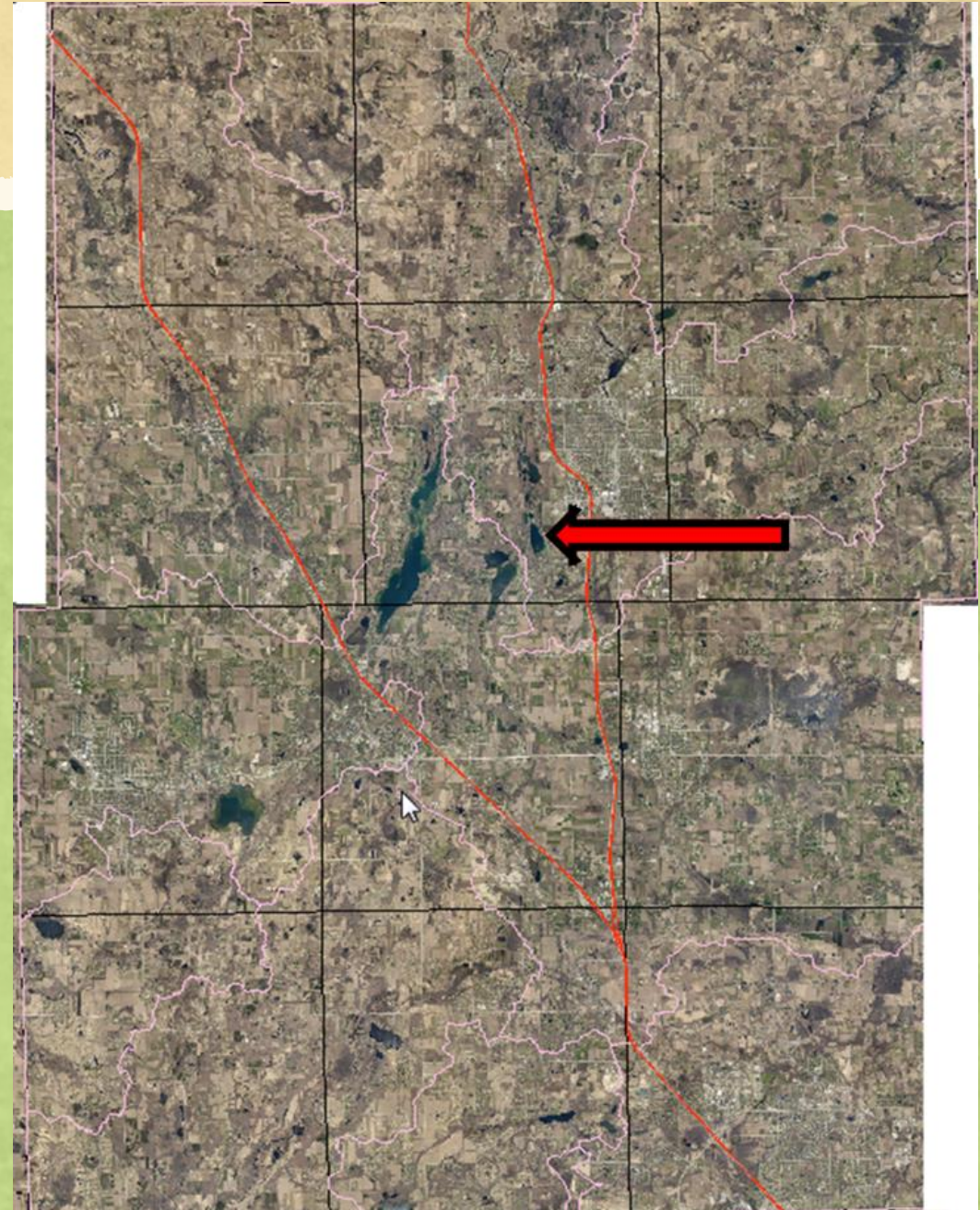
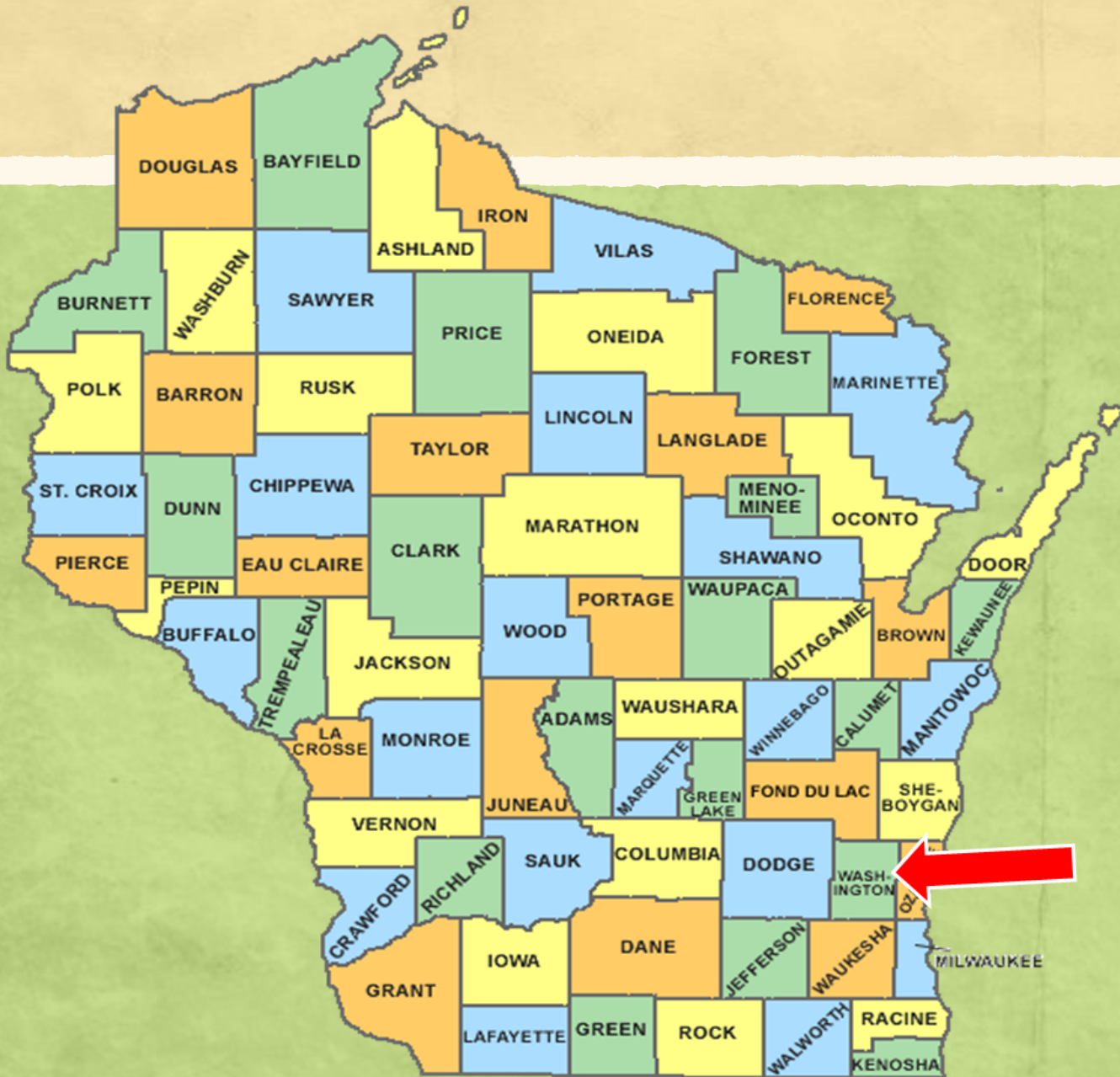


Starry Stonewort (*Nitellopsis obtusa*) Removal Using Diver Assisted Suction Harvesting

– Silver Lake, Washington County, WI

Brad Steckart, Aquatic Invasive Species Coordinator for
Washington and Waukesha Counties
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Silver Lake – Washington County, WI



Starry Stonewort Invasion – Discovered August 2015



Infested area
determined to be
about 1 acre in NE
corner of Silver Lake
near boat launch.



Treatment Options for Starry Stonewort

CHEMICAL

- Copper sulfate and hydrothol
 - “Gives haircut”
 - Unknown how many treatments are needed
 - Unknown results for bulbils
- Flumioxazin
 - Trials were occurring at the time
- **BOTH ARE NOT SELECTIVE TREATMENTS**

VS.

MECHANICAL

- Hand Pulling
 - Hard to be efficient
- Harvesting
 - Did NOT want to spread bulbils
 - Fragmentation?
- DASH Removal
 - Have not tried on small population yet . . .
- **HAS THE ABILITY TO BE SELECTIVE**

Diver Assisted Suction Harvesting - DASH



Able to physically remove bulbils from sediment

Native plants stay in place for competition and wildlife habitat

Avoids using chemicals that have not worked in past

DASH

Applied for Rapid Response AIRR-190-16 Grant

Grant Requirements:

- DASH Harvesting
- Hand-pulling
- Clean Boats, Clean Waters efforts from Silver Lake Protection and Rehabilitation District
- Post-treatment surveys
 - Meander and P.I.
- Report summarizing each removal event and CBCW data



DASH from August 20th - 26, 2015





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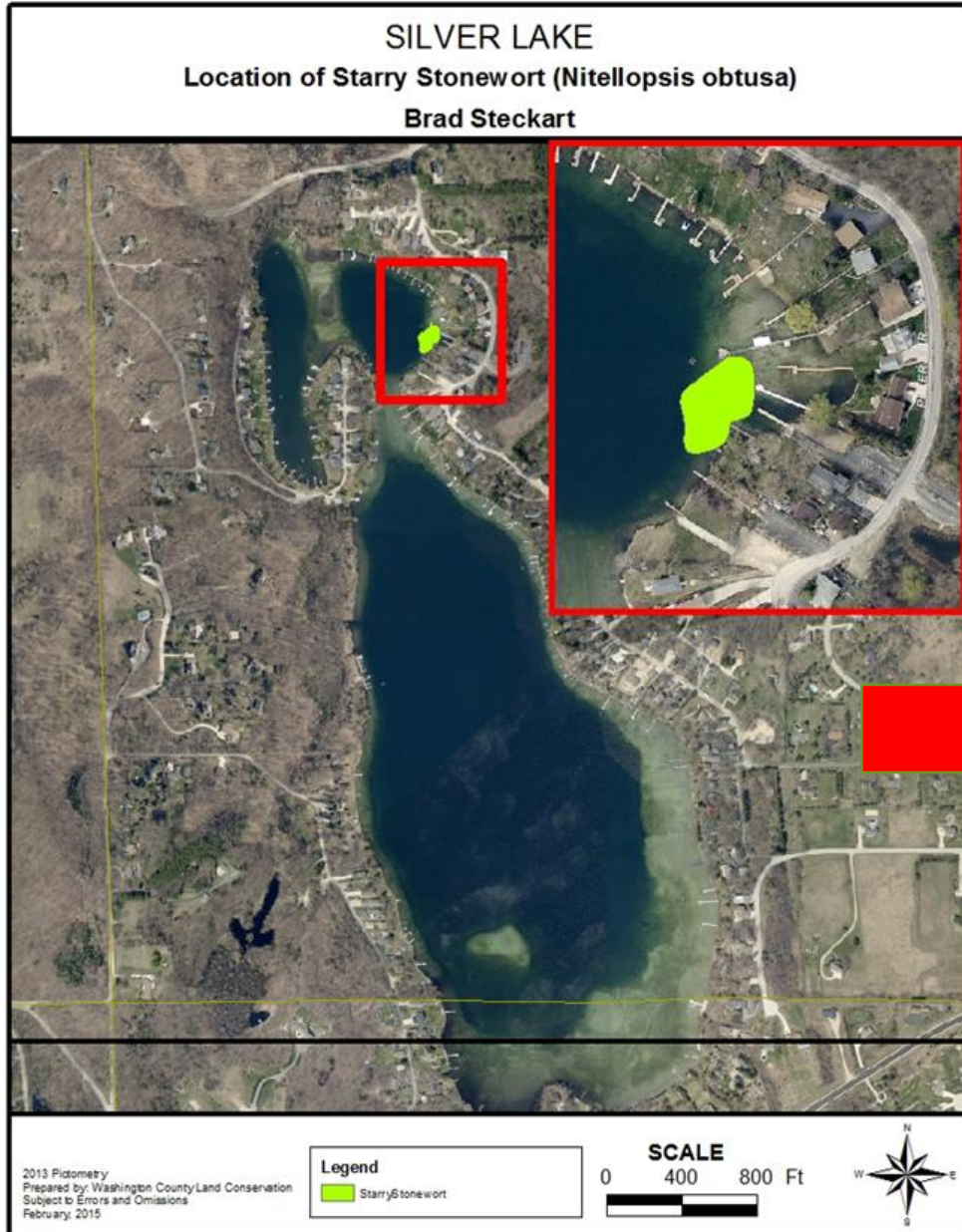


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Initial Distribution of Starry Stonewort

2015 Results

Starry Stonewort Distribution after DASH Removal



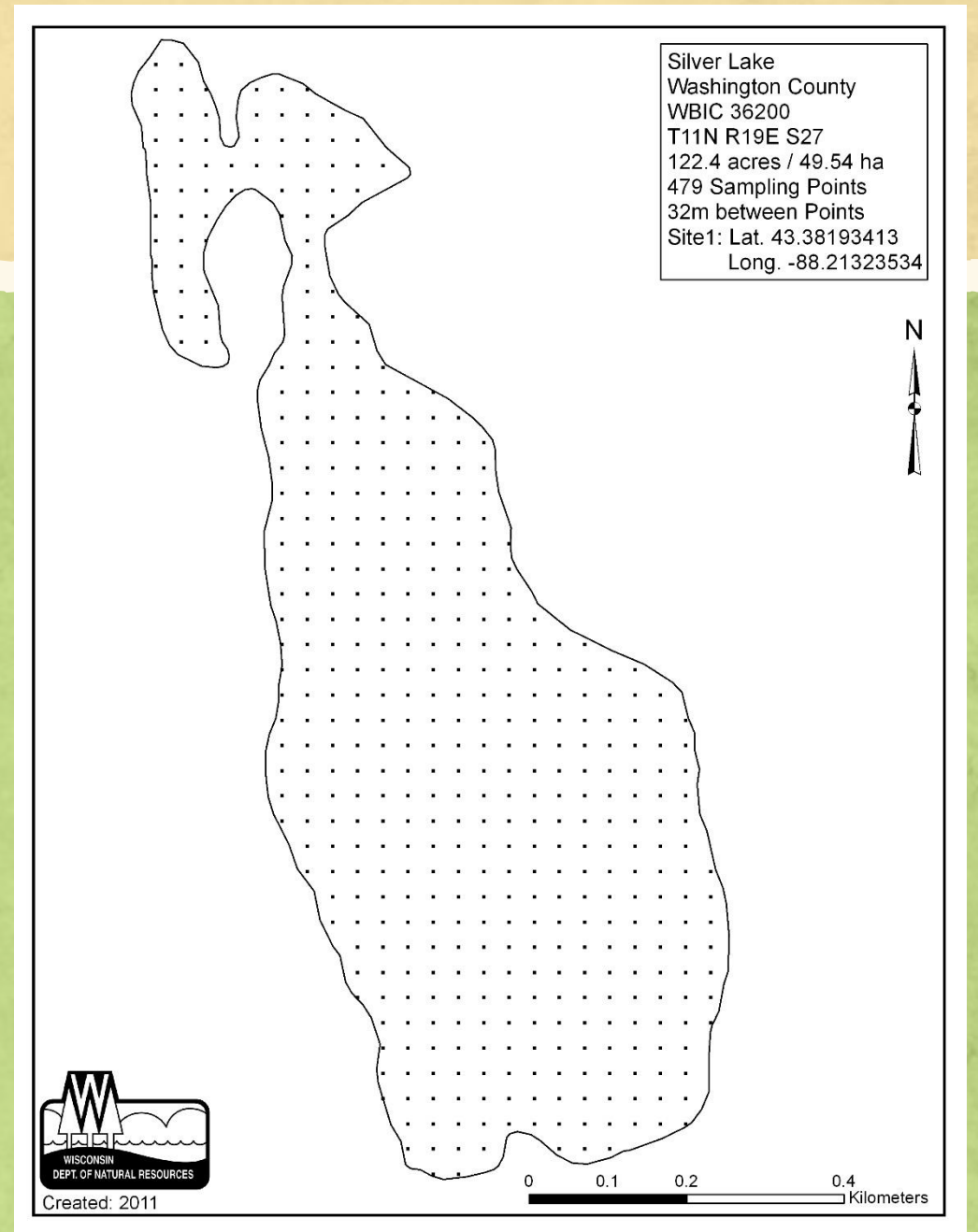
80-90%
Reduction in
visible
population
of starry
stonewort

DASH



Monitoring After Removal - 2016

- Conducted more PI and meander surveys
- 479 points, 208 sampled
- Snorkeled around treated area
- Used buoys/trimble gps unit to mark areas where SSW was still present



Results One Year Later - 2016

- Starry stonewort is still present
 - Scattered populations
 - Growing in shady areas
 - Satellite populations found further away from original population



Implications

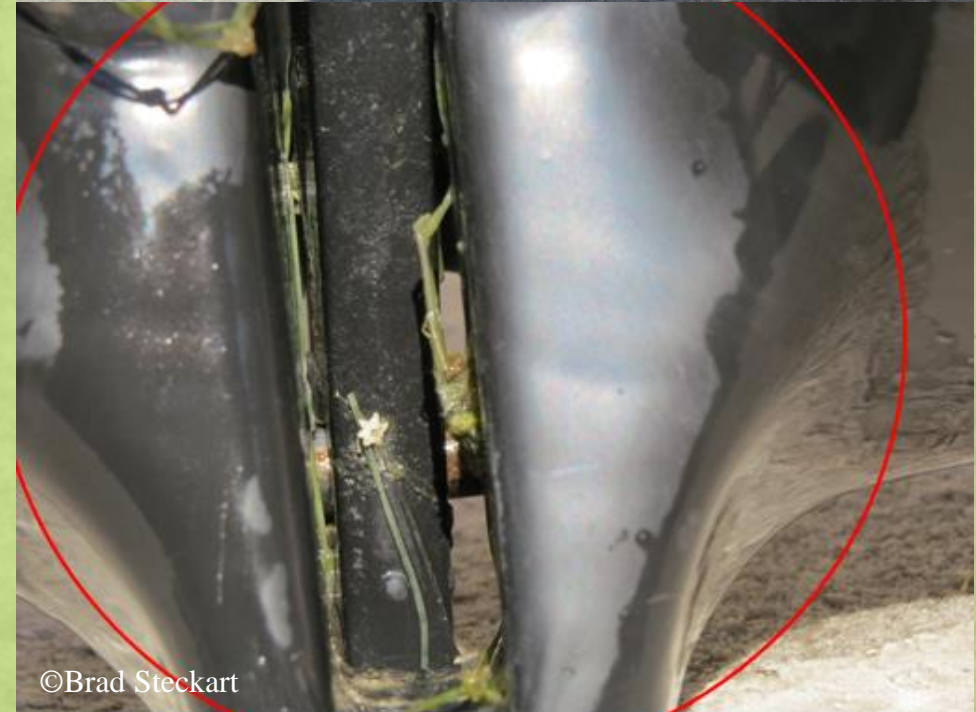
- Results of DASH did not fully eliminate population
- Turbidity
- Attention to detail
- Time restraints/funding
- Training of divers
- Neutral Buoyancy of divers
- Type of sediment/marl
- Life cycle of starry stonewort



Photo: Brad Steckart

Moving Forward

- It is competing with native Chara and Nitella species
- Keep strong focus on Clean Boats, Clean Waters efforts
- Continue monitoring starry stonewort and adapt to successfully manage residual populations
- Monitor and hand pull satellite populations



Keep Education and CBCW Efforts Strong

- Silver Lake PRD was actively involved
- Emphasized Clean Boats, Clean Waters
 - 12 Lake Members were trained
 - Contributed over 100 volunteer hours past the required 83
- DNR, County, and contracted worked together as a team
- Keeping and expanding these partnerships is integral to continuing strong efforts against starry stonewort



Thank You!!

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