Lake and Pond Solutions Co.

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Wednesday, September 08, 2010

Ian Shackleford, Botanist
Ottawa National Forest
E 6248 US 2, Ironwood, MI 49938

Ian:

Enclosed please find the original data sheets from the survey work done in the Ottawa National Forest during the week of August 16th, 2010.

I hope that you find everything in order. If not please feel free to contact me and we'll be sure to provide any additional information.

Thanks for your time and effort in preparing the protocol, scope, maps, and equipment. It was a pleasure working with you. We look forward to working on future projects as well.

Sincerely,
Matthew J. Harp
Owner / Biologist
Lake and Pond Solutions Co.

AQUATIC INVASIVE SPECIES LAKE MONITORING 2010
SURVEY SPECS

Lake	Area (acres)	Peri-meter (miles)	TWP	RNG	Section	County	Who
BASS LAKE	101	2.0	42	36	11, 14	Iron	L&PS
BLACK RIVER HARBOR	12	1.1	49	46	3, 10	Gogebic	L&PS
BOBCAT LAKE	89	2.2	46	43	27	Gogebic	L&PS
CHAMBERLAIN LAKE	34	1.8	46	36	21	Iron	L&PS
COUNTY LINE LAKE	82	2.5	45&46	40	35 & 2	Gogebic	L&PS
DEADMAN LAKE	50	1.7	45&46	39	36 & 1	Gog. & Onton.	L&PS
EEL LAKE	52	1.7	45	44	13, 14	Gogebic	L&PS
GRASS LAKE	43	1.2	44	39	25, 36	Gogebic	L&PS
HAGER LAKE	40	1.1	47	35	17	Houghton	L&PS
HANNAH WEBB	64	1.3	46	35	29, 30	Iron	L&PS
HARDING LAKE	37	1.2	46	37	23, 24, 25, 26	Iron	L&PS
HENRY LAKE	47	1.6	45	44	3	Gogebic	L&PS
HOLLY LAKE	38	1.2	45	42	30	Gogebic	L&PS
JAMES LAKE	206	2.9	44	37	14, 15, 22, 23	Iron	L&PS
LITTLE OXBOW LAKE	97	3.4	45	43	27, 34	Gogebic	L&PS
MOOSEHEAD LAKE	51	1.6	44	42	6	Gogebic	L&PS
MORAINE LAKE	91	2.6	45	44	22, 23, 27	Gogebic	L&PS
NORWAY LAKE	52	1.3	46	35	4	Iron	L&PS
ORMES LAKE	52	2.4	45	43	26	Gogebic	L&PS
STEUSSER LAKE	36	1.1	47	40	24	Ontonagon	L&PS
SUDDEN LAKE	39	1.2	50	37	10, 11	Ontonagon	L&PS
TEPEE LAKE	123	2.4	46	37	13	Iron	L&PS
Total	**1436**	**39.5**					

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-17-10 Time on survey 1 HR.

Lake BASS LAKE (Iron County) Township 42 N Range 36 W Section 11

Weather SUNNY.

Boat launch description/condition IMPROVED LANDING IN GOOD SHAPE

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE & LITTOREL ZONE

Water color MUDDY Turbidity HIGH

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) RECREATION, FISHING

Shoreline development 2-3 HOUSES 5% DEVELOPED

Connection to other waterbodies BASS CREEK

Potential for AIS establishment (low, medium, high, why, likely invaders) SHALLOW WATER INCREASES CHANCE FOR EWM/CLP TO ESTABLISH. NOT MUCH FOR ZEBRA MUSCLES TO ATTACH TO

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL - LOW VISABILITY AND LARGE LITTORAL ZONE MAKES SURVEYING DIFFICULT & EASY TO MISS AIS.

Explain

DRAFT

LAKE FLORA QUICK CHECK CARD

Bass Lake
Iron County

Lake name BASS LAKE T 42 N R 36 W Section (*where you start survey*) 11
Date 8-17-16 Observer(s) MATT FOLTZ, TED SCHROEDER
General description of lake (*setting, nutrient level, obvious concerns*):
MOST OF THE LAKE IS RELATIVLY SHALLOW W/ SCATTERED PLANT GROWTH THROUGHOUT. LAKE IS MUDDY IN COLOR & HAS A HIGH TURBIDITY. AN PLANTONIC ALGAE BLOOM ALSO ADDED TO THE DECREASED VISABILITY

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (2 %) Emergents (3 %) Submergents (3 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

- X yellow water lily C
- X white water lily O
- X water shield T
- ___ bur-reed
- ___ pond weed
- ___ duckweed
- ___ water knotweed
- ___ ___
- ___ ___
- ___ ___
- ___ ___
- ___ ___
- ___ ___

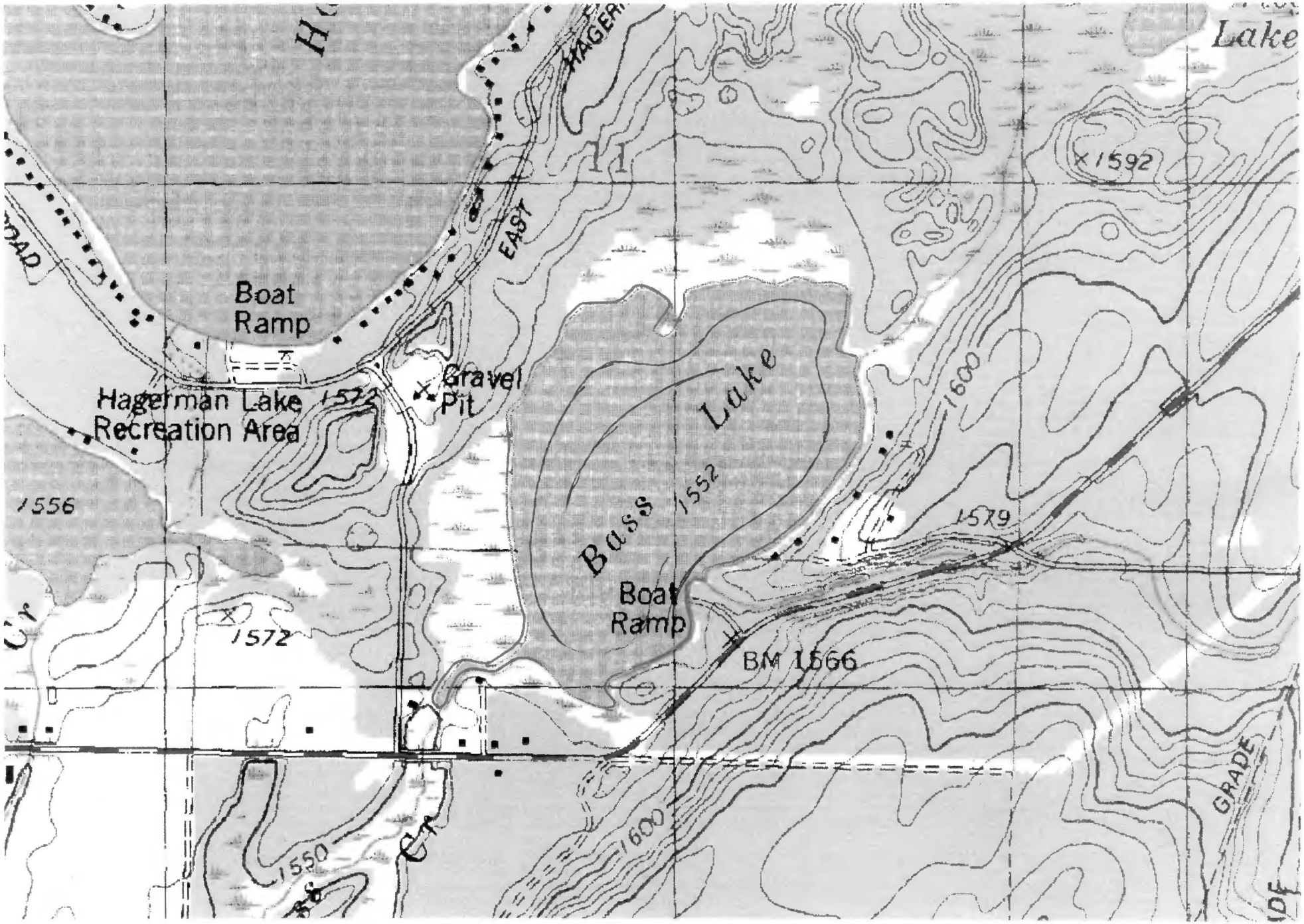
- X 3-way sedge C
- ___ sedge (other than 3-way)
- ___ rush
- ___ wild rice
- ___ grass (other than wild rice)
- X arrowhead T
- ___ spikerush
- ___ horsetail
- X iris T
- X cattail C
- ___ calla lily
- ___ pickerel weed
- ___ ___
- ___ ___
- ___ ___
- ___ ___
- ___ ___

- ___ chara or nitella
- ___ watermilfoil
- X pondweed O
- ___ coontail
- ___ water buttercup
- X bladderwort T
- ___ water starwort
- X elodea (waterweed) T
- ___ golden pert
- ___ rush
- ___ naiad
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- X water bulrush O
- ___ wild celery
- ___ water marigold
- ___ ___
- ___ ___
- ___ ___
- ___ ___

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): MUDDY, HIGH TURBIDITY
Extent of algae in water column: PLANTONIC ALGAE THROUGHOUT W/ SOME SUBSURFACE ALGAE
Extent of water receded below what appears to be typical shoreline: AVERAGE
Aquatic flora distribution (*circle one*): evenly distrbuted (widely scattered) clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): ___
Threats/concerns: ___

AIS lake surveys 2010



Lake & Pond Solution

Ottawa National Forest

0 0.1 0.2 0.3 0.4 0.5 Miles

12 August 2010

IAN S.

AIS Lake Survey Record

Surveyor(s) MAT HARP / ROY CARLSON Date 8-16-10 Time on survey 9:00 - 10:45

Lake BLACK RIVER HARBOR Township____ N Range____ W Section____

Weather 10% CLOUDY 15 mph (N)

Boat launch description/condition EXCELLENT / STEEP

Dominant substrate (*circle one*) Mud Sand (Rock) Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) (Lower) Higher Average Don't know

Survey area description (also sketch on topo map) ALL OF HARBOR TO PAST RECREC / USE AREA

Water color STAINED BROWN Turbidity NOT MUCH

AIS observed NONE

Species____ Location (in lake)____

Abundance____ GPS ____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS ____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS ____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, (high) type)____

Shoreline development BOAT SLIPS / CONCESSION AREA

Connection to other waterbodies CONNECTED TO SUPERIOR

Potential for AIS establishment (low, medium, (high), why, likely invaders) Z. M. / SWF

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL

Explain HIGH THREAT

LAKE FLORA QUICK CHECK CARD

Lake name BLACK R. HARBOR T___ N R___ W Section (*where you start survey*)___
Date 8-16-10 Observer(s) MATT HARP / ROY CARLSON / IAN SHACKELFORD
General description of lake (*setting, nutrient level, obvious concerns*):
DARK STAINED WATER

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (0 %) Emergents (0 %) Submergents (0 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
___ white water lily
___ water shield
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

___ 3-way sedge
___ sedge (other than 3-way)
___ rush
___ wild rice
___ grass (other than wild rice)
___ arrowhead
___ spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

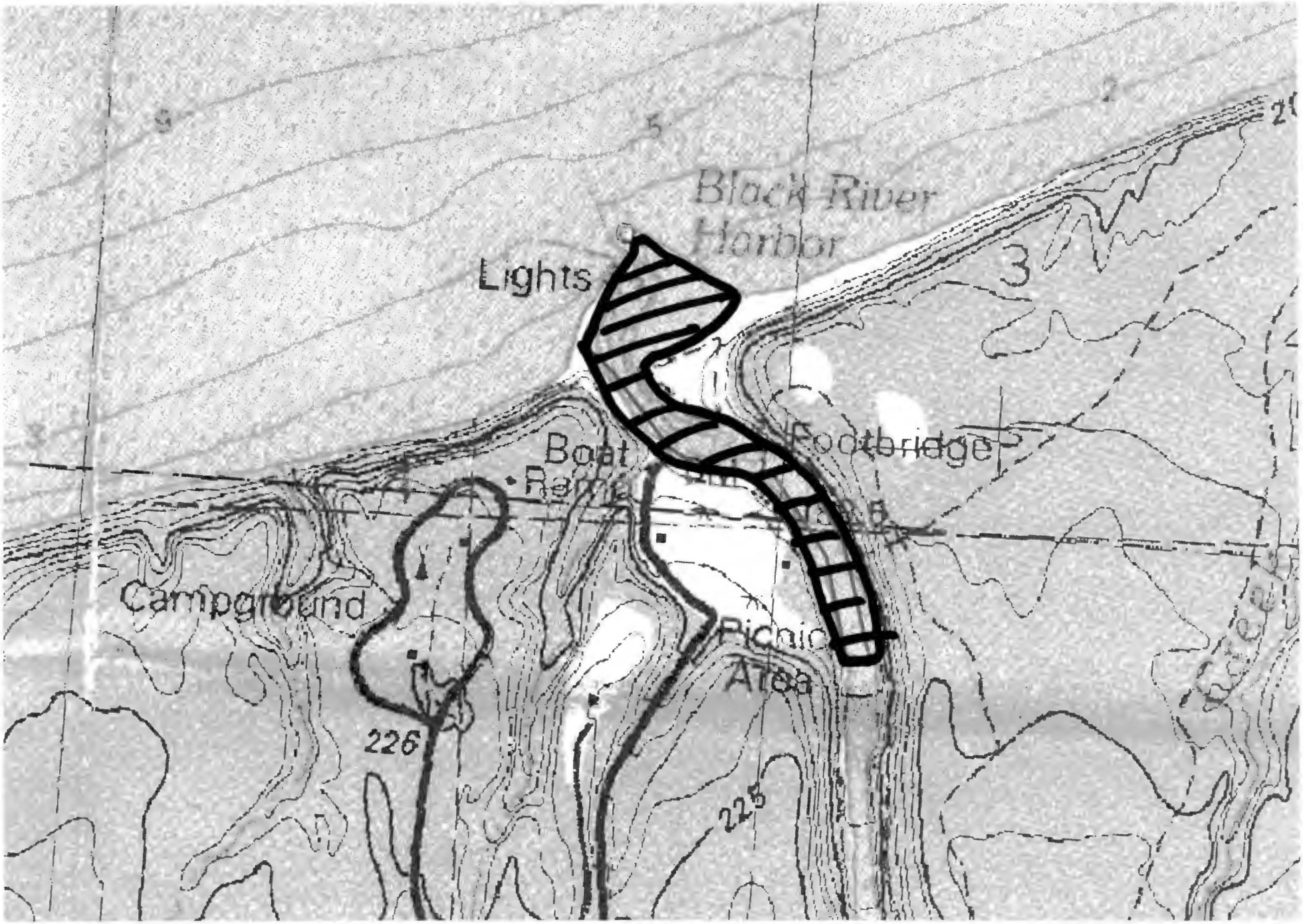
___ chara or nitella
___ watermilfoil
___ pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes (No) (give to Botany staff)

NO PLANTS FOUND AT ALL
NO Zebra MUSSELS, NO SPINY WATER FLEAS

Water color (*clear, turbid, stained*): _____
Extent of algae in water column: N/A
Extent of water receded below what appears to be typical shoreline: _____
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): NONE
Threats/concerns: _____

AIS lake surveys 2010



Lake

nd Solution

0 0.1 0.2 0.3 0.4 0.5 Miles

'2 August 2010

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHOEDER Date 8-16-10 Time on survey 1 HR. 10 MIN.

Lake BOBCAT Township 46 N Range 43 W Section 27

Weather SUNNY, PARTLY CLOUDY

Boat launch description/condition IMPROVED ; IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock (Gravel) Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher (Average) Don't know

Survey area description (also sketch on topo map) ENTIRE SHORELINE ; LITTOREL ZONE

Water color STAINED Turbidity MEDIUM

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low (medium) high, type) RECREATION, FISHING, SWIM AREA

Shoreline development 10% 2 COTTAGES, SWIM AREA

Connection to other waterbodies BOBCAT RIVER → BRUNCH RIVER

Potential for AIS establishment (low (medium) high, why, likely invaders) RELATIVLEY LARGE LITOREL ZONE INCREASES POTENTIAL FOR GROWTH PLUS MODERATE AMOUNT OF LAKE USE

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL - MODERATE

Explain USAGE ; LARGE LITTORAL ZONE INCREASES CHANCE OF AIS ESTABLISHING

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LAKE FLORA QUICK CHECK CARD

Lake name Bobcat Lake T 46 N R 43 W Section (*where you start survey*) 27

Date 8-16-10 Observer(s) _____

General description of lake (*setting, nutrient level, obvious concerns*):

Relatively Large Littoral Zone with Plant Growth Extending 150-200 Feet Out From Shore at Some Places. Large Amounts of Water Shield & Bulrush Around Shoreline. Pondweeds & Native Milfoil make up Majority of Submergent Plants.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (25 %) Emergents (10 %) Submergents (18 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

- X yellow water lily O
- X white water lily C
- X water shield D
- X bur-reed O
- ___ pond weed
- ___ duckweed
- ___ water knotweed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- X 3-way sedge O
- ___ sedge (other than 3-way)
- ___ rush
- ___ wild rice
- ___ grass (other than wild rice)
- ___ arrowhead
- ___ spikerush
- ___ horsetail
- ___ iris
- X cattail C
- ___ calla lily
- ___ pickerel weed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- ___ chara or nitella
- X watermilfoil O
- X pondweed C
- ___ coontail
- ___ water buttercup
- X bladderwort T
- ___ water starwort
- X elodea (waterweed) T
- ___ golden pert
- ___ rush
- ___ naiad
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- X water bulrush C
- ___ wild celery
- ___ water marigold
- ___ _____
- ___ _____
- ___ _____
- ___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): Stained with Medium Turbidity

Extent of algae in water column: Moderate Amount of Plantonic Algae Present

Extent of water receded below what appears to be typical shoreline: Average

Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-17-16 Time on survey 1 HR

Lake CHAMBERLAIN LAKE Township 46 N Range 13 W Section 21

Weather SUNNY

Boat launch description/condition IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE

Water color CLEAR Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) —

Shoreline development 1 HOUSE

Connection to other waterbodies —

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW TRAFFIC & NOT MUCH HARD SUBSTRATE LIMITS AIS THREAT

Do you think an annual AIS check is needed or could the interval be less frequent? LESS. - LOW TRAFFIC

Explain _____

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name CHAMBERLAIN LAKE T 46 N R 13 W Section (*where you start survey*) 21

Date 8-17-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

SHORELINE OF LAKE IS SURROUNDED BY POLE & DROPS OFF QUICKLY.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (1 %) Emergents (1 %) Submergents (1 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
___ white water lily
X water shield
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

X 3-way sedge
___ sedge (other than 3-way)
___ rush
X wild rice
___ grass (other than wild rice)
___ arrowhead
___ spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

X chara or nitella
___ watermilfoil
___ pondweed
___ coontail
___ water buttercup
X bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR, LOW TURBIDITY

Extent of algae in water column: SMALL AMOUNT OF ALGAE AROUND SHORE - SUBSURFACE

Extent of water receded below what appears to be typical shoreline: JUST ABOVE AVERAGE

Aquatic flora distribution (*circle one*): evenly distrbuted (widely scattered) clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-10 Time on survey 1 HR

Lake COUNTY LINE LAKE Township 46 N Range 40 W Section 35

Weather SUNNY, PARTLY CLOUDY

Boat launch description/condition IMPROVED & IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand (Rock) Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher (Average) Don't know

Survey area description (also sketch on topo map) SHORELINE & LITORREL ZONE

Water color CLEAR Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low (medium) high, type) 10-12 COTTAGES AROUND LAKE. RECREATION, FISHING

Shoreline development 10-12 COTTAGES. 20% DEVELOPED

Connection to other waterbodies —

Potential for AIS establishment (low (medium) high, why, likely invaders) MODERATE USE & HIGH CLARITY INCREASES POTENTIAL FOR AIS TO ESTABLISH, BUT LOW SUBMERGENT VEGETATION PRESENT & ROCKY SUBSTATE COULD LIMIT GROWTH. POTENTIAL FOR ZEBRA MUSSLES

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL

Explain MODERATE USAGE HAS POTENTIAL TO TRANSPORT AIS

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name COUNTY ~~LAKE~~ LINE LAKE T 46 N R 40 W Section (*where you start survey*) 35

Date 8-16-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

CLEAR LAKE W/ RELATIVELY SMALL LITTORAL ZONE. ROCKY SUBSTRATE LIMITS VEGETATION GROWTH.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (5 %) Emergents (1 %) Submergents (1 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily	X 3-way sedge O	___ chara or nitella
___ white water lily	___ sedge (other than 3-way)	___ watermilfoil
X water shield D	___ rush	X pondweed T
X bur-reed C	___ wild rice	___ coontail
___ pond weed	___ grass (other than wild rice)	___ water buttercup
___ duckweed	___ arrowhead	___ bladderwort
___ water knotweed	___ spikerush	___ water starwort
___ _____	___ horsetail	___ elodea (waterweed)
___ _____	X iris O	___ golden pert
___ _____	___ cattail	___ rush
___ _____	___ calla lily	___ naiad
___ _____	___ pickerel weed	X pipewort
___ _____	___ _____	___ quillwort (Isoetes)
	___ _____	___ shoregrass (Littorella)
	___ _____	___ water lobelia
	___ _____	___ water bulrush
	___ _____	___ wild celery
		___ water marigold
		___ _____
		___ _____
		___ _____
		___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR 7-8' DEPTH VISABILITY

Extent of algae in water column: NONE

Extent of water receded below what appears to be typical shoreline: AVERAGE

Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-16-10 Time on survey 1630 - 1730

Lake DEAD MAN Township ____ N Range ____ W Section ____

Weather 70° F / 20% COVER / 15 MPH NW

Boat launch description/condition POOR - LOW WATER MUST CARRY MOTOR BOAT IN

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) PERIMETER

Water color CLEAR Turbidity NO

AIS observed

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) ____

Shoreline development NONE

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW - ROCKS + SAND + LOW USE

Do you think an annual AIS check is needed or could the interval be less frequent? 3 YEARS OR MORE

Explain ____

LAKE FLORA QUICK CHECK CARD

Lake name DEAD MAN ____ T____ N R____ W, Section (*where you start survey*)_____
Date 8-16-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

LOW WATER

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (1 %) Emergents (1 %) Submergents (5 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

O yellow water lily
O white water lily
___ water shield
C bur-reed
D pond weed
___ duckweed
___ water knotweed
___ _____
D ALT-LEAF PONDWEED
___ _____
___ _____
___ _____
___ _____

PREVIOUS SURVEY SAID WATER SHIELD BUT PONDWEEDS

___ 3-way sedge
___ sedge (other than 3-way)
O rush
C wild rice
___ grass (other than wild rice)
O arrowhead
___ spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
D pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
O rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
O water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)
DEAD MAN LAKE SAMPLE

Water color (*clear, turbid, stained*): CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: H2O 2 FEET LOW
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____
Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) Matt Hare / Rob Carlson Date 8-16-10 Time on survey 1300 - 1400

Lake Eel Lake Township____N Range____W Section____

Weather 40% cover / 15 mph NW / 70°F

Boat launch description/condition Good

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) Perimeter of Lake

Water color Clear Turbidity No

AIS observed

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type)____

Shoreline development No

Connection to other waterbodies No

Potential for AIS establishment (low, medium, high, why, likely invaders)____

Do you think an annual AIS check is needed or could the interval be less frequent? Bi-Annual

Explain____

LAKE FLORA QUICK CHECK CARD

Lake name EEL LAKE T___N R___W Section (*where you start survey*)_____
Date 8-16-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (5 %) Emergents (1 %) Submergents (40 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

C yellow water lily	C 3-way sedge	O chara or nitella
O white water lily	___ sedge (other than 3-way)	C watermilfoil
D C water shield	C rush	D C pondweed
C bur-reed	O wild rice	C coontail
C pond weed	C grass (other than wild rice)	___ water buttercup
___ duckweed	___ arrowhead	O bladderwort
___ water knotweed	___ spikerush	O water starwort
___	___ horsetail	C elodea (waterweed)
___ PERP / BIG-LEAF /	C C iris	___ golden pert
___ NARROW-LEAF / FLAT-	C cattail	C rush
___ STEM / ALTERNATE-LEAF	___ calla lily	O naiad
___ PONDWEEDS	___ pickerel weed	___ pipewort
___	___	___ quillwort (Isoetes)
	___	___ shoregrass (Littorella)
	___	___ water lobelia
	___	C water bulrush
	___	___ wild celery
		___ water marigold
		___
		___
		___
		___

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): _____
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: NORMAL LEVEL
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): NONE
Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-10 Time on survey 40 MIN.

Lake GRASS LAKE Township 44 N Range 39 W Section 26

Weather SUNNY

Boat launch description/condition UNIMPROVED & VERY DIFFICULT TO LAUNCH MOTOR BOAT

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck (Debris) Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average (Don't know)

Survey area description (also sketch on topo map) SHORELINE & ENTIRE EAST END

Water color CLEAR Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) _____

Shoreline development 4 HOUSES AROUND LAKE

Connection to other waterbodies NONE

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW USAGE & VERY SHALLOW EAST END WHERE NO GROWTH IS OCCURING. NO HARD SUBSTRATE FOR ZEBRA'S TO ATTACH TO.

Do you think an annual AIS check is needed or could the interval be less frequent? LESS FREQUENT

Explain LOW USAGE & SMALL LAKE

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name GRASS LAKE T 44 N R 39 W Section (*where you start survey*) SE6

Date 8-16-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

CLEAR LAKE W/ HIGH ORGANIC SUBSTRATE BUT VERY LOW/ LIMITED GROWTH.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (0 %) Emergents (1 %) Submergents (1 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
___ white water lily
___ water shield
X bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

X 3-way sedge
___ sedge (other than 3-way)
___ rush
___ wild rice
___ grass (other than wild rice)
___ arrowhead
X spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
___ pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
X pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR

Extent of algae in water column: LOTS OF SUBSURFACE ALGAE

Extent of water receded below what appears to be typical shoreline: WATER LEVEL LOOKS LOW, BUT BEEN THAT WAY FOR A WHILE

Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-12-10 Time on survey _____

Lake HAGAR Township ____ N Range ____ W Section _____

Weather 65°F / 15 MPH (W) / 10% COVER

Boat launch description/condition CARRY IN FROM ROAD

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) PERIMETER - ALL

Water color CLEAR Turbidity NO

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) _____

Shoreline development 1 CABIN

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW - CARRY IN ACCESS

Do you think an annual AIS check is needed or could the interval be less frequent? 3 YEARS?

Explain _____

LAKE FLORA QUICK CHECK CARD

Lake name HAGAR T___N R___W Section (*where you start survey*) 915 - 1015
Date 8-17-10 Observer(s) HARP CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (1 %) Emergents (1 %) Submergents (2 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

O yellow water lily
___ white water lily
___ water shield
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ ___
C 2 UNKNOWN SAMPLE
___ FROM SODDEN
___ ___
C PITCHER PLANT
___ ___

___ 3-way sedge
___ sedge (other than 3-way)
O rush
___ wild rice
___ grass (other than wild rice)
___ arrowhead
O spikerush
___ horsetail
O iris
___ cattail
___ calla lily
___ pickerel weed
___ ___
___ ___
___ ___
___ ___
___ ___

___ chara or nitella
C watermilfoil NORTHERN
___ pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ ___
___ ___
___ ___
___ ___

Specimens collected? Yes (No) (give to Botany staff)

Water color (*clear, turbid, stained*): ___
Extent of algae in water column: ___
Extent of water receded below what appears to be typical shoreline: ___
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): ___
Threats/concerns: ___

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-17-10 Time on survey 1400-1600

Lake HANNAH / WEBB LAKE Township ____ N Range ____ W Section ____

Weather 70° F / 0% COVER / 5-10 MPH NW

Boat launch description/condition GRAVEL - LAKE LOW - CARPET OFF TRAILER

Dominant substrate (*circle one*) Mud (Sand) Rock (Gravel) Muck Debris Unknown Other

Present lake level relative to average (*circle one*) (Lower) Higher Average Don't know

Survey area description (also sketch on topo map) ALL PERIMETER OF LAKE

Water color CLEAR Turbidity NO

AIS observed

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, (medium), high, type) ____

Shoreline development SEVERAL CABINS (8-10?)

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW - ROCK + SAND - MEDIUM USAGE

Do you think an annual AIS check is needed or could the interval be less frequent? BI - ANNUAL

Explain ____

LAKE FLORA QUICK CHECK CARD

Lake name HANNA WEBB T___N R___W Section (*where you start survey*)_____
Date 8-17-10 Observer(s) HARF / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

VERY CLEAR 1000'S OF BLUEGILL (STUNTED) - STOCK A PREDATOR!
2 GUYS ON SHORE SAID TROUT FISHING IS POOR

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (1 %) Emergents (2 %) Submergents (5 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

C yellow water lily
___ white water lily
___ water shield
O bur-reed
C pond weed
___ duckweed
___ water knotweed
C UNKNOWN SAMPLE

___ 3-way sedge
___ sedge (other than 3-way)
C rush
C wild rice
___ grass (other than wild rice)
___ arrowhead
C spikerush
O horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed

___ chara or nitella
___ watermilfoil
C pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
C rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
C water bulrush
___ wild celery
___ water marigold

Specimens collected? Yes (No) (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: DOWN 3'+
Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): NONE
Threats/concerns:

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FELZ, TED SCHROEDER Date 8-17-10 Time on survey 1 HR 20 MIN

Lake HARDING Township 46 N Range 37 W Section 23

Weather SUNNY

Boat launch description/condition UNIMPROVED, SHALLOW, BUT LAUNCHABLE

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE, LITTORAL ZONE

Water color STAINED SLIGHTLY Turbidity MODERATE

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) RECREATION, FISHING

Shoreline development 2% 2 - HOUSES

Connection to other waterbodies SILK LAKE

Potential for AIS establishment (low, medium, high, why, likely invaders) SHALLOW AREAS PROVIDE POTENTIAL FOR EWM/CLP, BUT LOW USE DECREASES POTENTIAL FOR AIS TO BE TRANSFERED

Do you think an annual AIS check is needed or could the interval be less frequent? LESS

Explain LOW USE & SMALL LAKE.

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name HARDING T 46 N R 37 W Section (*where you start survey*) 23

Date 8-17-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

LAKE IS SLIGHTLY STAINED WATER WITH MODERATE TURBIDITY. NUTRIENT LEVEL SEEMS TO BE MEIATROPHIC.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (_____ %) Emergents (_____%) Submergents (_____%)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

- X yellow water lily O
- X white water lily O
- X water shield O
- X bur-reed C
- ___ pond weed
- ___ duckweed
- ___ water knotweed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- X 3-way sedge C
- ___ sedge (other than 3-way)
- ___ rush
- X wild rice O
- ___ grass (other than wild rice)
- ___ arrowhead
- ___ spikerush
- ___ horsetail
- X iris T
- X cattail O
- ___ calla lily
- ___ pickerel weed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- ___ chara or nitella
- X watermilfoil T
- X pondweed O
- ___ coontail
- ___ water buttercup
- X bladderwort O
- ___ water starwort
- ___ elodea (waterweed)
- ___ golden pert
- ___ rush
- X naiad T
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ wild celery
- ___ water marigold
- ___ _____
- ___ _____
- ___ _____
- ___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): SLIGHTLY STAINED, MODERATE TURBIDITY

Extent of algae in water column: SOME PLANTONIC W/ SOME SUBSURFACE

Extent of water receded below what appears to be typical shoreline: AVERAGE

Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) MATT HARP / ROY CARLSON Date 8-16-10 Time on survey 11:45 - 12:30

Lake HENRY LAKE Township____ N Range____ W Section____

Weather 40% COVER 15 MPH (NW)

Boat launch description/condition MESH EXPOSED - GOOD

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher (Average) Don't know

Survey area description (also sketch on topo map) PERIMETER OF LAKE

Water color STAINED Turbidity NO

AIS observed

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, (medium), high, type) CAMPERS

Shoreline development NONE - OTHER THAN CAMPGROUND

Connection to other waterbodies NO

Potential for AIS establishment (low, (medium), high, why, likely invaders)____

Do you think an annual AIS check is needed or could the interval be less frequent? EVERY OTHER OR 3rd year

Explain____

LAKE FLORA QUICK CHECK CARD

Lake name HENRY LAKE T____N R____W, Section (*where you start survey*)_____
Date 8-16-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (30 %) Emergents (5 %) Submergents (60 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

O yellow water lily	___ 3-way sedge	___ chara or nitella
C ~~X~~ white water lily	___ sedge (other than 3-way)	C ~~X~~ watermilfoil NORTHERN
D water shield	___ rush	___ pondweed
___ bur-reed	C ~~X~~ wild rice	___ coontail
O pond weed	O grass (other than wild rice)	___ water buttercup
___ duckweed	___ arrowhead	C ~~X~~ bladderwort
___ water knotweed	O spikerush	___ water starwort
___ _____	___ horsetail	___ elodea (waterweed)
___ _____	___ iris	___ golden pert
___ _____	C cattail	___ rush
___ _____	___ calla lily	___ naiad
___ _____	___ pickerel weed	___ pipewort
___ _____	___ _____	___ quillwort (Isoetes)
	___ _____	___ shoregrass (Littorella)
	___ _____	___ water lobelia
	___ _____	___ water bulrush
	___ _____	___ wild celery
		___ water marigold
		___ _____
		___ _____
		___ _____
		___ _____

PERIMETER OF LAKE IS WATERSHIELD, LILY + ALT. LEAF PONDWEED

Specimens collected? Yes No (give to Botany staff)
N. MILFOIL

Water color (*clear, turbid, stained*): _____
Extent of algae in water column: NOT MUCH (2%?) - FILAMENTOUS
Extent of water receded below what appears to be typical shoreline: AT SHORELINE
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____
Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-10 Time on survey 1 HR.

Lake ~~HORSEY~~ HOLLY LAKE Township 45 N Range 42 W Section 30

Weather SUNNY, PARTLY CLOUDY

Boat launch description/condition NO BOAT (MOTOR) LAUNCH, CARRY-IN UNIMPROVED

Dominant substrate (*circle one*) Mud Sand (Rock) (Gravel) Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher (Average) Don't know

Survey area description (also sketch on topo map) SHORELINE & LITTOREL ZONE

Water color SLIGHTLY STAINED Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) VERY LOW, NO MOTOR ACCESS

Shoreline development NONE

Connection to other waterbodies —

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW DUE TO ROCKY/GRAVEL/SANDY SUBSTRATE & LOW USE DUE TO LIMITED ACCESS

Do you think an annual AIS check is needed or could the interval be less frequent? LESS FREQUENT

Explain LIMITED ACCESS & LOW PRESSURE/USE

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name Holly Lake T 45 N R 42 W Section (*where you start survey*) 30

Date 8-16-10 Observer(s) Matt Folz, Ted Schroeder

General description of lake (*setting, nutrient level, obvious concerns*):

No Submergent Vegetation Seen or Sampled Most Likely Due To Large Amount of Hard Bottom Substrates.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (8 %) Emergents (2 %) Submergents (0 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
X white water lily T
X water shield D
X bur-reed C
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

___ 3-way sedge
___ sedge (other than 3-way)
___ rush
X wild rice C
___ grass (other than wild rice)
___ arrowhead
___ spikerush
X horsetail C
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
___ pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): Slightly Stained w/ Low Turbidity

Extent of algae in water column: No Algae Seen

Extent of water receded below what appears to be typical shoreline: Average Water Level

Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-17-10 Time on survey 1 HR 40 MIN.

Lake JAMES LAKE Township 44 N Range 37 W Section 14

Weather SUNNY

Boat launch description/condition IMPROVED LAUNCH IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE

Water color CLEAR Turbidity NONE

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) RECREATION, FISHING

Shoreline development 2-3 HOUSES 1% DEVELOPED

Connection to other waterbodies ——

Potential for AIS establishment (low, medium, high, why, likely invaders) LACK OF SUBMERGENT VEGETATION MAKES IT UNLIKLY THAT EWM/CLP COULD ESTABLISH. ROCKY SUBSTRATE HAS POTENTIAL FOR ZEBRA MUSSLES.

Do you think an annual AIS check is needed or could the interval be less frequent? LESS - LACK OF

Explain VEGETATION & LOW/MODERATE USE MAKES IT LESS LIKLY FOR AIS.

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name JAMES LAKE T 44 N R 37 W Section (*where you start survey*) 14

Date 8-17-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

LAKE LOOKS TO BE HIGHLY OLIGATROPHIC. NO SUBMERGENT VEGATATION FOUND THROUGHOUT WATER BODY.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (1 %) Emergents (1 %) Submergents (0 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

- T yellow water lily T
- ___ white water lily
- ___ water shield
- N bur-reed C
- ___ pond weed
- ___ duckweed
- ___ water knotweed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- O 3-way sedge C
- ___ sedge (other than 3-way)
- X rush
- ___ wild rice
- ___ grass (other than wild rice)
- ___ arrowhead
- ✓ spikerush C
- ___ horsetail
- ___ iris
- O cattail O
- ___ calla lily
- ___ pickerel weed
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- ___ chara or nitella
- ___ watermilfoil
- ___ pondweed
- ___ coontail
- ___ water buttercup
- ___ bladderwort
- ___ water starwort
- ___ elodea (waterweed)
- ___ golden pert
- ___ rush
- ___ naiad
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- O water bulrush
- ___ wild celery
- ___ water marigold
- ___ _____
- ___ _____
- ___ _____
- ___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR, NO TURBIDITY

Extent of algae in water column: SOME ~~SUBMER~~ SUBSURFACE ALGAE ATTACHED TO ROCKS

Extent of water receded below what appears to be typical shoreline: SLIGHTLY BELOW AVERAGE

Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____

Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-16 Time on survey 1 HR 25 MIN

Lake LITTLE OXBOW Township 45 N Range 43 W Section 35

Weather SUNNY CLEAR SKY

Boat launch description/condition IMPROVED LAUNCH IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE & LITOREL ZONE

Water color STAINED Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) RECREATION

Shoreline development 20% DEVELOPED

Connection to other waterbodies DOWNY LAKE, FLICKER LAKE

Potential for AIS establishment (low, medium, high, why, likely invaders) SMALL LITORAL ZONE AROUND SHORELINE. COMRISED MOSTLY OF FLOATING-LEAF VEGETATION. EWM

Do you think an annual AIS check is needed or could the interval be less frequent? LESS FREQUENT

Explain LOW DEVELOPMENT, LOW TRAFFIC & RELATIVE SMALL LITORAL %

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name LITTLE OXBOW T 45 N R 43 W Section (*where you start survey*) 35

Date 8-16-10 Observer(s) MATT FOLZ, TED S.

General description of lake (*setting, nutrient level, obvious concerns*):

WATER CLARITY IS LOW. WATER SHEILD COMPRISES THE MAJORITY OF THE LITTOREL ZONE. LARGE-LEAF PONDWEED WAS THE MOST COMMON PONDWEED OBSERVED.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (15 %) Emergents (5 %) Submergents (5 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily	X 3-way sedge D	___ chara or nitella
X white water lily T	___ sedge (other than 3-way)	X watermilfoil O
X water shield D	___ rush	X pondweed C
___ bur-reed	X wild rice O	___ coontail
___ pond weed	___ grass (other than wild rice)	___ water buttercup
X duckweed T	___ arrowhead	X bladderwort T
___ water knotweed	___ spikerush	___ water starwort
___	___ horsetail	___ elodea (waterweed)
___	X iris O	___ golden pert
___	X cattail O	X rush O
___	___ calla lily	X naiad O
___	___ pickerel weed	___ pipewort
___	___	___ quillwort (Isoetes)
___	___	___ shoregrass (Littorella)
	___	___ water lobelia
	___	___ water bulrush
	___	___ wild celery
		X water marigold T
		___
		___
		___
		___

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): STAINED

Extent of algae in water column: LITTLE TO NONE

Extent of water receded below what appears to be typical shoreline: WATER LEVEL ABOVE AVG.

Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): NO AIS SEEN

Threats/concerns:

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-10 Time on survey 40 MIN

Lake MOOSEHEAD LAKE Township 44 N Range 42 W Section 6

Weather SUNNY, CLEAR SKY'S

Boat launch description/condition SHALLOW BUT IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck (Debris) Unknown Other

Present lake level relative to average (*circle one*) Lower Higher (Average) Don't know

Survey area description (also sketch on topo map) SHORELINE & LITTORAL ZONE

Water color SLIGHTLY STAINED Turbidity LOW

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) NO COTTAGES

Shoreline development NONE

Connection to other waterbodies LITTLE PRESQUE ISLE LAKE

Potential for AIS establishment (low, medium, high, why, likely invaders) HIGH AMOUNT OF NATIVE MILFOIL

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL

Explain VERY HIGH AMOUNTS OF NATIVE MILFOIL CAN MAKE IT EASY TO MISS EWM. LITTOREL ZONE IS COMPRISED 95% OF NATIVE MILFOIL

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name MOOSEHEAD LAKE T 44 N R 42 W Section (*where you start survey*) 4

Date 8-16-10 Observer(s) MATT FOLZ, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

LAKE'S LITTOREL ZONE IS MAINLY COMPRISED OF NATIVE MILFOIL. NO EWM WAS SEEN OR SAMPLED BUT WITH THE EXTENT OF NATIVE MILFOIL, EWM COULD BE MISSED

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (5 %) Emergents (2 %) Submergents (15 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

X yellow water lily
X white water lily
X water shield
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

X 3-way sedge
___ sedge (other than 3-way)
___ rush
___ wild rice
___ grass (other than wild rice)
X arrowhead
___ spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
X watermilfoil
X pondweed
X coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
X water bulrush
X wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes (No) (give to Botany staff)

Water color (*clear, turbid, stained*): WATER CLARITY SLIGHTLY STAINED w/ LOW TURBIDITY

Extent of algae in water column: LITTLE TO NO ALGAEA

Extent of water receded below what appears to be typical shoreline: NORMAL

Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): NO AIS SEEN.

Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-16-10 Time on survey 1415 –

Lake MORAINE LAKE Township ___ N Range 6 ~~E~~ Section 22

Weather 70°F / 40% COVER / 15 MPH (NW)

Boat launch description/condition GOOD – SOME RUTS

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) PERIMETER

Water color CLEAR Turbidity NO

AIS observed

Species ___ Location (in lake) ___

Abundance ___ GPS ___

Sample taken (*circle one*) Yes No

Species ___ Location (in lake) ___

Abundance ___ GPS ___

Sample taken (*circle one*) Yes No

Species ___ Location (in lake) ___

Abundance ___ GPS ___

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) ___

Shoreline development YES

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) BOAT RAMP

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUALLY

Explain COTTAGES + BOAT RAMP

LAKE FLORA QUICK CHECK CARD

Lake name MORAINE T___N R___W Section (*where you start survey*)_____
Date 8-16-10 Observer(s) CARLSON / HARP
General description of lake (*setting, nutrient level, obvious concerns*):

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (3 %) Emergents (1 %) Submergents (20 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

O yellow water lily	___ 3-way sedge	O ~~chara or~~ nitella NO
___ white water lily	___ sedge (other than 3-way)	O watermilfoil
C water shield	C rush	C pondweed
C bur-reed	O wild rice	___ coontail
___ pond weed	C grass (other than wild rice)	___ water buttercup
___ duckweed	___ arrowhead	O bladderwort
___ water knotweed	O spikerush	O water starwort
C Fern Pondweed	___ horsetail	C elodea (waterweed)
O American Pondweed	O iris	___ golden pert
___	O cattail	C rush
___	___ calla lily	___ naiad
___	D pickerel weed	___ pipewort
___	___	___ quillwort (Isoetes)
	O WATER PARSNIP	___ shoregrass (Littorella)
	___	___ water lobelia
	___	C water bulrush
	___	O wild celery
		___ water marigold
		O Water Crowfoot
		___
		___
		___

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: NORMAL
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): NONE
Threats/concerns:

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-17-10 Time on survey 10:30 - 1200

Lake NORWAY LAKE Township____ N Range____ W Section____

Weather 10% COVER / 15 MPH NW / 70°F

Boat launch description/condition____

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know DOWN 2-3 FEET

Survey area description (also sketch on topo map) ALL PERIMETER

Water color CLEAR Turbidity NO

AIS observed

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) CAMPERS,

Shoreline development 1 CABIN, BOAT RAMP, CAMPGROUND

Connection to other waterbodies NO - NEAR NESBIT

Potential for AIS establishment (low, medium, high, why, likely invaders) HIGHER USE BUT SAND + ROCK SO LOW LIKELIHOOD OF INFESTATION BY CLP OR EWM

Do you think an annual AIS check is needed or could the interval be less frequent? BI - ANNUAL

Explain____

LAKE FLORA QUICK CHECK CARD

Lake name NORWAY LAKE T___N R___W Section (*where you start survey*)_____
Date 8-17-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

VERY CLEAR, FEW PLANTS, A FEW CAMPERS, LOON SIGHTED, 1 BOAT ON LAKE (4 FISHING), 2 HIKERS

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (_____%) Emergents (1 %) Submergents (_____%)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

C yellow water lily
___ white water lily
___ water shield
O bur-reed
C pond weed
___ duckweed
___ water knotweed
___ _____
C UNKNOWN SAMPLE
___ FROM PREVIOUS SITES
___ _____
___ _____
___ _____

___ 3-way sedge
___ sedge (other than 3-way)
O rush
C wild rice
___ grass (other than wild rice)
___ arrowhead
O spikerush
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
C pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
O rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
O water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes (No) (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears ~~to be typical~~ shoreline: 2-3 FEET LOW
Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____
Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLZ, TED SCHROEDER Date 8-16-10 Time on survey 1 HR. 15 MIN.

Lake ORMES LAKE Township 45 N Range 43 W Section 26

Weather SUNNY, PARTLY CLOUDY

Boat launch description/condition IMPROVED LAUNCH IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) ENTIRE SHORELINE & LITTOREL ZONE

Water color CLEAR 6-7 FT VISABILITY Turbidity NONE

AIS observed

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Species _____ Location (in lake) _____

Abundance _____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low medium high, type) RECREATIONAL

Shoreline development 10 % 3 CABINS ON LAKE

Connection to other waterbodies _____

Potential for AIS establishment (low medium high, why, likely invaders) CLEAR WATER & SHALLOW PARTS OF LAKE GIVE PLACES WHERE AIS COULD GROW BUT W/ DOMINATE SAND SUBSTRATE & LOW NUMBERS OF NATIVE SUBMERGENT PLANTS GROWTH COULD BE LIMITED

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL - SHALLOW BAYS

Explain & CLEAR WATER HAS POTENTIAL FOR AIS TO GET ESTABLISHED.

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name ORMES T 45 N R 43 W Section (*where you start survey*) 26

Date 8-16-10 Observer(s) MATT FOLK, TED SCHROEDER

General description of lake (*setting, nutrient level, obvious concerns*):

WATER SHIELD COMPRISES MAJORITY OF THE LITORAL ZONE. VERY FEW SUBMERGENT PLANTS.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:

Floating leaved plants (20 %) Emergents (5 %) Submergents (5 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
X white water lily C
X water shield D
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ ___
___ ___
___ ___
___ ___
___ ___
___ ___

X 3-way sedge C
___ sedge (other than 3-way)
X rush O
X wild rice O
___ grass (other than wild rice)
X arrowhead T
___ spikerush
___ horsetail
X iris T
X cattail O
___ calla lily
___ pickerel weed
___ ___
___ ___
___ ___
___ ___
___ ___

___ chara or nitella
___ watermilfoil
X pondweed O
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
X pipewort T
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ ___
___ ___
___ ___
___ ___

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR

Extent of algae in water column: VERY LOW TO NO ALGAE

Extent of water receded below what appears to be typical shoreline: ___

Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline

INVASIVE SPECIES SEEN (list species and complete weed reporting form): ___

Threats/concerns: ___

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-16-10 Time on survey 1800 - 1900

Lake STEUSSER Township_____N Range_____W Section_____

Weather 70° F / 20% CLOUD / 15 MPH NW

Boat launch description/condition STEEP, GRAVEL, WASHED OUT

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) PERIMETER

Water color_____ Turbidity_____

AIS observed

Species_____ Location (in lake)_____

Abundance_____ GPS _____

Sample taken (*circle one*) Yes No

Species_____ Location (in lake)_____

Abundance_____ GPS _____

Sample taken (*circle one*) Yes No

Species_____ Location (in lake)_____

Abundance_____ GPS _____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type)_____

Shoreline development 2 CABINS, PICNIC AREA

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) HIGH USE

Do you think an annual AIS check is needed or could the interval be less frequent? BI - ANNUAL

Explain_____

LAKE FLORA QUICK CHECK CARD

Lake name STEUSSER T____N R____W Section (*where you start survey*)_____
Date 8-16-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (2 %) Emergents (1 %) Submergents (5 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

C yellow water lily
___ white water lily
___ water shield
D bur-reed
D pond weed
___ duckweed
___ water knotweed
___ _____
C Alt. leaf P.W.
___ _____
___ _____
___ _____
___ _____

___ 3-way sedge
___ sedge (other than 3-way)
O rush
C wild rice
C grass (other than wild rice)
O arrowhead
C spikerush
___ horsetail
___ iris
O cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
D pondweed
___ coontail
___ water buttercup
___ bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
O rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
O water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes (No) (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: DOWN 2 FEET
Aquatic flora distribution (*circle one*): (evenly distrbuted) widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): NONE
Threats/concerns:_____

AIS Lake Survey Record

Surveyor(s) HARP / CARLSON Date 8-17-10 Time on survey 730 - 830

Lake SUDDEN LAKE Township____ N Range____ W Section____

Weather 65° F / 5 MPH (W) / 20% COVER

Boat launch description/condition LAKE LEVEL LOW - CARRY BOAT OFF TRAILER

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) PERIMETER (ALL)

Water color STAINED CLEAR Turbidity NO

AIS observed

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Species____ Location (in lake)____

Abundance____ GPS____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type)____

Shoreline development 1 CABIN / BOAT RAMP

Connection to other waterbodies NO

Potential for AIS establishment (low, medium, high, why, likely invaders) LOW USE

Do you think an annual AIS check is needed or could the interval be less frequent? 3 YEARS ?

Explain____

LAKE FLORA QUICK CHECK CARD

Lake name SUDDEN T____N R____W Section (*where you start survey*)_____
Date 8-17-10 Observer(s) HARP / CARLSON
General description of lake (*setting, nutrient level, obvious concerns*):

LOW LEVEL DOWN 3'

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (_____ %) Emergents (_____%) Submergents (_____%)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

C- ___ yellow water lily
O white water lily
C water shield
C bur-reed
O pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

___ 3-way sedge
___ sedge (other than 3-way)
C rush
C wild rice
___ grass (other than wild rice)
___ arrowhead
O spikerush
O horsetail
___ iris
O cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
O pondweed
___ coontail
___ water buttercup
O bladderwort
___ water starwort
___ elodea (waterweed)
___ golden pert
C rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
C water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

BOTTOM COVER PLANT? + BLADDERWORT? IMM.

Water color (*clear, turbid, stained*): STAINED / CLEAR
Extent of algae in water column: NONE
Extent of water receded below what appears to be typical shoreline: 3' LOW
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____
Threats/concerns: _____

DRAFT

AIS Lake Survey Record

Surveyor(s) MATT FOLTZ, TED SCHROEDER Date 8-17-10 Time on survey 1 HR. 15 MIN.

Lake TEPEE LAKE Township ____ N Range ____ W Section ____

Weather SUNNY

Boat launch description/condition IMPROVED LAUNCH IN GOOD CONDITION

Dominant substrate (*circle one*) Mud Sand Rock Gravel Muck Debris Unknown Other

Present lake level relative to average (*circle one*) Lower Higher Average Don't know

Survey area description (also sketch on topo map) SHORELINE, LITTORAL ZONE

Water color CLEAR Turbidity LOW

AIS observed

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Species ____ Location (in lake) ____

Abundance ____ GPS ____

Sample taken (*circle one*) Yes No

Vulnerability assessment

Apparent usage of lake (low, medium, high, type) RECREATION, FISHING

Shoreline development 4 HOUSES, PLUS BEACH & CAMP

Connection to other waterbodies TEPEE CREEK

Potential for AIS establishment (low, medium, high, why, likely invaders) BIGGER LAKE W/ ENOUGH TRAFFIC TO INTRODUCE AIS. ROCKY SUBSTRATES AVALABLE FOR ZEBRA MUSCLES TO ESTABLISH.

Do you think an annual AIS check is needed or could the interval be less frequent? ANNUAL. LARGE

Explain ENOUGH WATER BODY & ENOUGH TRAFFIC THAT AIS COULD ENTER

DRAFT

LAKE FLORA QUICK CHECK CARD

Lake name TEPEE LAKE T____N R____W Section (*where you start survey*)_____
Date 8-17-10 Observer(s) MATT FOLZ, TED SCHROEDER
General description of lake (*setting, nutrient level, obvious concerns*):
LAKE IS LARGELY DOMINATED BY WATER SHEILD, IN PLACES EXTENDING 300' OUT FROM SHORE

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (20 %) Emergents (2 %) Submergents (10 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace.

___ yellow water lily
___ white water lily
X water shield D
___ bur-reed
___ pond weed
___ duckweed
___ water knotweed
___ _____
___ _____
___ _____
___ _____
___ _____
___ _____

X 3-way sedge O
___ sedge (other than 3-way)
___ rush
___ wild rice
___ grass (other than wild rice)
___ arrowhead
X spikerush O
___ horsetail
___ iris
___ cattail
___ calla lily
___ pickerel weed
___ _____
___ _____
___ _____
___ _____
___ _____

___ chara or nitella
___ watermilfoil
X pondweed C
___ coontail
___ water buttercup
X bladderwort O
___ water starwort
___ elodea (waterweed)
___ golden pert
___ rush
___ naiad
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ wild celery
___ water marigold
___ _____
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

Water color (*clear, turbid, stained*): CLEAR, LOW TURBIDITY
Extent of algae in water column: SOME SUBSURFACE ALGAE
Extent of water receded below what appears to be typical shoreline: JUST ABOVE AVERAGE
Aquatic flora distribution (*circle one*): evenly distrbuted widely scattered clumped in 1-few locations near shoreline
INVASIVE SPECIES SEEN (list species and complete weed reporting form): _____
Threats/concerns: _____