Presentation Outline

- **Project Overview**
- **Study Results**
  - Shoreland Condition Assessment
  - Coarse Woody Habitat Survey
  - Aquatic Plants
- **Mechanical Harvesting Feasibility Study**

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Shoreland Assessment

- Shoreland area is important for buffering runoff and provides valuable habitat for aquatic and terrestrial wildlife.
- It does not look at lake shoreline on a property-by-property basis.
- Assessment ranks shoreland area from shoreline back 35 feet

Urbanized **Natural**

Range

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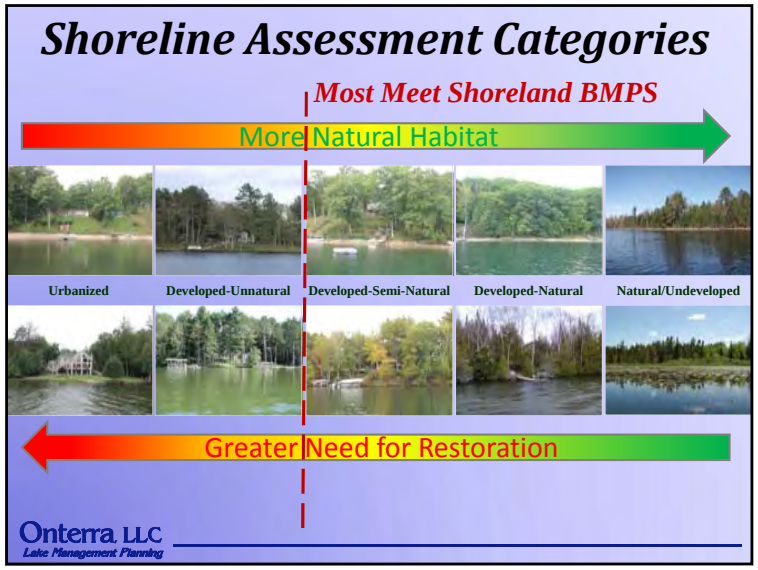

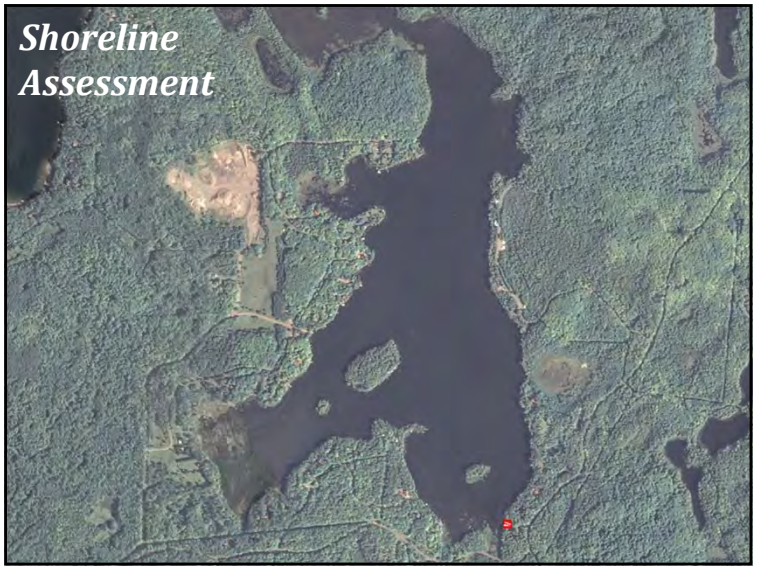

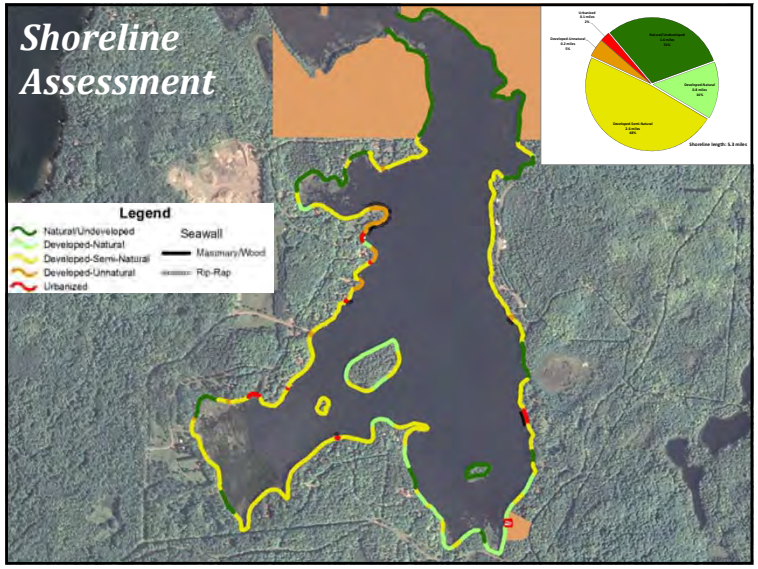

Coarse Woody Habitat (CWH)

- Provides shoreland erosion control and prevents suspension of sediments.
- Preferred habitat for a variety of aquatic life.
  - Periphyton growth fed upon by insects.
  - Refuge, foraging and spawning habitat for fish.
  - Complexity of CWH important.
- Changing of logging and shoreland development practices = reduced CWH in Wisconsin lakes.
- Survey aimed at quantifying ***Emergent*** CWH in the Lake

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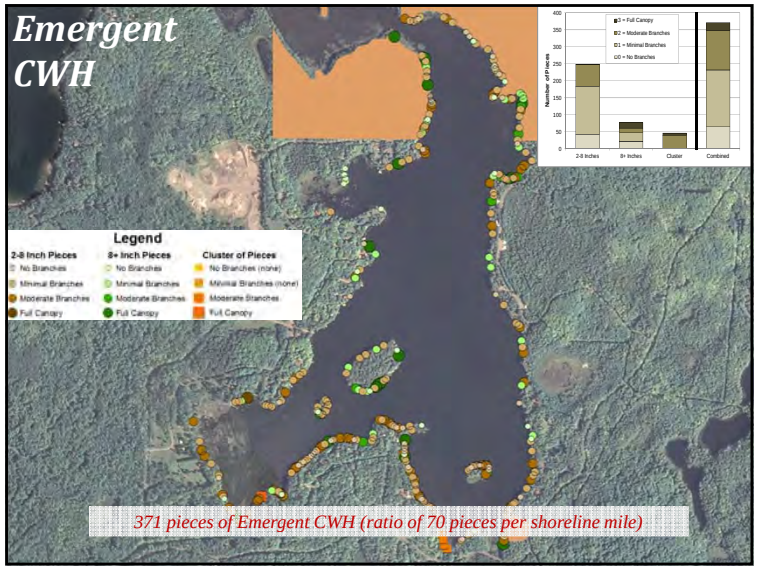
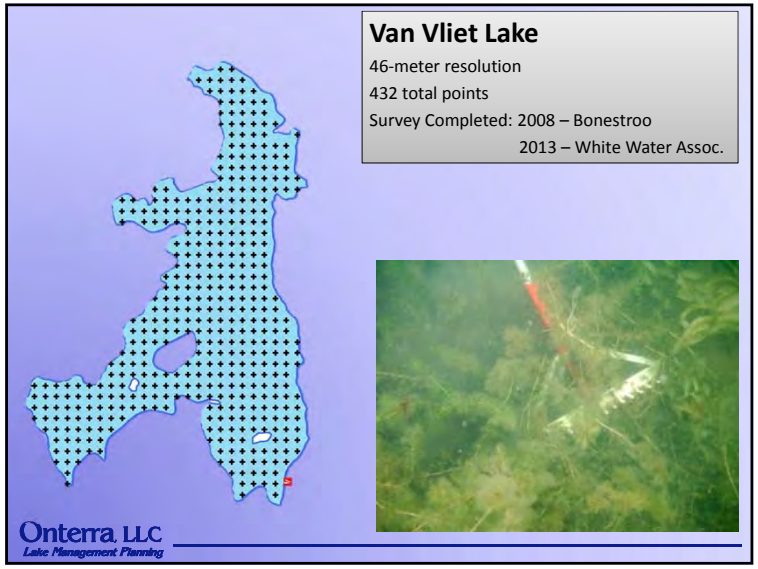

Emergent CWH
Legend
2-8 Inch Pieces
No Branches
Minimal Branches
Moderate Branches
Full Canopy
8+ Inch Pieces
No Branches
Minimal Branches
Moderate Branches
Full Canopy
Cluster of Pieces
No Branches (none)
Minimal Branches (none)
Moderate Branches
Full Canopy
371 pieces of Emergent CWH (ratio of 70 pieces per shoreline mile)

Aquatic Plants


Van Vliet Lake
46-meter resolution
432 total points
Survey Completed: 2008 – Bonestroo
2013 – White Water Assoc.
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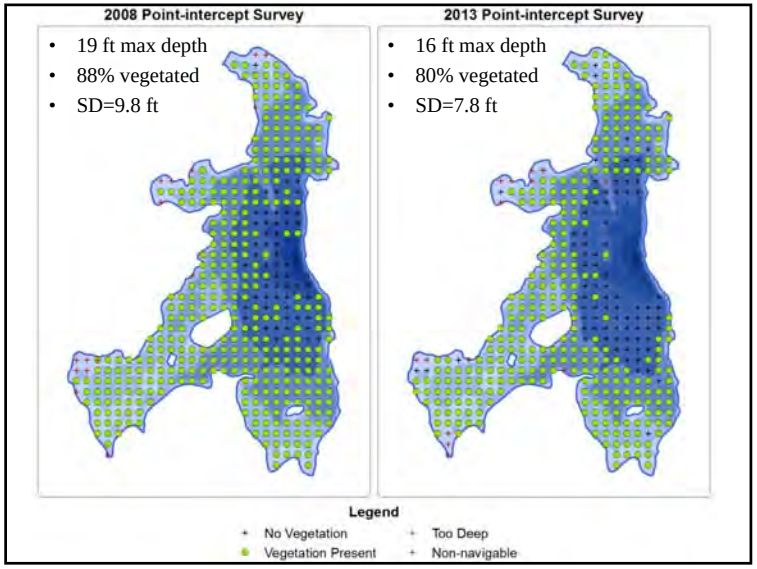
2008 Point-intercept Survey
19 ft max depth
88% vegetated
SD=9.8 ft
2013 Point-intercept Survey
16 ft max depth
80% vegetated
SD=7.8 ft
Legend
No Vegetation
Vegetation Present
Too Deep
Non-navigable

Species List

- 39 Native Species
- No Exotic Species

Growth Form	Scientific Name	Common Name	Coefficient of Conservatism (C)	2008	2013
Emergent	*Calla palustris*	Water arum	9		I
	Carex comosa	Bristly sedge	5		I
	Carex sp. (sterile)	Sedge sp. (sterile)	N/A		I
	Dulichium arundinaceum	Three-way sedge	10		I
	Eleocharis palustris	Creeping spikerush	6	X	I
	Equisetum fluviatile	Water horsetail	7		I
	Iris versicolor	Northern blue flag	5		I
	Pontederia cordata	Pickerelweed	9		I
	Sagittaria latifolia	Common arrowhead	3		I
	Sagittaria sp. 1	Arrowhead sp. 1	N/A		X
	Sagittaria sp. 2	Arrowhead sp. 2	N/A		X
	Schoenoplectus acutus	Hardstem bulrush	5		I
	Scirpus cyperinus	Wool-grass	4		I
	Typha spp.	Cattail spp.	1		I
FL	*Brasenia schreberi*	Watershield	7	X	X
	Nuphar variegata	Spatterdock	6		I
	Nymphaea odorata	White water lily	6	X	X
	Persicaria amphibia	Water smartweed	5		I
FL/E	*Sparganium americanum*	Eastern bur-reed	8		I
Submergent	*Bidens beckii*	Water marigold	8	X	X
	Ceratophyllum demersum	Coontail	3	X	X
	Chara spp.	Muskgrasses	7	X	X
	Elodea canadensis	Common waterweed	3	X	X
	Elodea nuttallii	Slender waterweed	7	X	X
	Heteranthera dubia	Water stargrass	6	X	X
	Myriophyllum sibiricum	Northern water milfoil	7	X	X
	Najas flexilis	Slender naiad	6	X	X
	Potamogeton amplifolius	Large-leaf pondweed	7	X	X
	Potamogeton foliosus	Leafy pondweed	6		X
	Potamogeton illinoensis	Illinois pondweed	6	X	I
	Potamogeton praelongus	White-stem pondweed	8	X	X
	Potamogeton pusillus	Small pondweed	7	X	X
	Potamogeton richardsonii	Clasping-leaf pondweed	5	X	X
	Potamogeton robbinsii	Fern pondweed	8	X	X
	Potamogeton zosteriformis	Flat-stem pondweed	6	X	X
	Stuckenia pectinata	Sago pondweed	3	X	X
	Utricularia vulgaris	Common bladderwort	7		X
	Vallisneria americana	Wild celery	6	X	X
S/E	*Eleocharis acicularis*	Needle spikerush	5		X
	Schoenoplectus subterminalis	Water bulrush	9		X

FL = Floating-leaf; FL/E = Floating-leaf and Emergent; S/E = Submergent and Emergent
X = Located on rake during point-intercept survey; I = Incidental species

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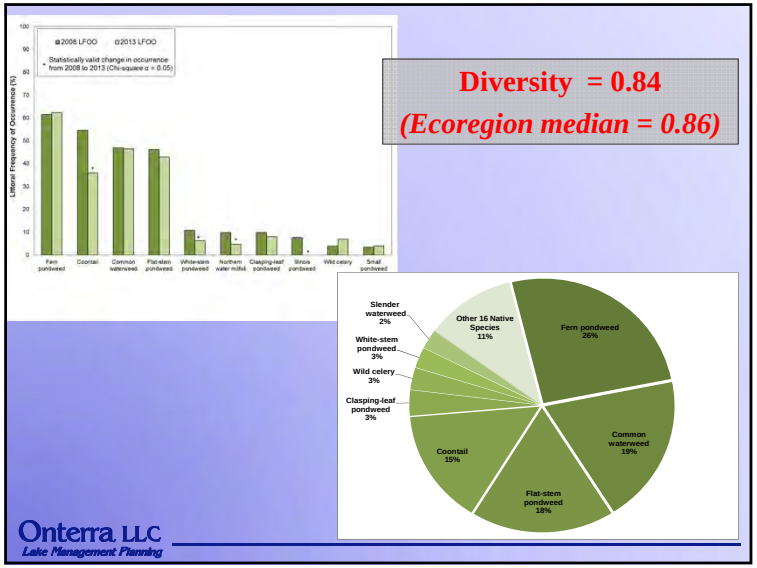

Diversity = 0.84
(Ecoregion median = 0.86)

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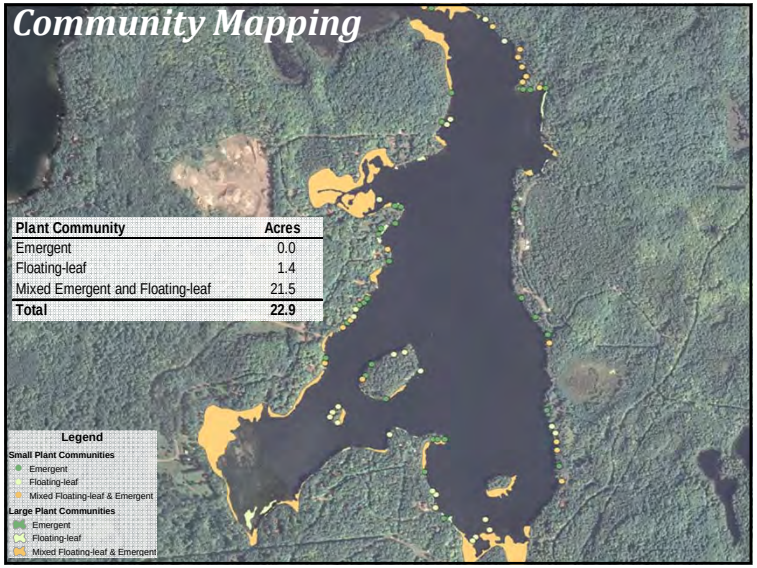
Community Mapping

Plant Community	Acres
Emergent	0.0
Floating-leaf	1.4
Mixed Emergent and Floating-leaf	21.5
Total	**22.9**



Conclusions

- Over 90 % of the shoreline is of a condition that wouldn't be prioritized for shoreland restoration
- High count of CWH along shoreline.
- Aquatic plant community
  - Based upon standard analysis, native plant community is of moderately high quality.
    - High species richness
    - Dominated by 4 native species (>78%)
  - Abundance of organic substrate and moderately-nutrient water creates abundant aquatic plant growth.

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Stakeholder Survey – July 2012

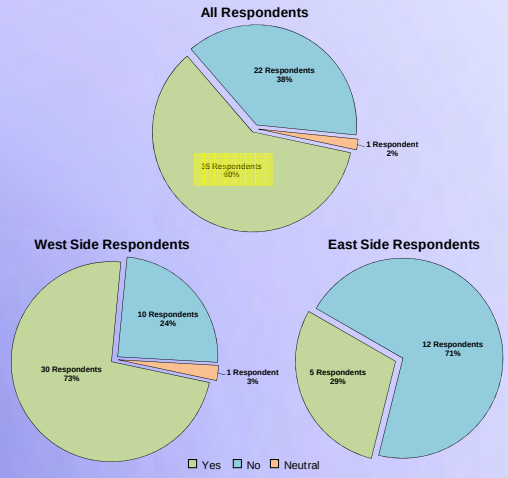
Wording of Question:

Are you in favor of the VVLA work towards development of a plan to mechanically harvest nuisance weeds?

WDNR's Review:

If you deconstruct the question, its focus is on the DEVELOPMENT OF A PLAN. Developing a plan is not the same as implementing a plan.

Citizens may voice little objection to an organized group developing a plan, but their support or opposition to IMPLEMENTING the plan depends on what the plan is.



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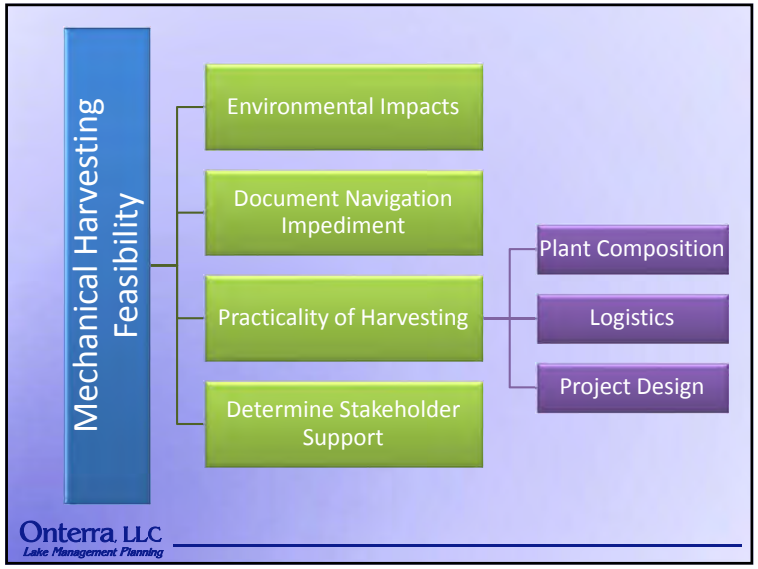

Environmental Impacts

- *Will harvesting of native aquatic plants lead to the introduction of aquatic invasive species (AIS)?*
- *Will harvesting stir up the muck?*
- *Will harvesting add nutrients to the lake, lower water quality and lead to algae blooms?*
- *Will plant fragments from harvesting end up on the east shoreline, take root, and create new vegetation issues?*
- *Will natural lake cycles correct the vegetation issue?*
- *Is there a way to manage the root cause of the increased aquatic plant levels?*
- *Native vegetation should be protected and preserved.*

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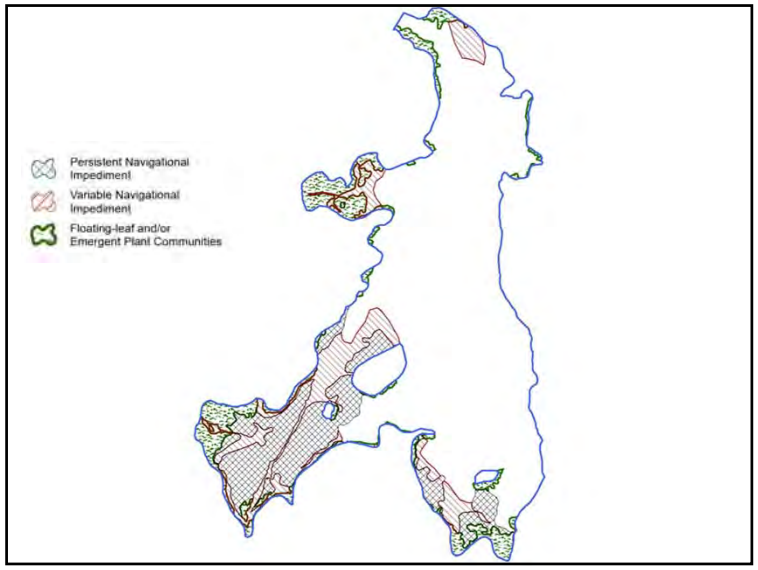
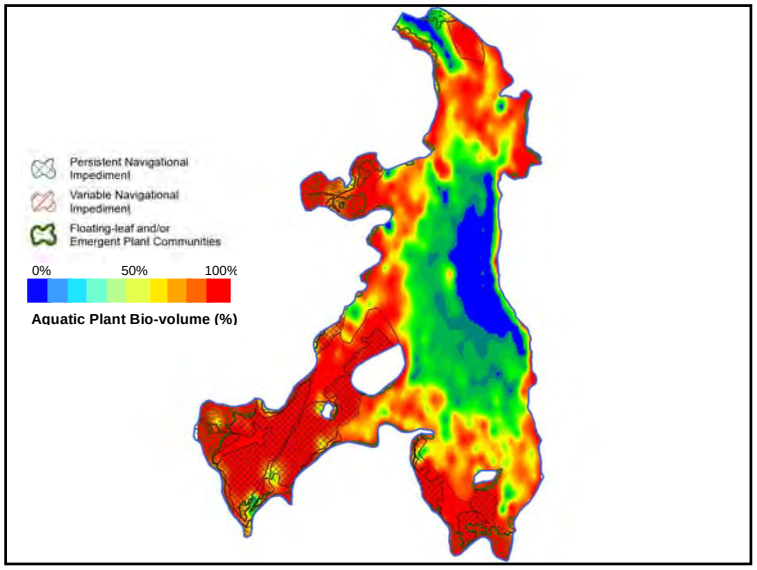
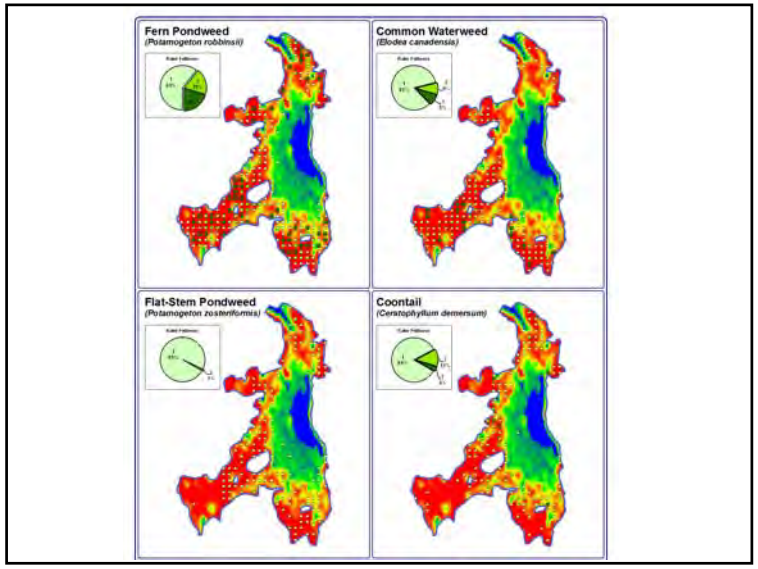
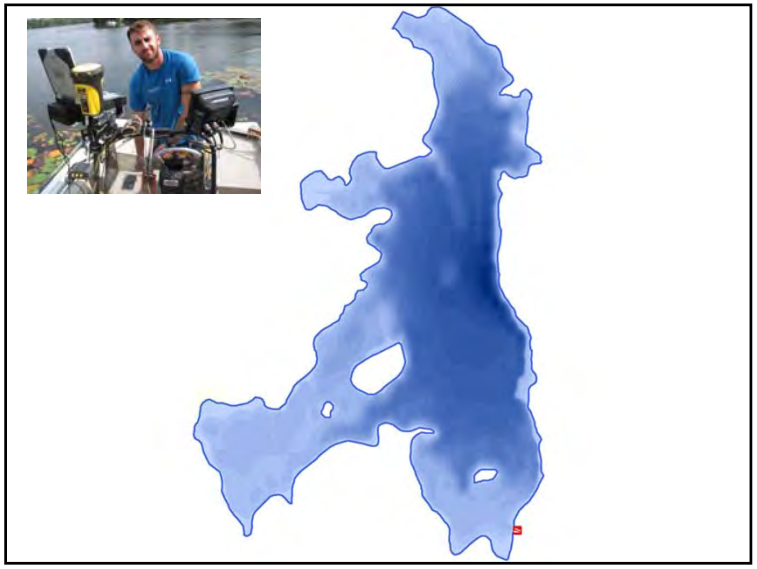
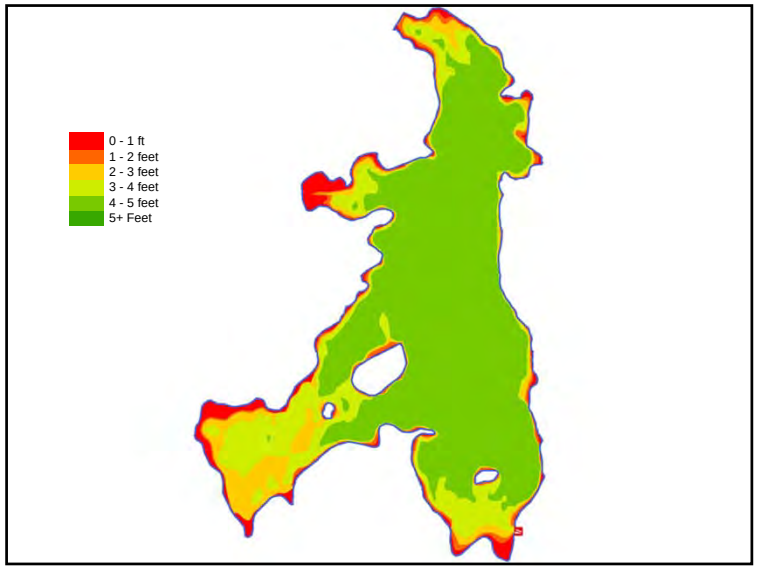
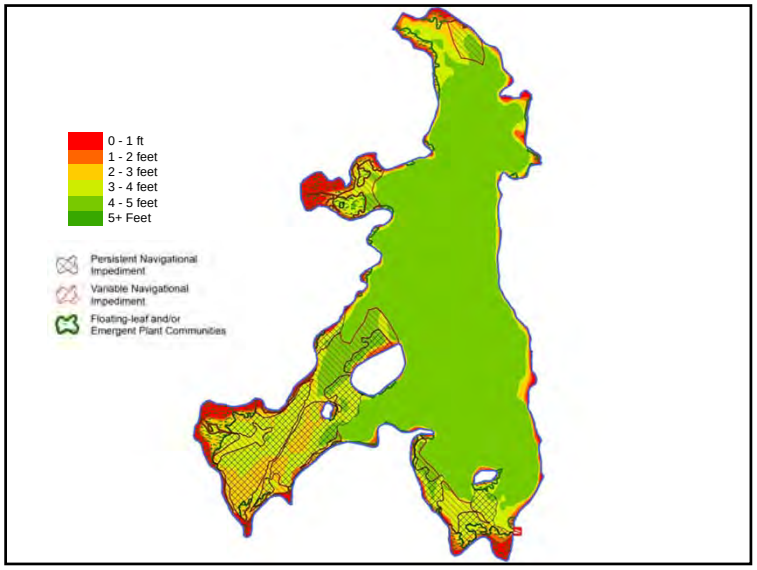

Persistent Navigational Impediment
Variable Navigational Impediment
Floating-leaf and/or Emergent Plant Communities


Persistent Navigational Impediment
Variable Navigational Impediment
Floating-leaf and/or Emergent Plant Communities
0%
50%
100%
Aquatic Plant Bio-volume (%)


Fern Pondweed
(Potamogeton robbinsii)
Common Waterweed
(Elodea canadensis)
Flat-Stem Pondweed
(Potamogeton zosteriformis)
Coontail
(Ceratophyllum demersum)




0 - 1 ft
1 - 2 feet
2 - 3 feet
3 - 4 feet
4 - 5 feet
5+ Feet


0 - 1 ft
1 - 2 feet
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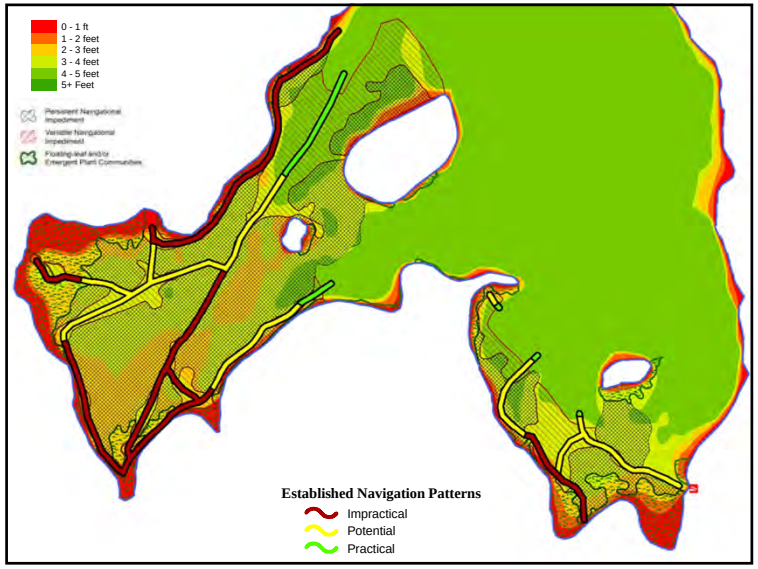
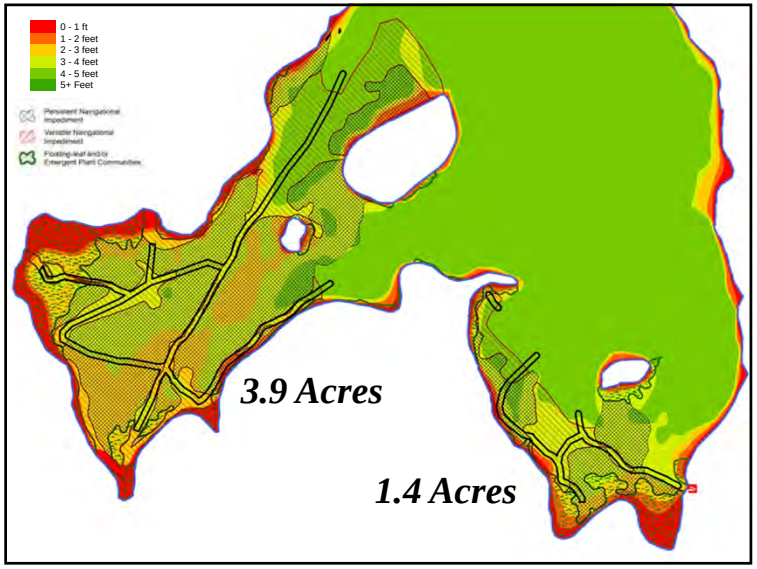
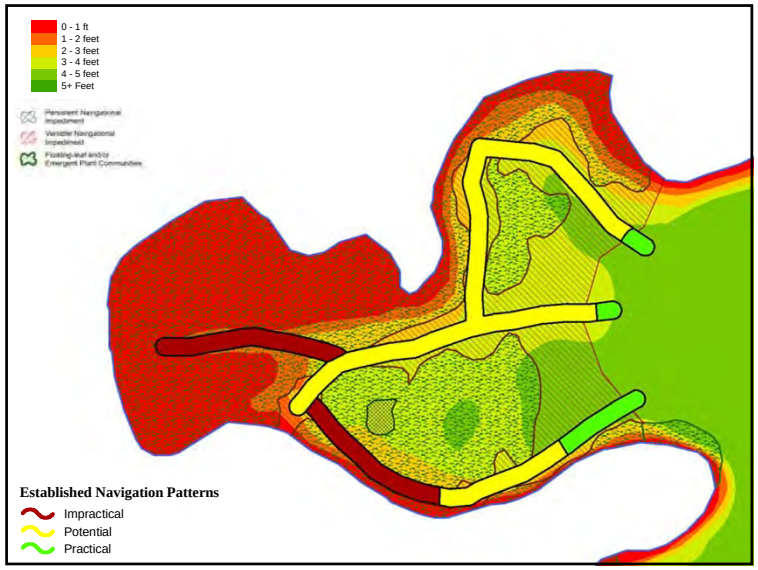
4 - 5 feet
5+ Feet
Persistent Navigational Impediment
Variable Navigational Impediment
Floating-leaf and/or Emergent Plant Communities


0 - 1 ft
1 - 2 feet
2 - 3 feet
3 - 4 feet
4 - 5 feet
5+ Feet
Established Navigation Patterns
Impractical
Potential
Practical


0 - 1 ft
1 - 2 feet
2 - 3 feet
3 - 4 feet
4 - 5 feet
5+ Feet
3.9 Acres
1.4 Acres


0 - 1 ft
1 - 2 feet
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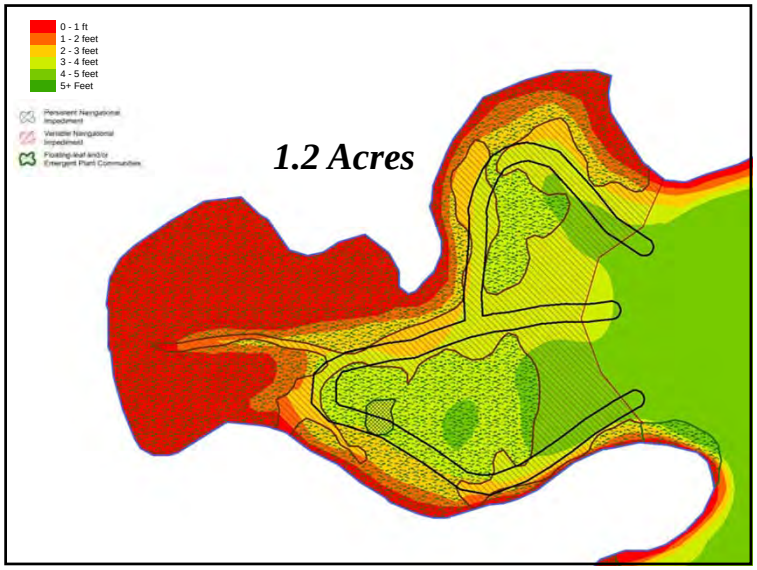
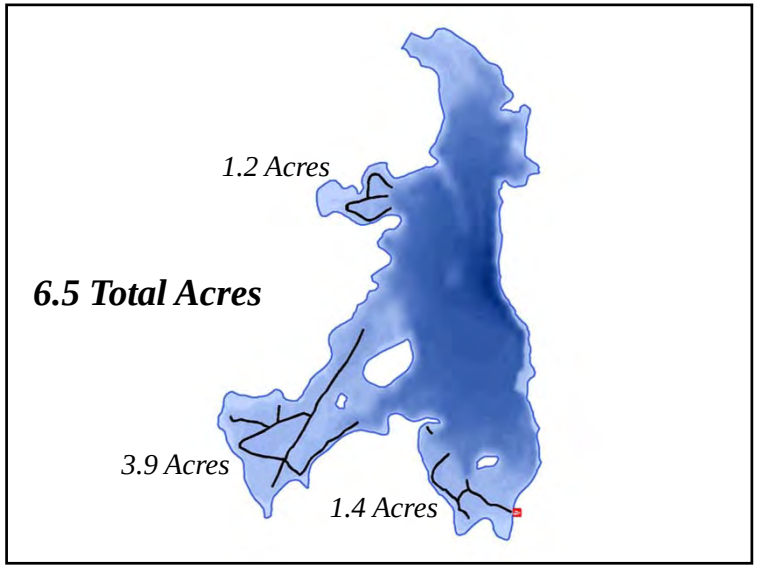
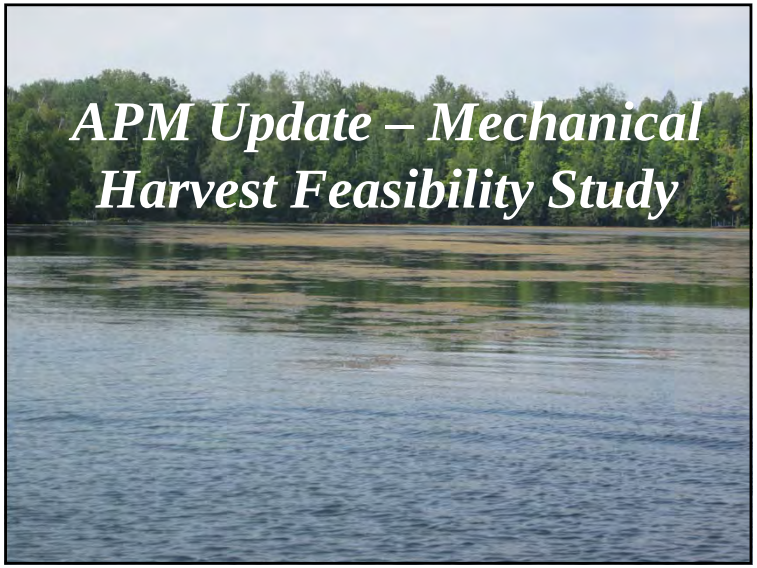
4 - 5 feet
5+ Feet
Established Navigation Patterns
Impractical
Potential
Practical


0 - 1 ft
1 - 2 feet
2 - 3 feet
3 - 4 feet
4 - 5 feet
5+ Feet
1.2 Acres


1.2 Acres
6.5 Total Acres
3.9 Acres
1.4 Acres


APM Update – Mechanical Harvest Feasibility Study

Management Goal:
Maintain Riparian Navigability

Management Actions

1. **VVLA supports reasonable and responsible actions by shoreland property owners to gain navigational access to open water areas of Van Vliet Lake**
   - *Initiate upon plan acceptance*
   - *Recruit facilitator from Planning Committee or BOD to coordinate effort*
   - *Develop monitoring strategy (with input from WDNR) to understand ecosystem impacts*

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Management Goal:
Maintain Riparian Navigability

Management Actions

1. **Make available the draft and finalized version of the Van Vliet Lake APM - Mechanical Harvest Feasibility Study**
   - *Draft is currently available for review & comment*
   - *VVLA distributes educational materials/events*
   - *Wrap-up Meeting Presentation*

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Management Goal:
Maintain Riparian Navigability

Management Actions

1. **Gain stakeholder input regarding mechanical harvesting plan on Van Vliet Lake**
   - *VVLA's current focus*
   - *Stakeholder user survey*
     - *Solicit input from riparian property owners*
     - *Onterra, VVLA, and WDNR have developed the survey*
     - *Distribution through hand-outs & mailings*
     - *VVLA compiles results, sends to Onterra for analyzing*
     - *Results are used to update current draft of report*

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Thank You

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