AIS Lake Survey Record

Surveyor(s) Andrea Borgolongo & Scott Smith Date 7/18/10 Time on survey 3:15 pm - 4:15 pm

Lake Crystal Lake Township 47 N Range 36 W Section 1

Weather Overcast, still

Boat launch description/condition Sandy launch area ≈ 20 ft from the water level with dry muck between.

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 - much lower

Survey area description (also sketch on topo map) Surveyed lake shore as well as we could considering the low levels. See GPS track.

Water color Colorless Turbidity clear unless we disturbed the muck

AIS observed *circle (NONE) or use lines below*

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) Previous high use. Current extremely low levels make the lake unusable.

Shoreline development Sandy boat launch.

Connection to other waterbodies unknown

Potential for AIS establishment (low, medium, high, why, likely invaders) low for target species because of low use.

Do you think an annual AIS check is needed or could the interval be less frequent? less frequent unless level should be checked.

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 7/18/10 Time on survey 3:15 pm - 4:15 pm

Lake Crystal Lake Township 47 N Range 36 W Section 1 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
Extremely low water level. Fish cages out of the water, no plants growing in the water, fish scurrying in the muck in some places. Plants were all growing in the muck above the water line.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species: - Plants above muck line
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. Circle one if multiple species listed on line.

___ yellow water lily (spatterdock)
___ white water lily
___ water shield
O bur-reed
___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
___ duckweed
___ water knotweed
___ water starwort
___ _____
___ _____
___ _____
___ _____

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

___ chara or nitella
___ watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
___ bladderwort
___ elodea (waterweed)
___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
O pipewort
T quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ water marigold
___ golden hedgehyssop
___ _____
___ _____
___ _____

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

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only) (above water level)
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other None
Threats/concerns: Very low water level, could not navigate some areas.

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 7/4/10 Time on survey 6 pm - 7 pm

Lake Estes Lake Township 48 N Range 36 W Section 13

Weather Overcast

Boat launch description/condition Sandy / rocky - directly off the 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) Entire shoreline and crossed lake.

Water color clear Turbidity clear

AIS observed *circle (NONE) or use lines below*

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) Medium / High - cabins, one camper, one row boat stored at the lake

Shoreline development Two private cabins on the lake

Connection to other waterbodies none seen

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? annual

Explain Several discarded worm cartons in the water. The lake is being fished by individuals unlikely to be careful about introducing invasive species.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 7/4/10 Time on survey 6pm - 7pm

Lake Estes Lake Township 48 N Range 36 W Section 13 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
The tree line is 20 - 30 feet away from the water line. There is evidence of use at the boat launch.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (<1 %) Emergents (____ % at shoreline only) Submergents (90 % of visible lake bottom)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- T yellow water lily (spatterdock)
- ___ white water lily
- D water shield
- C bur-reed
- T pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- ___ duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

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

- ___ chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- ___ water buttercup
- ___ bladderwort
- ___ elodea (waterweed)
- ___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- ___ naiad
- ___ wild celery
- C pipewort
- D quillwort (Isoetes)
- C shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

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

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): (Evenly distributed) Widely scattered Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other None
Threats/concerns: Several worm cartons in the water

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo & Scott Smith Date 8/1/10 Time on survey 6:15 pm - 7:15 pm

Lake Glare Lake Township 46 N Range 36 W Section 2

Weather Overcast, still

Boat launch description/condition Good condition, new rocks recently placed.

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 – maybe slightly low

Survey area description (also sketch on topo map) Surveyed shoreline and crossed lake. See GPS track.

Water color Stained Turbidity Clear

AIS observed *circle* **NONE** *or use lines below*

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 Glitter Lake

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

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

Explain Access to the lake is somewhat limited and there is no way to launch a motorized boat.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 8/1/10 Time on survey 6:15 pm - 7:15 pm

Lake Clare Lake Township 46 N Range 36 W Section 2 or County Iron

General description of lake (*setting, nutrient level, obvious concerns*):
There is an active beaver dam.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (10 %) Emergents (at shoreline only %) Submergents (100 % of visible area

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- D yellow water lily (spatterdock)
- C white water lily
- ___ water shield
- C bur-reed
- C pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- O duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- T 3-way sedge
- C sedge (other than 3-way)
- C rush
- ___ wild rice
- C grass (other than wild rice)
- O arrowhead
- C spikerush
- ___ water horsetail
- C iris
- ___ cattail
- T wild calla
- ___ pickerel weed
- D Myrica gale
- C Comarum palustre
- O Menyanthes trifoliata
- C Hippuris vulgaris

- C chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- C water buttercup
- T bladderwort
- ___ elodea (waterweed)
- C pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- D naiad
- ___ wild celery
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- O water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- C Spiny hornwort
- ___ _____
- ___ _____

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

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): (Evenly distributed) Widely scattered Clumped in 1-few locations (Nearshore only)
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other None
Threats/concerns: no concerns

AIS Lake Survey Record

Surveyor(s) Scott Smith and Andrea Corpolongo Date 7/18/10 Time on survey 6:45-8:30

Lake Glitter Lake Township 46 N Range 36 W Section 2

Weather Sunny, light breeze

Boat launch description/condition Canoe launch stabalized with birch, some logs are loose.

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) surveyed entire lakeshore and crossed lake.

Water color none Turbidity clear

AIS observed *circle* **NONE** *or use lines below*

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) Medium use, canoe only.

Shoreline development none other than launch.

Connection to other waterbodies unknown

Potential for AIS establishment (low, medium, high, why, likely invaders) Medium, canoe use only.

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

Explain there is a loon present on the lake.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo & Scott Smith Date 7/18 Time on survey 6:45-8:30

Lake Glitter Lake Township 46 N Range 36 W Section 2 or County Iron

General description of lake (*setting, nutrient level, obvious concerns*):
There is a loon present on the lake, green frogs, muskrats, and many large clams.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (5 %) Emergents (5 %) Submergents (80 % in visible depths

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

C yellow water lily (spatterdock)
D white water lily
T water shield
T bur-reed
___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
___ duckweed
___ water knotweed
___ water starwort
___ _____
___ _____
___ _____
___ _____

___ 3-way sedge
D sedge (other than 3-way)
C rush
___ wild rice
C grass (other than wild rice)
C arrowhead
___ spikerush
___ water horsetail
C iris
O cattail
T wild calla
___ pickerel weed
C Myrica gale
C Comarum palustre
O Hippuris vulgaris
___ _____

D chara or nitella
T watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
T bladderwort
___ elodea (waterweed)
C pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
O water marigold
___ golden hedgehyssop
___ _____
___ _____
___ _____

Specimens collected? Yes No (give to Botany staff)

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed (Widely scattered) Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other None
Threats/concerns: No obvious concerns

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 7/4/10 Time on survey 3:15 - 4:15 pm

Lake Irish Lake Township 48 N Range 36 W Section 12

Weather Overcast, light wind

Boat launch description/condition Very low water, boat launch area very mucky.

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) Surveyed shoreline and crossed lake. See GPS track.

Water color stained Turbidity low

AIS observed *circle (NONE) or use lines below*

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) medium - there is one area where the muck was dug up for canoe access

Shoreline development none

Connection to other waterbodies unknown

Potential for AIS establishment (low), medium, high, why, likely invaders) Difficult lake to access because of low water levels

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

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 7/4/10 Time on survey 3:15 – 4:15 pm

Lake Irish Lake Township 48 N Range 36 W Section 12 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
Lake very low. In some places the waterlily was growing ten feet above the water line.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (15 %) Emergents ([redacted] %) at shoreline only Submergents (____ %) at shoreline only

Check which species you see. If you can, ossign D for dominont, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- O yellow water lily (spatterdock)
- ___ white water lily
- D water shield
- ___ bur-reed
- ___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- ___ duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

- ___ 3-way sedge
- C sedge (other than 3-way)
- C rush
- ___ wild rice
- ___ grass (other than wild rice)
- ___ arrowhead
- ___ spikerush
- ___ water horsetail
- O iris
- ___ cattail
- O wild calla
- ___ pickerel weed
- O pitcher plant
- C sphagnum moss
- I bog cranberry
- O bog rosemary

- ___ chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- ___ water buttercup
- C bladderwort
- ___ elodea (waterweed)
- ___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- ___ naiad
- ___ wild celery
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

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

Water clarity (*circle one*) Clear (Stained) (Turbid with sediment) Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed (Widely scattered) Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other None
Threats/concerns: Low water level and exposed muck.

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 8/1/10 Time on survey 3:15 pm - 4:30 pm

Lake Kunze Lake Township 47 N Range 35 W Section 30

Weather Overcast, still

Boat launch description/condition Canoe launch in good shape. There is a big drop down before the launch so there is no possible drive down.

Dominant substrate (*circle one*) Mud (Sand at E end) Rock Gravel (Muck in the rest) 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) Survey lake shore and crossed lake. See GPS track

Water color Stained Turbidity Clear

AIS observed *circle (NONE) or use lines below*

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) High, one rowboat "parked" at edge

Shoreline development Near road, a lot of traffic

Connection to other waterbodies unknown

Potential for AIS establishment (low, medium, high, why, likely invaders) medium, more traffic then some of the less accessible lakes, probably visited by fishermen checking out lakes.

Do you think an annual AIS check is needed or could the interval be less frequent? less frequent - every other year

Explain something could be introduced but the lake is healthy.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 8/1/10 Time on survey 3:15 pm - 4:30 pm

Lake Kunze Lake Township 47 N Range 35 W Section 30 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
The lake is mostly open. There is a lot of painted turtles.

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

Floating leaved plants (15 %) Emergents (____ % at shoreline only) Submergents (____ % at shoreline only)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- C yellow water lily (spatterdock)
- __ white water lily
- D water shield
- C bur-reed
- __ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- __ duckweed
- __ water knotweed
- __ water starwort
- __ _____
- __ _____
- __ _____
- __ _____

- O 3-way sedge
- C sedge (other than 3-way)
- C rush
- __ wild rice
- C grass (other than wild rice)
- __ arrowhead
- __ spikerush
- T water horsetail
- T iris
- O cattail
- __ wild calla
- __ pickerel weed
- D Myrica gale
- C Comarum palustre
- C Andromeda polifolia
- __ _____

- __ chara or nitella
- __ watermilfoil : Eurasian, northern variable-leaf, other
- __ coontail
- __ water buttercup
- __ bladderwort
- __ elodea (waterweed)
- O pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- C naiad
- T wild celery
- C pipewort
- C quillwort (Isoetes)
- __ shoregrass (Littorella)
- __ water lobelia
- __ water bulrush
- __ water marigold
- __ golden hedgehyssop
- __ _____
- __ _____
- __ _____

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

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae

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

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

Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only)

INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none

Threats/concerns: No particular concerns.

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo and Scott Smith Date 7/18 Time on survey 4:45 - 6:00

Lake Lower Dam Township 47 N Range 36 W Section 22

Weather Sunny, still

Boat launch description/condition No real launch - we launched near the dam

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) Surveyed shoreline and crossed the lake.

Water color Stained Turbidity Clear

AIS observed *circle (NONE) or use lines below*

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) Medium/High. Men fishing on shore during survey - at least two.

Shoreline development A mowed area

Connection to other waterbodies Dammed section of Ontonagon River

Potential for AIS establishment (low, (medium), high, why, likely invaders) It would be a good env. for CLP or EWM but I don't think there is a big risk of introduction.

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

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo and Scott Smith Date 7/18 Time on survey 4:15 - 6:00 pm

Lake Lower Dam Township 47 N Range 36 W Section 22 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
Alder and evergreens at water's edge. The Elodea is very thick at the inlet.

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

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

___ yellow water lily (spatterdock)
___ white water lily
___ water shield
C bur-reed
C pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
O duckweed
___ water knotweed
___ water starwort
D water smartweed
___ _____
___ _____
___ _____

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

___ chara or nitella
___ watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
___ bladderwort
D elodea (waterweed)
C pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ water marigold
___ golden hedgehyssop
___ _____
___ _____
___ _____

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

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed (Widely scattered) Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none
Threats/concerns: No real concerns

AIS Lake Survey Record

Surveyor(s) Andrea Coredongo + Scott Smith Date 9/5/10 Time on survey 6:15 pm - 7:00pm

Lake Misty Lake Township 45 N Range 41 W Section 31

Weather Sunny, clear, light breeze

Boat launch description/condition Dirt, motor boat accessible

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 and crossed lake

Water color stained - very dark Turbidity clear

AIS observed *circle* **NONE** *or use lines below*

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) medium, fishing

Shoreline development near road - large dirt boat ramp

Connection to other waterbodies unknown

Potential for AIS establishment (low, medium, high, why, likely invaders) medium/high - obviously fished and relatively near know swim sites (I think) though this lake has very little plant growth.

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

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 9/5/10 Time on survey 6:15 - 7:00 pm

Lake Misty Lake Township 45 N Range 41 W Section 31 or County Gogebic

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

Water is very dark - stained but no sediment or algae.

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

Floating leaved plants (C1 %) Emergents (at shoreline only %) Submergents (none seen in the very dark water %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- I yellow water lily (spatterdock)
- ___ white water lily
- ___ water shield
- I bur-reed
- ___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- ___ duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

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

- ___ chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- ___ water buttercup
- ___ bladderwort
- ___ elodea (waterweed)
- ___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- ___ naiad
- ___ wild celery
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

Specimens collected? Yes No (give to Botany staff)

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae

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

Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only)

INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none

Threats/concerns: no particular concerns

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 8/18/10 Time on survey 2:30 pm – 3:45 pm

Lake Paulding Pond Township 46 N Range 39 W Section 15

Weather Partly Cloudy, No Wind

Boat launch description/condition Graveled, drive down. 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) See GPS track

Water color Stained Turbidity Slightly turbid with sediment, could not see paddle when fully submersed

AIS observed *circle* **NONE** *or use lines below*

Species Spotted Knapweed Location (in lake) Lake Shore

Abundance one stand ≈ .002 acres GPS N46.38593 W89.17533

Sample taken (*circle one*) Yes (No)

Species Reed Canary Grass Location (in lake) Lake Shore

Abundance one stand ≈ .012 acres GPS N46.38452 W89.17317

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) Medium. Some trash, campground obviously used, fishing apparent.

Shoreline development Near US Hwy 45. Small campground.

Connection to other waterbodies Dammed section of Bluff Creek

Potential for AIS establishment (low, medium, high, why, likely invaders) Medium potential for survey species to become established.

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

Explain Paulding Pond is the least divesse of any of the lakes we have seen so far, it already has terrestrial invasives on shore. If an aquatic invasive is introduced, it may spread quickly.

LAKE FLORA QUICK CHECK CARD

Observer(s) Scott Smith and Andrea Date 8/8/10 Time on survey 2:30pm - 3:45pm

Lake Paulding Pond Township 46 N Range 39 W Section 15 or County Antonnagon (Corpolongo)

General description of lake (*setting, nutrient level, obvious concerns*):
Dammed section of bluff creek, near main road, edged with sedges & Elodea and duckweed dominant. We spooked several woodducks during the survey.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (30 %) Emergents (_____%) Submergents (99 %)
at shore only

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- O yellow water lily (spatterdock)
- ___ white water lily
- ___ water shield
- T bur-reed
- C pondweed: ribbonleaf, largeleaf, (floatingleaf), variableleaf, other
- D duckweed
- C water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

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

- T chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- ___ water buttercup
- ___ bladderwort
- D elodea (waterweed)
- C pondweed: CLP, robbins, small. claspingleaf, flatstem, (other)
- ___ naiad
- ___ wild celery
- ___ pipewort
- ___ quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

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

Water clarity (*circle one*) ~~Clear~~ Stained Turbid with sediment Turbid with algae - only slightly turbid
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
Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other Spotted Knapweed and Reed Canary Grass on shore
Threats/concerns: No major concerns. No aquatic invasive species

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo & Scott Swik Date 6/27/10 Time on survey 12:15 pm - 3:15 pm w/ 45 min break

Lake Penegor Township 49 N Range 36 W Section 30

Weather Overcast

Boat launch description/condition Canoe launch by campsite, sandy. Some introduced plants such as white clover and wild lettuce at campsite.

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) - seemed slightly low

Survey area description (also sketch on topo map) Surveyed entire lake shore for terget species including dragging a line for spiny waterfleas. Crossed lake at mid point as well.

Water color Clear Turbidity Clear, bottom visible to ≈ 8 ft.

AIS observed *circle* **(NONE)** *or use lines below*

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) occasional camping and fishing - saw one broken fishing line in lake and evidence of fire in campsite

Shoreline development None

Connection to other waterbodies none seen

Potential for AIS establishment (low) medium, high, why, likely invaders) There wasn't much activity on the lake and the nutrient level was low.

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

Explain The lake is not heavily used. There was one loon present on the lake when we arrived and it flew away when we began our survey.

Note: We didn't see the previously noted cowvetch (by FR 1500) but we will look when we are in the area during our other surveys later in the season. - seen 8/1/10, sprayed

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 6/27/10 Time on survey start 12:15pm end 3:15 pm w/45 min break

Lake Peneşor Township 49 N Range 36 W Section 30 or County Houghton

General description of lake (*setting, nutrient level, obvious concerns*):
Spruce, White Pine, and some deciduous trees growing at water's edge. Near road but not a lot of obvious traffic on lake - canoe launch only. One loon present when we arrived, many green frogs seen. Lake was Oligotrophic & bog plants common on dead fall. No obvious concerns.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species: - vegetation only at waters edge and on deadfall
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. Circle one if multiple species listed on line.

T yellow water lily (spatterdock)
___ white water lily
___ water shield
D bur-reed
___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
___ duckweed
___ water knotweed
___ water starwort
___ _____
___ _____
___ _____
___ _____

D 3-way sedge
C sedge (other than 3-way)
___ rush
___ wild rice
O grass (other than wild rice)
___ arrowhead
___ spikerush
___ water horsetail
C iris
___ cattail
C wild calla
___ pickerel weed
C sundew
C Pitcher Plant
C Bog rosemary
C Grass Pink
C leather leaf

___ chara or nitella
___ watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
___ bladderwort
___ elodea (waterweed)
___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
___ pipewort
___ quillwort (Isoetes)
O shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ water marigold
___ golden hedgehyssop
C creeping spearwort
___ _____
___ _____

Specimens collected? Yes (No) (give to Botany staff) C Sphagnum moss

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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) - seemed a little low
Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only)
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other No invasives seen
Threats/concerns: We saw no obvious threats

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo & Scott Smith Date 9/5/10 Time on survey 3:45 - 4:45

Lake Range Lake Township 45 N Range 42 W Section 31

Weather Sunny, clear; light wind

Boat launch description/condition drive down, dirt - could bring a motor boat but not easy access.

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) surveyed shore line and crossed the lake

Water color stained Turbidity no sediment

AIS observed *circle (NONE) or use lines below*

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) There is a cut through the muck where motorboats run through the lake.

Shoreline development small road to lake with a dirt boat launch

Connection to other waterbodies beaver dammed river

Potential for AIS establishment (low, (medium), high, why, likely invaders) Obviously fished, near known ewm sites.

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

Explain motor boats on the lake, near ewm sites,

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 9/5/10 Time on survey 3:45 - 4:45

Lake Range Lake Township 45 N Range 42 W Section 31 or County Gogebic

General description of lake (*setting, nutrient level, obvious concerns*):
There is a large stand of older Red Pine with a few White Pine near the lake. Some young hardwoods close to the shore. A lot of beaver activity and more bladderwort than I've ever seen.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (45 %) Emergents (20 %) Submergents (40 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

C yellow water lily (spatterdock)
C white water lily
D water shield
___ bur-reed
___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
___ duckweed
___ water knotweed
___ water starwort
___ _____
___ _____
___ _____
___ _____

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

___ chara or nitella
___ watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
D bladderwort
___ elodea (waterweed)
C pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ water marigold
___ golden hedgehyssop
___ _____
___ _____
___ _____

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

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): (Evenly distributed) Widely scattered Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none
Threats/concerns: no specific threats

AIS Lake Survey Record

Surveyor(s) Andrea Capolongo, Scott Smith, Ian Shucklford Date 9/5/10 Time on survey 10:00 - 11:00 ish

Lake Redboat Lake Township 46 N Range 44 W Section 35

Weather Sunny, light wind

Boat launch description/condition Asphalt launch

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) Surveyed lake shore and crossed lake. See GPS track.

Water color Colorless Turbidity Clear

AIS observed *circle* **NONE** *or use lines below*

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) Medium - fishing

Shoreline development mowed area, asphalt boat launch, one campsite

Connection to other waterbodies Unknown

Potential for AIS establishment (low, medium, high, why, likely invaders) Medium - nice boat launch relatively near infested lakes

Do you think an annual AIS check is needed or could the interval be less frequent? less frequent - unless more frequent surveys would be valuable to track the M. farwelli

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Redboat Lake Date 9/5/10 Time on survey 10 am - 11 am

Lake Andrew Corpelonga + Township 46 N Range 44 W Section 35 or County Cook
Scott Smith & Ian Shackleford

General description of lake (*setting, nutrient level, obvious concerns*):
Bog plants along shoreline, black spruce, sphagnum moss, cotton grass, cranberry, etc.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (5 %) Emergents (____%) at shoreline only Submergents (40 %) of visible lake bottom

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- O yellow water lily (spatterdock)
- __ white water lily
- D water shield
- I bur-reed
- __ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- __ duckweed
- __ water knotweed
- __ water starwort
- __ _____
- __ _____
- __ _____
- __ _____

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

- __ chara or nitella
- C watermilfoil: Eurasian, northern variable-leaf, (other) M. farwelli
- __ coontail
- __ water buttercup
- __ bladderwort
- __ elodea (waterweed)
- O pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- __ naiad
- __ wild celery
- C pipewort
- C quillwort (Isoetes)
- __ shoregrass (Littorella)
- __ water lobelia
- __ water bulrush
- __ water marigold
- __ golden hedgehyssop
- __ _____
- __ _____
- __ _____

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

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only)
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none
Threats/concerns: no obvious concerns

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 8/22/10 Time on survey 4:45-5:30

Lake Robbins Pond Township 46 N Range 39 W Section 18

Weather Clear and Still

Boat launch description/condition none

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) Surveyed entire lake shore and crossed lake - see GPS track.

Water color Stained Turbidity Clear

AIS observed *circle* **(NONE)** *or use lines below*

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) Probably not much fishing - maybe duck hunting. Campers visit the lake - saw one man with a dog on shore during the survey.

Shoreline development There is a campground and a picnic area nearby.

Connection to other waterbodies _____

Potential for AIS establishment (low, medium, (high), why, likely invaders) Not a healthy lake

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

Explain An annual survey would allow an invader to be caught before the population to become difficult to control.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 8/22/10 Time on survey 4:45 pm - 5:30 pm

Lake Robbins ~~Lake~~ Pond Township 46 N Range 39 W Section 18 or County Ontonagon

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

This lake is very overgrown with grasses, elodea, and what was probably Scirpus subterminalis. There ~~was~~ is a lot of dead plant material and a few dead mammals by the dam. Saw several woodducks - there is one area with a large (3ft x 3ft) mat of dead elodea and other algae.

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

Floating leaved plants (85 %) Emergents (75 %) Submergents (50 %)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

___ yellow water lily (spatterdock)
___ white water lily
___ water shield
D bur-reed
___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
T duckweed
O water knotweed
___ water starwort
___ _____
___ _____
___ _____
___ _____

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

C chara or nitella
___ watermilfoil : Eurasian, northern variable-leaf, other
___ coontail
___ water buttercup
___ bladderwort
C elodea (waterweed)
C pondweed: CLP, robbins, small, claspingleaf, flatstem, other
___ naiad
___ wild celery
___ pipewort
___ quillwort (Isoetes)
___ shoregrass (Littorella)
___ water lobelia
___ water bulrush
___ water marigold
___ golden hedgehyssop
___ _____
___ _____
___ _____

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

Water clarity (*circle one*) (Clear) Stained (Turbid with sediment) Turbid with algae

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)

Aquatic flora distribution (*circle one*): (Evenly distributed) Widely scattered Clumped in 1-few locations Nearshore only

INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other a few scattered small patches of reed canary grass.

Threats/concerns: _____

AIS Lake Survey Record

Surveyor(s) Andrea Gorpolongo and Scott Smith Date 8/22/10 Time on survey 2:30 pm – 3:15 pm

Lake Tamlund Lake Township 47 N Range 39 W Section 28

Weather Clear and still

Boat launch description/condition Canoe launch - sandy/gravel

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) Canoed shoreline and crossed lake. See GPS track.

Water color Clear Turbidity none

AIS observed *circle* (NONE) *or use lines below*

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) Fishing

Shoreline development There is a sandy/gravely canoe launch and a mowed area with a picnic table.

Connection to other waterbodies _____

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

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

Explain No particular cause for concern.

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Corpolongo + Scott Smith Date 8/22/10 Time on survey 2:30 pm - 3:15 pm

Lake Tamarack Lake Township 47 N Range 39 W Section 28 or County Ontonagon

General description of lake (*setting, nutrient level, obvious concerns*):
Edged by sedges, tree line currently 20-30 ft from shore, water very clear - not stained, a lot of boreset at shore line, recent ant mating flight - many floating drones, some jewelweed + rushes at shoreline. Saw several painted turtles and bass.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species:
Floating leaved plants (<1 %) Emergents (entire shoreline %) Submergents (85 % of visible lake bottom)

Check which species you see. If you can, assign D for dominant, C for common, O for occasional, T for trace. Circle one if multiple species listed on line.

- O yellow water lily (spatterdock)
- ___ white water lily
- ___ water shield
- ___ bur-reed
- ___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- ___ duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

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

- ___ chara or nitella
- ___ watermilfoil : Eurasian, northern variable-leaf, other
- ___ coontail
- ___ water buttercup
- ___ bladderwort
- ___ elodea (waterweed)
- ___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- ___ naiad
- ___ wild celery
- D pipewort
- ___ quillwort (Isoetes)
- C shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

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

Water clarity (*circle one*) (Clear) Stained Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): (Evenly distributed) Widely scattered Clumped in 1-few locations Nearshore only
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other _____
Threats/concerns: Several dumped bait containers seen.

AIS Lake Survey Record

Surveyor(s) Andrea Corpolongo + Scott Smith Date 9/5/10 Time on survey 12:45 - 1:45 pm

Lake Thrush Lake Township 45 N Range 44 W Section 3

Weather Sunny, clear, light wind

Boat launch description/condition Asphalt, easy access, one campsite

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) Surveyed entire shoreline and crossed lake.

Water color Slightly stained Turbidity clear

AIS observed *circle (NONE) or use lines below*

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) Three people stopped during our one hour survey. There was a string of bluegill in the lake + several bait containers.

Shoreline development Boat launch and one campsite.

Connection to other waterbodies unknown

Potential for AIS establishment (low, (medium) (high) why, likely invaders) heavy use and near infested lakes - good site for EWM or CLP.

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

Explain _____

LAKE FLORA QUICK CHECK CARD

Observer(s) Andrea Carpolongo & Scott Smith Date 9/5/10 Time on survey 12:45 - 1:45 pm

Lake Thrush Lake Township 45 N Range 44 W Section 3 or County Gogebic

General description of lake (*setting, nutrient level, obvious concerns*):
The lake was ringed by bog plants. There was a thin layer of muck over rocks then it drops off quickly. There is minimal aquatic plants other than very near the shoreline.

Vegetation data- canopy cover (*extent of entire lake occupied by layer*) and species: near shore only.
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. Circle one if multiple species listed on line.

- C yellow water lily (spatterdock)
- ___ white water lily
- D water shield
- C bur-reed
- ___ pondweed: ribbonleaf, largeleaf, floatingleaf, variableleaf, other
- ___ duckweed
- ___ water knotweed
- ___ water starwort
- ___ _____
- ___ _____
- ___ _____
- ___ _____

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

- ___ chara or nitella
- C watermilfoil : Eurasian, northern variable-leaf, other
- O coontail
- ___ water buttercup
- ___ bladderwort
- ___ elodea (waterweed)
- ___ pondweed: CLP, robbins, small, claspingleaf, flatstem, other
- ___ naiad
- ___ wild celery
- C pipewort
- C quillwort (Isoetes)
- ___ shoregrass (Littorella)
- ___ water lobelia
- ___ water bulrush
- ___ water marigold
- ___ golden hedgehyssop
- ___ _____
- ___ _____
- ___ _____

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

Water clarity (*circle one*) Clear (Stained) Turbid with sediment Turbid with algae
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
Aquatic flora distribution (*circle one*): Evenly distributed Widely scattered Clumped in 1-few locations (Nearshore only)
INVASIVE SPECIES SEEN EWM CLP (Complete weed form) Other none
Threats/concerns: no specific concerns - more traffic than any other lake we surveyed, though it was labor day weekend.