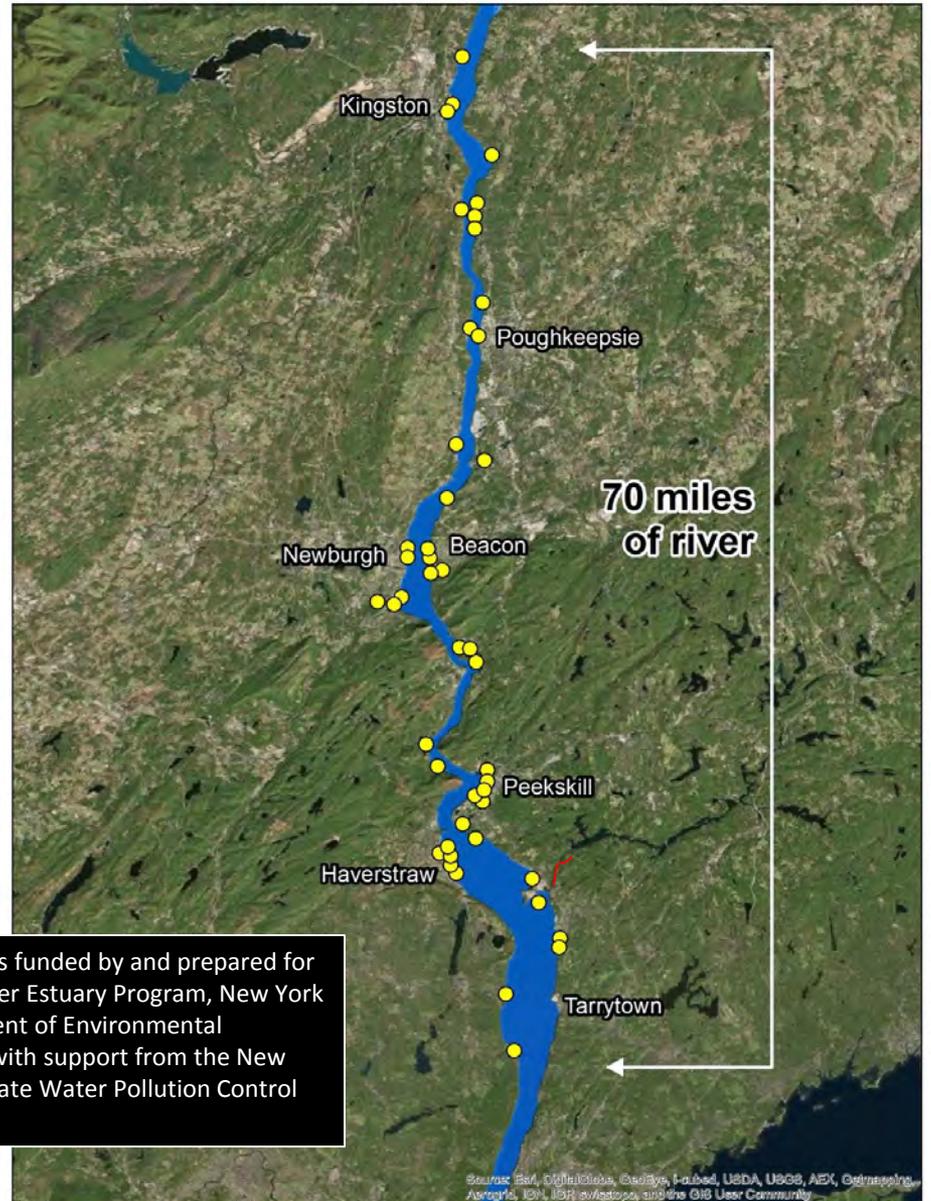
46 Survey Locations

- 0.7 acres to 639 acres
- Open water, tributaries, backwater bays, marinas
- Locations Selected by NYSDEC
- 70 mile stretch of the Hudson River

**No Hydrilla Documented
at Any Locations 😊**

SOLITUDE
LAKE MANAGEMENT

This Project was funded by and prepared for the Hudson River Estuary Program, New York State Department of Environmental Conservation, with support from the New England Interstate Water Pollution Control Commission

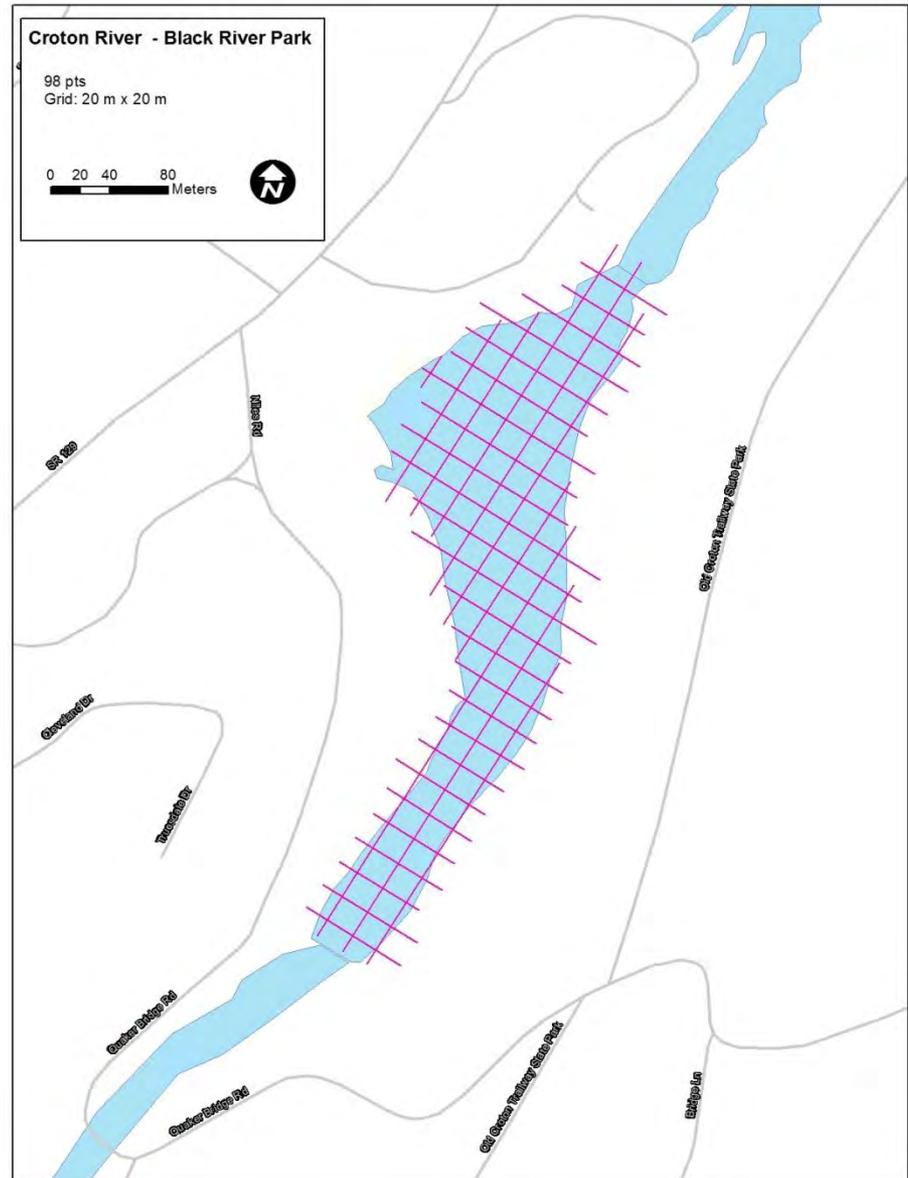


2016 Croton River River Monitoring

Pre and Post Survey Events

- July and September
- Five Locations
- ~450 GPS-referenced sites
- 2 Rake Tosses/site
- Tuber Sampling in Fall

Funding for part of this project was coordinated through the LH PRISM provided from the Environmental Protection Fund as administered by the New York State Department of Environmental Conservation

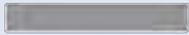


Thank You!

Chris Doyle

Sr. Aquatic Biologist

cdoyle@solitudelake.com



SÖLITUDE
LAKE MANAGEMENT

solitudelakemanagement.com • 888.480.LAKE

July 1, 2016