A Floristic Inventory of the Richard Hansen Wetlands

N3303 Shannahan Lane
Wautoma, Wisconsin

Shining aster (*Aster firmus*), blooming in the fern meadow behind the garage on September 2nd.

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Overview of property

Located about 4 miles NE of Wautoma, Wisconsin, this property contains four distinct wetland habitat types, as shown in Figure 1. A total of 138 plant species were found in these wetlands.

1) Porters Lake.

2) Shoreline of Porters Lake and forested wetland.

3) Sedge meadow.

4) Acidic *Sphagnum* bog.

Figure 1. Aerial photo of the property, highlighting the four distinct wetland habitat types present.
Floristic Inventories and Habitat Summaries

Porters Lake

Porters Lake is a 76-acre, spring-fed lake, with a maximum depth of 16 feet (WDNR). The lake is dominated by marl sediment except in the SW corner and NE corner, where the sediment is dark and organic-based. The lake contains a rich community of aquatic macrophytes, including a rare bladderwort species and an unusually diverse community of macro-algae (family Characeae). Freshwater sponges are also very common here.

A population of Eurasian watermilfoil (EWM) (*Myriophyllum spicatum*) was discovered in 2012, occupying approximately 2 acres of the lake. A rapid, cooperative effort between residents of Porters Lake, Golden Sands Resource Conservation & Development Council, Inc., and Onterra, LLC resulted in a map of the EWM population, and extensive manual removal program. After removing about half of the EWM, the lake district elected to chemically treat the infested area with a granular 2,4-D herbicide. This herbicide application was very successful in destroying the remaining EWM, with only slight damage to the native dicots (see glossary). Continued monitoring and manual removal efforts have removed the few EWM plants that remained, and currently there are no known EWM plants remaining in Porters Lake.

A total of 50 plant species were observed in this habitat.

Floristic inventory:

*Brasenia schreberi* - watershield

*Carex lacustris* - lake sedge

*Ceratophyllum demersum* - coontail

*Chara aspera* - no common name (macro-algae)

*Chara braunii* - Braun's stonewort (macro-algae)

*Chara contraria* - common stonewort (macro-algae)

*Chara foliolosa* - no common name (macro-algae)

*Chara globularis* - globular stonewort (macro-algae)

*Chara haitensis* - no common name (macro-algae)

*Chara zeylanica* - no common name (macro-algae)

*Drepanoclados sp.* - aquatic mosses

*Eleocharis acicularis* - needle spikerush
**Eleocharis palustris** - creeping spikerush

**Elodea canadensis** - common waterweed

**Equisetum fluviatile** - water horsetail

**Glyceria borealis** - northern manna grass

**Iris versicolor** - blue-flag Iris

**Lemna minor** - small duckweed

**Lemna turionifera** - turion duckweed

**Lysimachia thyrsiflora** - yellow loosestrife

**Myosotis scorpioides** - aquatic forget-me-not

**Myriophyllum sibiricum** - northern watermilfoil

**Myriophyllum spicatum** - Eurasian watermilfoil

**Najas flexilis** - slender naiad

**Najas guadalupensis** - southern naiad

**Nitella tenuissima** - small Nitella (macro-algae)

**Nuphar variegata** - bullhead pond lily

**Nymphaea odorata** - white water lily

**Potamogeton amplifolius** - large-leaf pondweed

**Potamogeton friesii** - Fries' pondweed

**Potamogeton gramineus** - variable pondweed

**Potamogeton illinoensis** - Illinois pondweed

**Potamogeton natans** - floating-leaf pondweed

**Potamogeton praelongus** - white-stem pondweed

**Potamogeton strictifolius** - stiff pondweed

**Potamogeton zosteriformis** - flat-stem pondweed

**Ranunculus aquatilis** - white water crowfoot

**Sagittaria cristata** - crested arrowhead
Sagittaria latifolia - broad-leaf arrowhead
Schoenoplectus acutus - hardstem bulrush
Schoenoplectus pungens - three-square bulrush
Schoenoplectus tabernaemontani - softstem bulrush
Solanum dulcamara - bittersweet nightshade
Stuckenia pectinata - sago pondweed
Typha latifolia - broad-leaf cattail
Utricularia macrorhiza - common bladderwort
Utricularia minor - small bladderwort
Utricularia resupinata - small purple bladderwort
Vallisneria americana - water celery
Zizania palustris - northern wild rice

Small purple bladderwort (Utricularia resupinata)
Shoreline of Porters Lake (Richard Hansen property only) and forested wetland

The northeast shoreline of Porters Lake surrounds the lake's outlet, and includes a large stand of hardstem bulrush (*Schoenoplectus acutus*) and a small sedge meadow. The forested wetland has a substantial infestation of glossy buckthorn (*Rhamnus frangula*) on both sides of the bay. Some control of the buckthorn is occurring, and the infestation is much less severe on the east side of the bay. The remaining area contains healthy populations of tamarack (*Larix laricina*) and poison sumac (*Toxicodendron vernix*), which indicates an accumulation of peat and groundwater infiltration.

Within this habitat area is a small, ~0.5-acre open wetland dominated by sensitive fern (*Onoclea sensibilis*), located behind the garage.

A total of 77 plant species were observed in this habitat.

**Floristic inventory:**

*Agalinis paupercula* - small-flowered false foxglove

*Alnus incana* - tag alder

*Arisaema triphyllum* - Jack-in-the-pulpit

*Asclepias incarnata* - swamp milkweed

*Aster borealis* - bog aster

*Aster ericoides* - heath aster

*Aster firmus* - shining aster

*Betula papyrifera* - paper birch

*Bidens cernua* - nodding beggar-ticks

*Bidens coronata* - tall swamp marigold

*Bidens vulgata* - devil's beggar-ticks

*Boehmeria cylindrica* - false nettle

*Calamagrostis canadensis* - Canada bluejoint

*Caltha palustris* - marsh marigold

*Calystegia sepium* - hedge bindweed

*Campanula aparinoides* - marsh bellflower
Carex lacustris - lake sedge

Carex lasiocarpa - wire sedge

Carex stricta - tussock sedge

Chelone glabra - turtlehead

Cicuta bulbifera - bulblet water hemlock

Cirsium muticum - marsh thistle

Cornus stolonifera - red osier dogwood

Eleocharis erythropoda - bald spikerush

Epilobium ciliatum - American willow herb

Equisetum fluviatile - water horsetail

Eupatorium maculatum - spotted Joe Pye weed

Eupatorium perfoliatum - boneset

Eupatorium purpureum - green-stemmed Joe Pye weed

Eupatorium rugosum - white snakeroot

Euthamia graminifolia - grass-leaved goldenrod

Hydrocotyle americana - water pennyroyal

Ilex verticillata - winterberry holly

Impatiens capensis - orange jewelweed

Iris versicolor - blue-flag Iris

Larix laricina - tamarack

Lobelia kalmii - Kalm's lobelia

Lycopus americanus - cut-leaf water horehound

Lycopus uniflorus - northern water horehound

Lysimachia thyrsiflora - yellow loosestrife

Myosotis scorpioides - aquatic forget-me-not

Onoclea sensibilis - sensitive fern
Osmunda cinnamomea - cinnamon fern
Pedicularis canadensis - swamp lousewort
Persicaria lapathifolia - dock-leaved smartweed
Persicaria sagittata - arrow-leaf tearthumb
Phalaris arundinacea - reed canary grass
Pinus strobus - white pine
Quercus bicolor - swamp white oak
Rhamnus alnifolia - alder-leaf buckthorn
Rhamnus frangula - glossy buckthorn
Ribes lacustre - spiny swamp currant
Rubus pubescens - dwarf red raspberry
Rumex orbiculatus - great water dock
Sagittaria latifolia - Broad-leaf arrowhead
Sambucus racemosa - red elderberry
Schoenoplectus pungens - three-square bulrush
Scirpus cyperinus - woolgrass
Scutellaria galericulata - marsh skullcap
Scutellaria lateriflora - mad dog skullcap
Solanum dulcamara - bittersweet nightshade
Solidago canadensis - Canada goldenrod
Solidago gigantea - giant goldenrod
Spiraea tomentosa - steeplebush
Spiranthes romanzoffiana - hooded ladies' tress orchid
Stellaria media - common chickweed
Symplocarpus foetidus - skunk cabbage
Thalictrum dasycarpum - tall meadow rue
*Thelypteris palustris* - marsh fern

*Thuja occidentalis* - white cedar

*Toxicodendron vernix* - poison sumac

*Triadenum fraseri* - Bog St. John's wort

*Typha latifolia* - broad-leaf cattail

*Urtica dioica* - stinging nettle

*Verbena hastata* - blue vervain

*Viola cucullata* - blue marsh violet

*Zizania palustris* - northern wild rice
Sedge meadow

Located on the east side of the property, this extensive sedge meadow is dominated by wire sedge (*Carex lasiocarpa*). Reed canary grass (*Phalaris arundinacea*) is invading from the east and west sides, which may require management in the future to preserve the biological diversity of the meadow. This habitat contains several small depressions that hold standing water for much of the year.

A total of 37 plant species were observed in this habitat.

**Floristic inventory:**

*Alisma triviale* - water plantain

*Bidens coronata* - tall swamp marigold

*Bidens frondosus* - common beggar ticks

*Bulboschoenus fluviatilus* - river bulrush

*Calamagrostis canadensis* - Canada bluejoint

*Carex stricta* - tussock sedge

*Chamaedaphne calyculata* - leatherleaf

*Comarum palustre* - marsh cinquefoil

*Eleocharis erythropoda* - bald spikerush

*Eleocharis palustris* - creeping spikerush

*Eupatorium perfoliatum* - boneset

*Galium asprellum* - rough bedstraw

*Ilex verticillata* - winterberry holly

*Iris versicolor* - blue flag Iris

*Lycopus uniflorus* - northern water horehound

*Mimulus ringens* - common monkey flower

*Osmunda cinnamonea* - cinnamon fern

*Osmunda regalis* - royal fern

*Persicaria amphibia* - water smartweed
Persicaria careyi - Carey’s smartweed
Persicaria hydropiper - water pepper
Persicaria lapathifolia - dock-leaved smartweed
Persicaria pensylvanica - Pennsylvania smartweed
Persicaria punctata - dotted smartweed
Persicaria sagittata - arrow-leaf tearthumb
Phalaris arundinacea - reed canary grass
Rhamnus frangula - glossy buckthorn
Riccia fluitans - slender Riccia (liverwort)
Sagittaria latifolia - broad-leaf arrowhead
Scirpus cyperinus - woolgrass
Solidago gigantea - giant goldenrod
Spiraea alba - meadowsweet
Spiraea tomentosa - steeplebush
Thelypteris palustris - marsh fern
Toxicodendron vernix - poison sumac
Triadenum fraseri - bog St. John’s wort
Typha latifolia - broad-leaf cattail
**Sphagnum bog**

The *Sphagnum* bog is located on the NE side of the property. It is primarily an open mat of *Sphagnum* mosses, but transitions to a coniferous bog on the north side, and a poor fen on the west side. The east side was very dry in September 2013, but the west side remained very wet. The *Sphagnum* mat is very stable and colonized by larger vegetation on the east side, but the west side is a classic quaking bog mat with sparse vegetation, most of that being rusty cottongrass (*Eriophorum virginicum*) and white beak-rush (*Rhynchospora alba*).

A total of 28 species were observed in this habitat.

**Floristic inventory:**

*Agalinis paupercula* - small-flowered false foxglove

*Bidens cernua* - nodding beggar-ticks

*Bidens coronata* - tall swamp marigold

*Carex lasiocarpa* - wire sedge

*Chamaedaphne calyculata* - leatherleaf

*Dulichium arundinaceum* - three-way sedge

*Eleocharis erythropoda* - bald spikerush

*Eriophorum virginicum* - rusty cottongrass

*Ilex verticillata* - winterberry holly

*Iris versicolor* - blue flag Iris

*Larix laricina* - tamarack

*Osmunda cinnamomea* - cinnamon fern

*Osmunda regalis* - royal fern

*Phalaris arundinacea* - reed canary grass

*Pinus strobus* - white pine

*Quercus bicolor* - swamp white oak

*Rhamnus alnifolia* - alder-leaf buckthorn

*Rhamnus frangula* - glossy buckthorn
Rumex verticillatum - swamp dock

Scirpus cyperinus - woolgrass

Sphagnum spp. - peat mosses

Spiraea alba - meadowsweet

Spiraea tomentosa - steeplebush

Stachys palustris - hedge nettle

Thelypteris palustris - marsh fern

Toxicodendron vernix - poison sumac

Triadenum fraseri - bog St. John's wort

Vaccinium angustifolium - early low blueberry
Glossary

Coniferous bog - a wetland usually dominated by Sphagnum mosses, but also supporting stands of conifers, including tamarack and black spruce.

Dicot - a class of plants that typically have broad, dissected or lobed leaves, and branching veins. Common aquatic dicots include water lilies, bladderworts, watermilfoils, and coontail.

Macro-algae - large algae that resemble vascular plants, but contain no vascular tissues themselves.

Marl - a type of soft lake sediment composed of mostly calcium and magnesium, caused by precipitation of these minerals from groundwater inflow.

Poor fen - a wetland with an accumulation of peat and limited contact with mineral-rich groundwater.

Sphagnum bog - a wetland dominated by Sphagnum mosses. This habitat tends to be acidic and supports acid-loving plants like leatherleaf, blueberries, cranberries, and sundews.

Literature cited

Wisconsin Department of Natural Resources. 1995. Wisconsin Lakes. 182pp. Published by Bureau of Water Resources Management, Lakes Section, Wisconsin Department of Natural Resources, Madison, Wisconsin.