

Water Chestnut (*Trapa natans*) Removal and Monitoring in the Erie Canal, Tonawanda, New York, USA



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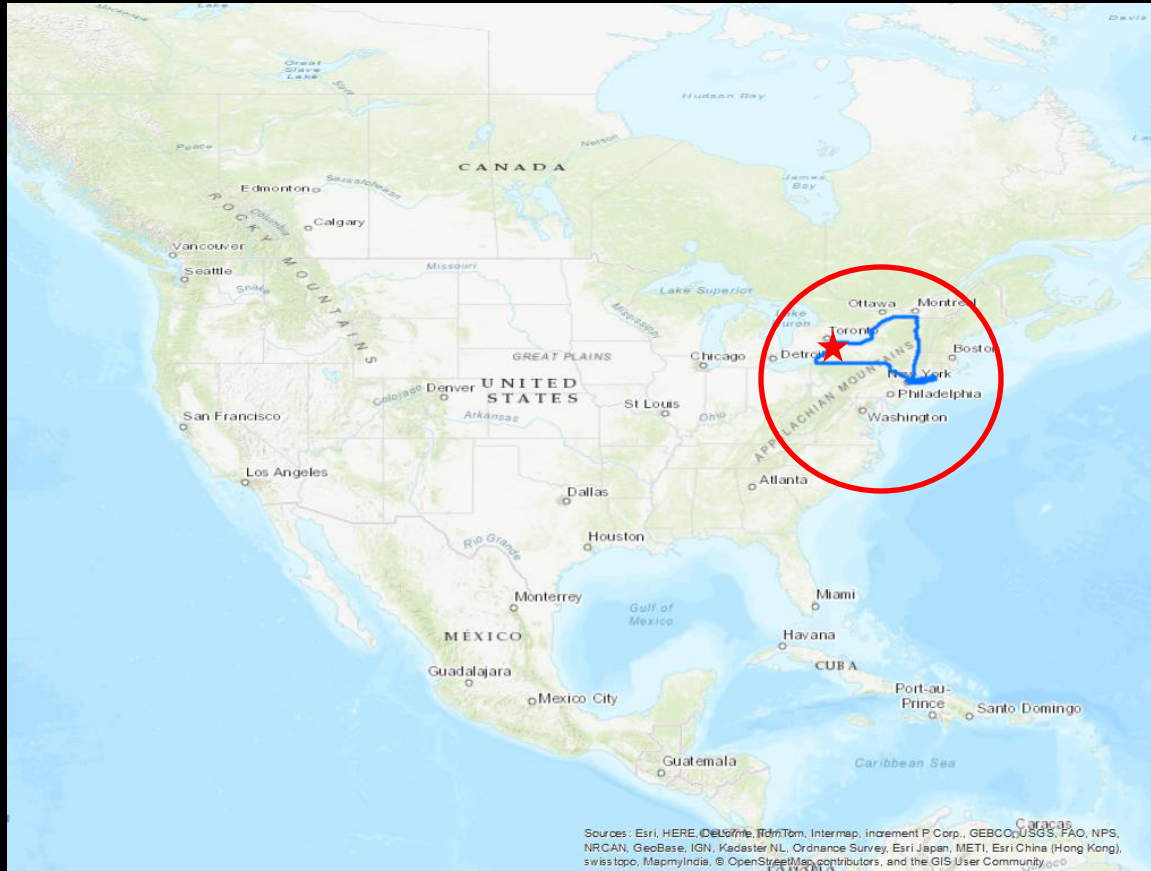
U.S. Fish and Wildlife Service
Lower Great Lakes Fish and Wildlife Conservation Office
Basom, NY



The Story



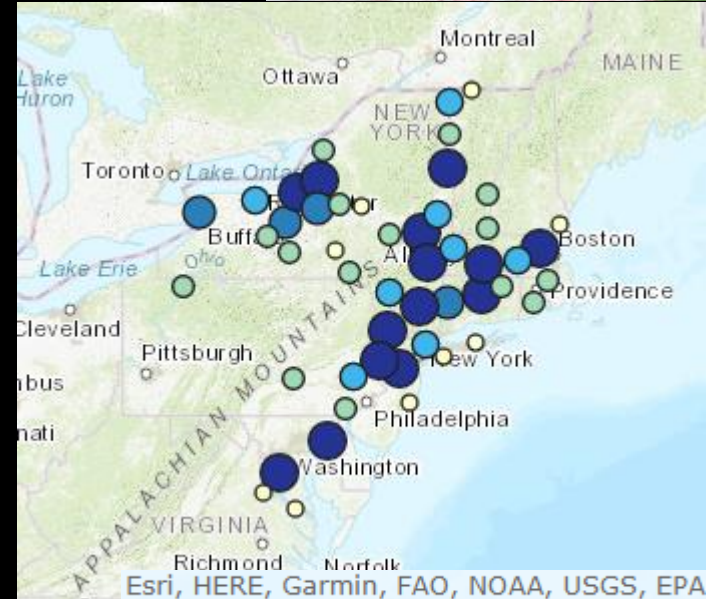
Our Story Takes Place...



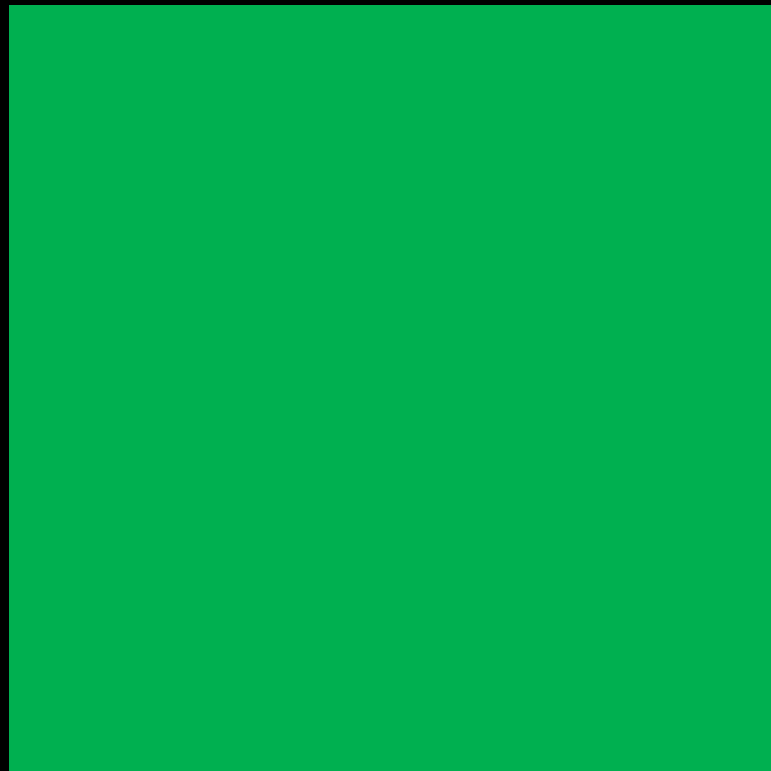
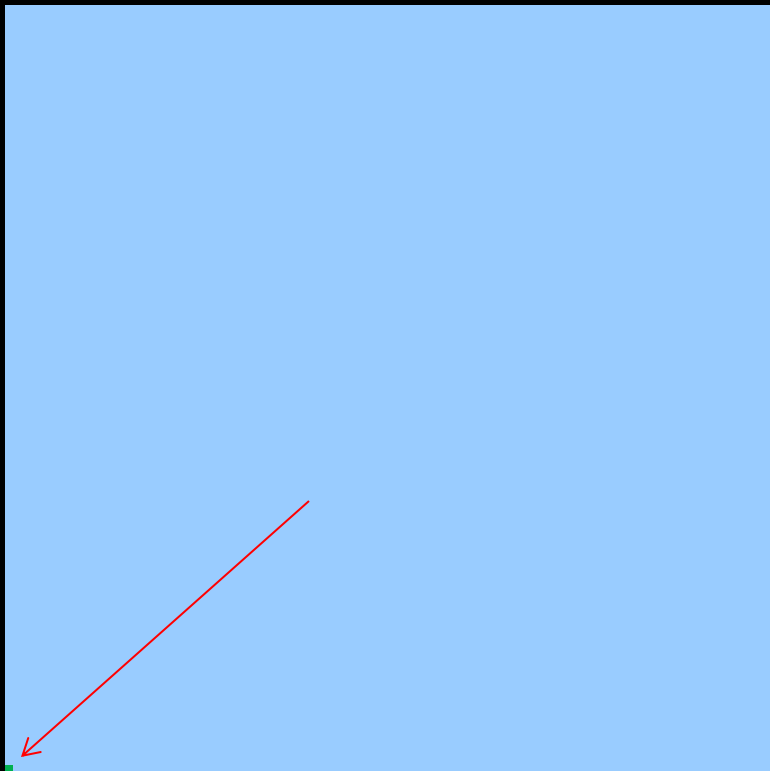
Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Water Chestnut Biology

- Annual, from seeds
- Slower water, depths <16 ft
- Multiple rosettes on one plant
- Single plant produces enough seeds for >100 plants next year



Ability to Spread



Impacts of Water Chestnut

- Prevents recreation
- Alters water temperature and chemistry
- Limits fish and bird habitat



Erie Canal



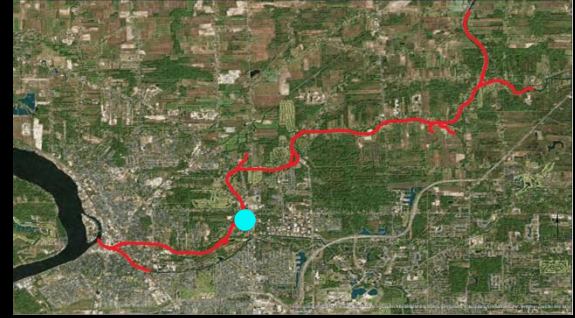
Initial Discovery

- June 26, 2008
 - 60% coverage of a 6 acre area
- 1,880 lbs removed by hand pulling



The Second Year

- 2,500 lbs removed
- 3-4,000 lbs remain
- Hand-pulling not providing control





NY26

Niagara County

Erie County



NY28

City of North Tonawanda

**Ellicott
Creek Park**

Town of Amherst

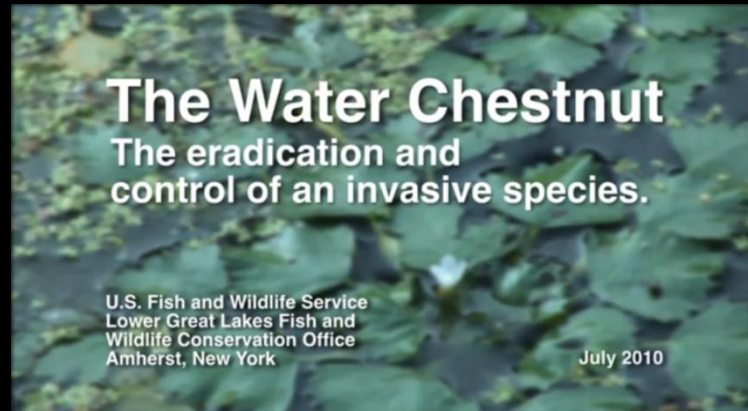
Development of Long Term Plan

- Working group with 9 partners
- 4 goals: eradication, spread and re-establishment prevention, and regional coordination



Public Outreach

- Marina signs
- Watch cards
- Direct mailing
- News stories
- YouTube video



Property Owner Support



Population Explosion

- 2010: 400% increase in mass
- 50 volunteers
- Removed 192,000 lbs



More Efficient in 2011

- Addition of excavator
- 44 staff and volunteers
- Removed 151,000 lbs



2010-2012 Progress

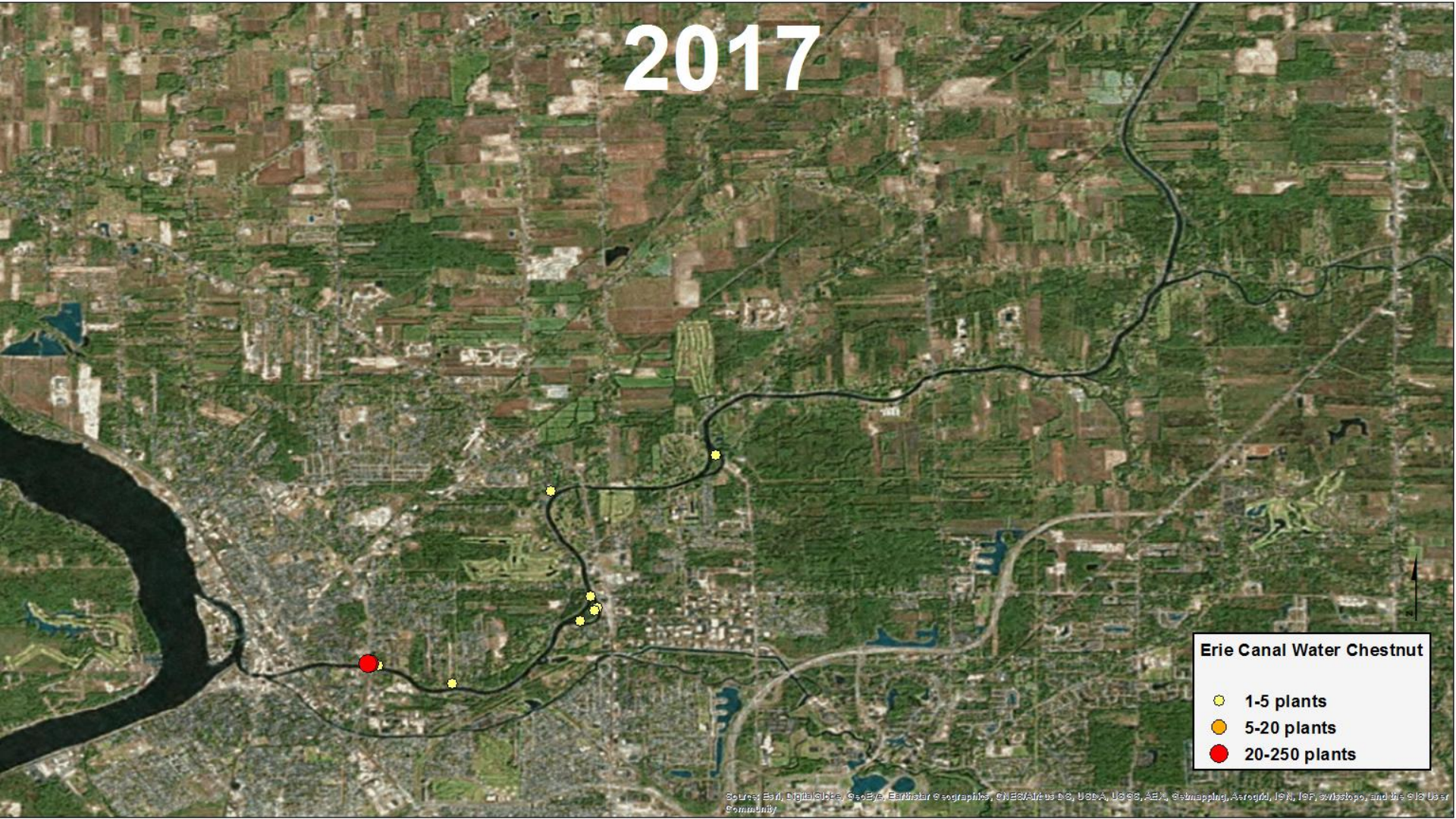


Beginnings of Success

- 2012-2014 dedicated season long removal
- 2015-2017 Time targeted removal, 1-2 weeks
- Fewer plants -> more strategic with effort



2017



Sustaining the Success

- Continued monitoring
- Continued outreach
- Targeted hand pulling



The End...But Not Really

