



Wetlands and Wild Rice Conservation

Through DASH: Diver Assisted Suction Harvesting

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Tawas Lake



MANOOMIN “GOOD BERRY”

- EXCELLENT SOURCE OF MINERALS
- MOST NUTRIENT RICH FOOD IN DIET
- USED AS A SUPPLEMENT FOR BABIES
- CURES ILLNESSES
- RELIEVES INFLAMMATION AS A SALVE
- TRADITIONALLY USED AS AN OFFERING AT CEREMONIES
- TRADE FOR OTHER GOODS
- CONSUMED AT FEASTS
- ROLE IN OUR MIGRATION





WILD RICE IMPORTANCE

- COVER & FOOD
 - SMALL MAMMALS
 - WATERFOWL
 - BIRDS
- HABITAT
 - MUSKRATS
 - INVERTEBRATES
 - FISH
- ECONOMY
 - BIRDING FESTIVALS
 - DUCK HUNTERS

BLACK TERN





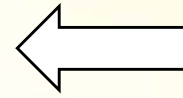
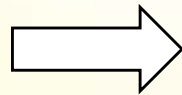
MICHIGAN HISTORIC WILD RICE

212 RECORDED
14 TODAY

—◇—
DECLINE DUE TO
LOGGING INDUSTRY,
INDUSTRIALIZATION AND
DISTURBANCE OF
WETLANDS



2020
48 ACRES



2019
100 ACRES



WILD RICE HABITAT BASELINE STUDY



- WATER CHEMISTRY (SONDE)
 - pH
 - SPECIFIC CONDUCTIVITY
 - TURBIDITY
 - SATURATED HDO
 - HDO

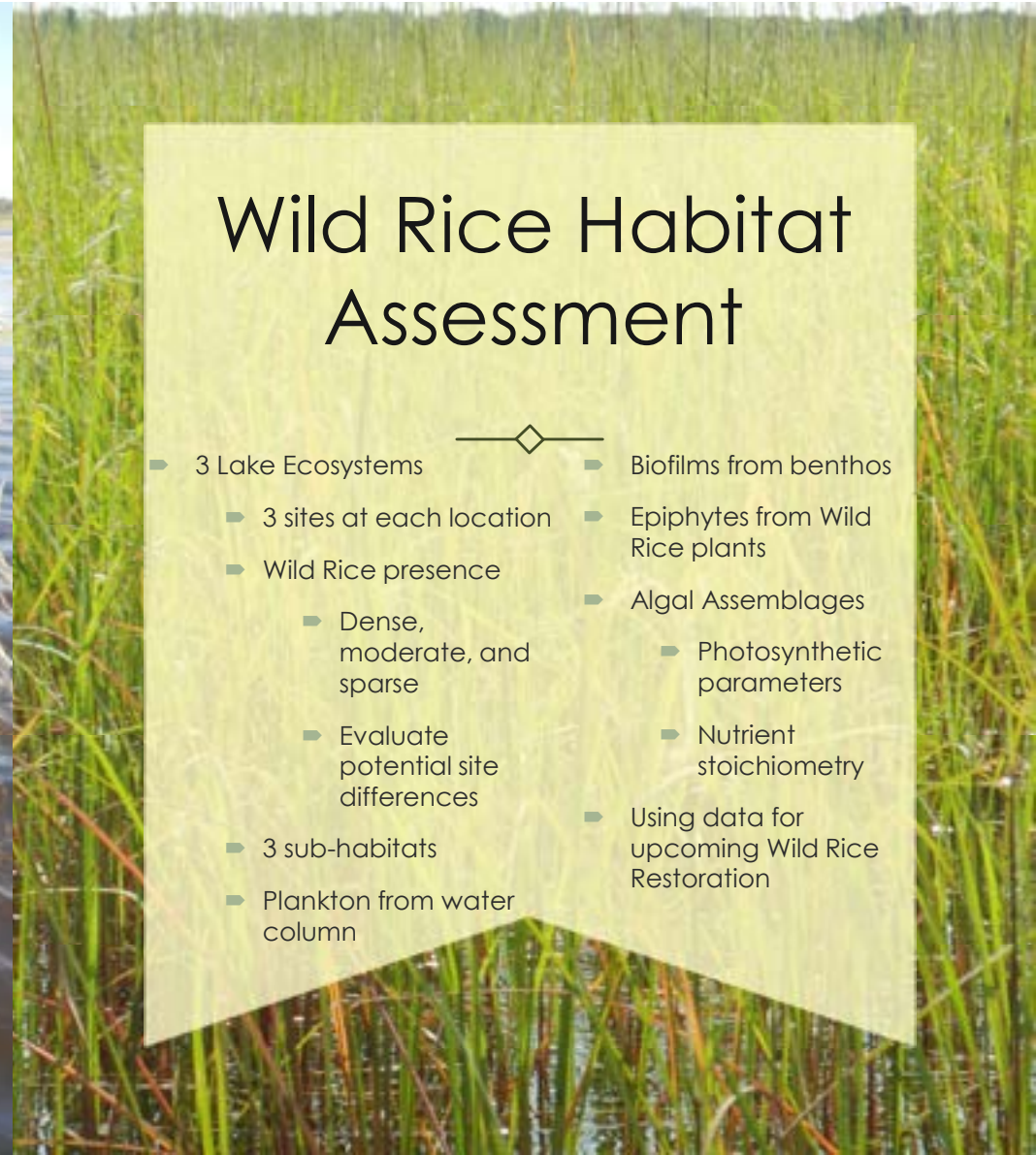
- CHLOROPHYLL
- BLUE-GREEN
- CDOM
- DEPTH
- TEMPERATURE
- NUTRIENTS


- PHOSPHORUS
- NITROGEN
- SEDIMENT



Wild Rice Habitat Assessment

- ▶ 3 Lake Ecosystems
- ▶ 3 sites at each location
- ▶ Wild Rice presence
 - ▶ Dense, moderate, and sparse
 - ▶ Evaluate potential site differences
- ▶ 3 sub-habitats
- ▶ Plankton from water column
- ▶ Biofilms from benthos
- ▶ Epiphytes from Wild Rice plants
- ▶ Algal Assemblages
 - ▶ Photosynthetic parameters
 - ▶ Nutrient stoichiometry
- ▶ Using data for upcoming Wild Rice Restoration



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- Cutting through mechanical harvesting was proposed within the City of East Tawas Special Assessment District and conducted as a compromise to clear/widen boat lanes for easy navigation.
 - Cutting/Harvesting began in July, 2017.
 - Through surveys conducted by the harvesting contractor the identification of an aquatic invasive species was discovered in Tawas Lake...

Eurasian watermilfoil

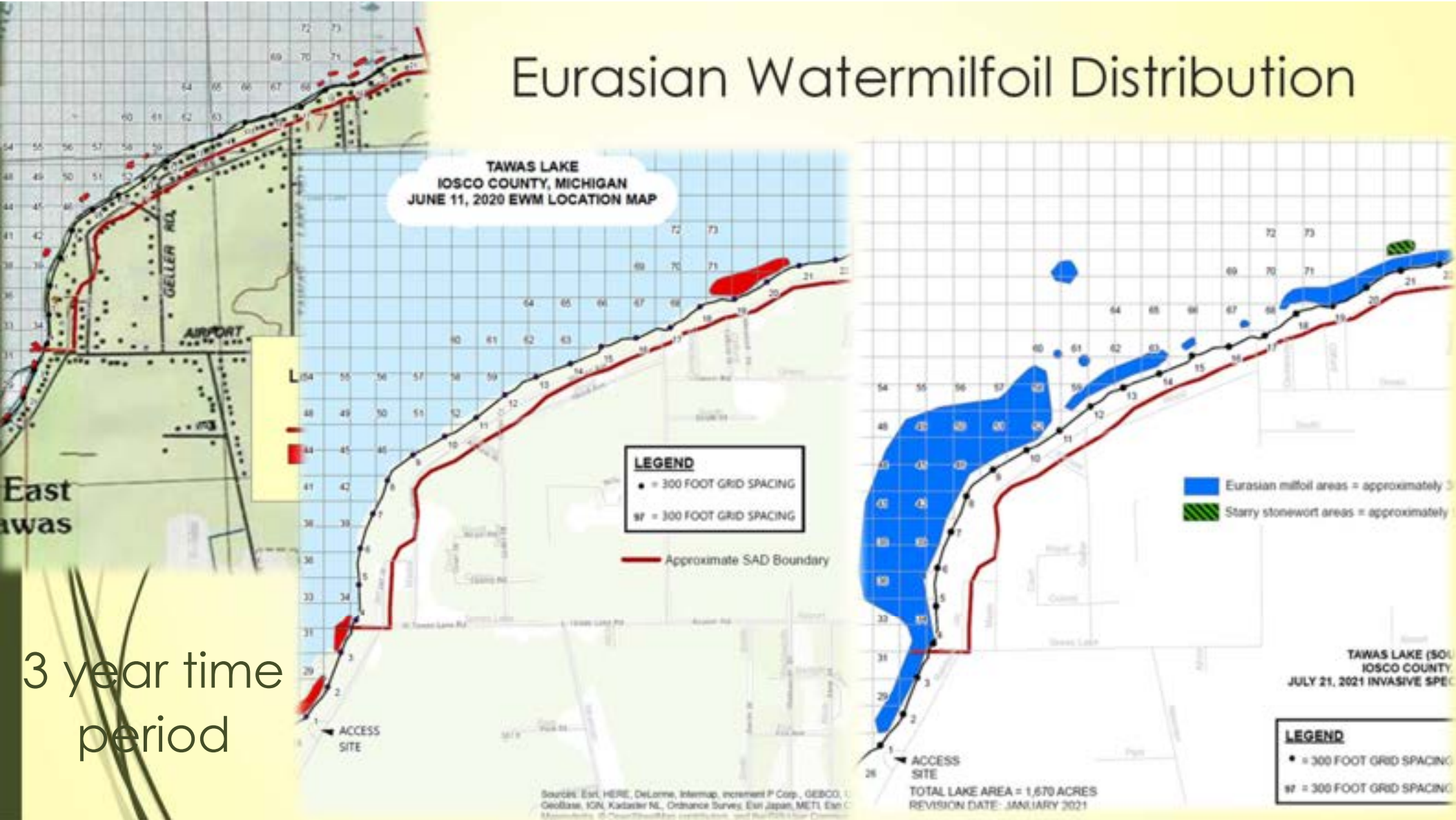
- Feathery submerged aquatic plant
- Forms dense mats in shallow areas of lakes and rivers less than 15 foot deep
- Blocks recreation
- Forces out native species

Reproduces vegetatively

- Fragmentation and creeping runners
- Does not contain turions like other invasive species
- Contains seeds but not its means of reproduction or dispersal



Eurasian Watermilfoil Distribution



Tawas Lake

2022 DASH

Legend

- Amesbury Trust
- DASH
- EWM
- Proposed Amendment Work Area
- Tawas WR



Eurasian watermilfoil





Successful Strategies

- Diver Assisted Suction Harvesting (DASH)
 - Multi year project
 - Successful on Higgins Lake
 - More effective and successful than cutting and chemicals



- Entire plant is removed by certified divers
 - Doesn't allow for fragmentation or runners
 - No new plants established
- Removed plants are bagged and disposed of in a landfill or composting facility



DASH 2023





Tawas Lake Boat Cleaning Station

- Spring 2024 installation
 - Tawas Lake DNR Boat Launch
- Free public use
- User Operated
- Solar Powered
- Waterless
- Wet/Dry vacuum
- Blower system

CD³ Wayside Solar

- Waterless, free, user-operated cleaning equipment that includes wet/dry vacuum, blower system, tethered hand tools & lights.
- Off-grid, 620 watt solar array with battery storage provides use for ~10 hours (~85 boats/day).
- Precast base option for easy installation reducing permitting & contracting issues.
- Unit and base bolt together and weighs ~1,900 lbs.
- Vacuum tank emptied by satellite toilet vendor after ~400+ uses.



SCIT Programs & Projects



Project Funding Sources



Great Lakes
RESTORATION



Consumers Energy

FOUNDATION



Thank you

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