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## **APPENDIX B – ANTECEDENT PRECIPITATION EVALUATION, WETS DATA and PALMER DROUGHT INDEX REPORTS**

The full report is available upon request from  
Iron County or FEMA.

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## APPENDIX C – SITE PHOTOS

The full report is available upon request from  
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**Attachment 4**  
**Wetland Rapid Assessment Report**

**Wisconsin Department of Natural Resources**  
**Wetland Rapid Assessment Methodology – version 2.0**

<b>WETLAND IDENTIFICATION</b>								
Project name: Saxon Harbor Marina and Campground Reconstruction	Evaluator(s): Ann M. Key, PSS, PWS, WDNR Professionally Assured Wetland Delineator							
File #:	Date of visit(s): 09/08/17							
Location: PLSS: <u>Section 12, T38N, R01W</u>  Lat: <u>46.558449"N</u> Long: <u>-90.438495"W</u>  County: <u>Iron</u> Town/City/Village: <u>Town of Saxon</u>	Ecological Landscape:  Superior Coastal Plain  Watershed:  LS15 – Montreal River							
<b>SITE DESCRIPTION</b>								
Soils: Mapped Type(s): 444B – Gichigami-Ontonagon Complex, 0 to 6%  5285F – Rockland-Arnheim, frequently flooded complex, 0 to 70% slopes  Field Verified: Yes	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px;">               WWI Class: Unmapped, only 2-acre wetland symbols noted (T3K)             </td> </tr> <tr> <td colspan="2" style="padding: 5px;">               Wetland Type(s): Eggers and Reed: Hardwood Swamp             </td> </tr> <tr> <td style="width: 50%; padding: 5px; vertical-align: top;">               Wetland Size:                ~15 acres             </td> <td style="width: 50%; padding: 5px; vertical-align: top;">               Wetland Area Impacted –  <span style="background-color: yellow;">0.96 acres</span> </td> </tr> </table>		WWI Class: Unmapped, only 2-acre wetland symbols noted (T3K)		Wetland Type(s): Eggers and Reed: Hardwood Swamp		Wetland Size: ~15 acres	Wetland Area Impacted – <span style="background-color: yellow;">0.96 acres</span>
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Hydrology:  Hydrology source is primarily seasonally perched runoff and snowmelt, as well as seeps located in depressions and drainageways along footslopes and toeslopes of knolls. The wetland areas along the western portion of the AA were inundated (1" above soil surface) while eastern portions of the AA had saturation within the upper 12 inches of the soil profile and a water table observed at 10 inches below the soil surface at the time of the site visit. The Palmer Drought Index and available WETS data indicated slightly wetter than normal hydrologic conditions at the time of the site visit. The following hydrology indicators were observed throughout the AA; A1 (Surface Water), A2 (High Water Table), A3 (Saturation), B9 (Water-Stained Leaves), D2 (Geomorphologic Position) and D5 (FAC-Neutral Test).	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">               Vegetation:                Plant Community Description(s):             </td> </tr> <tr> <td style="padding: 5px; vertical-align: top;"> <ul style="list-style-type: none"> <li>- The area of direct impacts and potential secondary impacts includes the AA area, a Hardwood Swamp dominated by <i>Fraxinus nigra</i>, <i>Acer rubrum</i>, <i>Onoclea sensibilis</i>, <i>Carex crinita</i>, <i>Carex bromoides</i>, <i>Carex scoparia</i>, <i>Impatiens capensis</i>, <i>Rubus pubescens</i>, <i>Matteuccia struthiopteris</i>, <i>Dryopteris intermedia</i>, <i>Solidago gigantea</i>, <i>Equisetum arvense</i>, <i>Caltha palustris</i>, <i>Poa palustris</i>, <i>Bromus ciliatus</i> and <i>Geum allepicum</i>.</li> <li>- An area of potential secondary impacts within the buffer area includes a degraded Wet Meadow/Shrub-Carr community with a dominance of <i>Phalaris arundinacea</i> in the herbaceous layer and <i>Salix exigua</i> and <i>Alnus incana</i> ssp. <i>rugosa</i> in the shrub layer. This community is approximately 6 feet higher than the adjacent waterways and appears to be surrounded by historic fill material and is separated from the area of impact by a culvert.</li> <li>- An area of potential secondary impacts within the buffer area includes additional hardwood swamp to the northeast dominated by <i>Betula allegheniensis</i>, <i>Fraxinus nigra</i>, <i>Abies balsamea</i>, <i>Alnus incana</i> ssp. <i>rugosa</i>, <i>Carex crinita</i>, <i>Scirpus atrovirens</i> and <i>Onoclea sensibilis</i>.</li> <li>- A portion of the hardwood swamp further east and adjacent to Parker Creek exhibits more floodplain forest characteristics and is dominated by <i>Acer saccharum</i>, <i>Fraxinus nigra</i>, <i>Abies balsamea</i>, <i>Matteuccia struthiopteris</i> and <i>Onoclea sensibilis</i>.</li> </ul> </td> </tr> </table>		Vegetation: Plant Community Description(s):	<ul style="list-style-type: none"> <li>- The area of direct impacts and potential secondary impacts includes the AA area, a Hardwood Swamp dominated by <i>Fraxinus nigra</i>, <i>Acer rubrum</i>, <i>Onoclea sensibilis</i>, <i>Carex crinita</i>, <i>Carex bromoides</i>, <i>Carex scoparia</i>, <i>Impatiens capensis</i>, <i>Rubus pubescens</i>, <i>Matteuccia struthiopteris</i>, <i>Dryopteris intermedia</i>, <i>Solidago gigantea</i>, <i>Equisetum arvense</i>, <i>Caltha palustris</i>, <i>Poa palustris</i>, <i>Bromus ciliatus</i> and <i>Geum allepicum</i>.</li> <li>- An area of potential secondary impacts within the buffer area includes a degraded Wet Meadow/Shrub-Carr community with a dominance of <i>Phalaris arundinacea</i> in the herbaceous layer and <i>Salix exigua</i> and <i>Alnus incana</i> ssp. <i>rugosa</i> in the shrub layer. This community is approximately 6 feet higher than the adjacent waterways and appears to be surrounded by historic fill material and is separated from the area of impact by a culvert.</li> <li>- An area of potential secondary impacts within the buffer area includes additional hardwood swamp to the northeast dominated by <i>Betula allegheniensis</i>, <i>Fraxinus nigra</i>, <i>Abies balsamea</i>, <i>Alnus incana</i> ssp. <i>rugosa</i>, <i>Carex crinita</i>, <i>Scirpus atrovirens</i> and <i>Onoclea sensibilis</i>.</li> <li>- A portion of the hardwood swamp further east and adjacent to Parker Creek exhibits more floodplain forest characteristics and is dominated by <i>Acer saccharum</i>, <i>Fraxinus nigra</i>, <i>Abies balsamea</i>, <i>Matteuccia struthiopteris</i> and <i>Onoclea sensibilis</i>.</li> </ul>				
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**SITE MAP** - See attached Figures



HU	Y/N	Potential	<b>Human Use Values: recreation, culture, education, science, natural scenic beauty</b>
1	Y		Used for recreation (hunting, birding, hiking, etc.). Camping, fishing, birding, hiking and boating occur on this property and adjacent to the AA and camping, birding and hiking will occur within the impact area as proposed
2		P	Used for educational or scientific purposes – Potential for wetland educational purposes and studies
3	Y		Visually or physically accessible to public – The west portion of the wetland impact area is currently visually accessible to public from CTH A and the entire AA is physically accessible
4	Y		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	Y		In or adjacent to RED FLAG areas List: Adjacent to Lake Superior
6		P	Supports or provides habitat for endangered, threatened or special concern species – ER review indicates endangered, threatened and/or special concern species are present
7		P	In or adjacent to archaeological or cultural resource site
WH			<b>Wildlife Habitat</b>
1	Y		Wetland and contiguous habitat >10 acres
2	Y		3 or more strata present (>10% cover)
3	Y		Within or adjacent to habitat corridor or established wildlife habitat area
4	Y		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	N		Occurs in a Joint Venture priority township
6	Y		Interspersion of habitat structure - Hardwood swamp and upland in AA, hardwood swamp, floodplain forest, shrub-carr, wet meadow, emergent marsh and open water communities within buffer
7	Y		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans

8	Y		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	Y		Standing water provides habitat for amphibians and aquatic invertebrates – Inundation (1” above grade) observed in part of AA and standing water within buffer area observed
11		P	Seasonally exposed mudflats present – No seasonally exposed mudflats are present within the AA but may be present in buffer areas near marina and along Parker Creek and Oronto Creek
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			<b>Fish and Aquatic Life Habitat</b>
1	Y		Wetland is connected or contiguous with perennial stream or lake – Parker Creek, Oronto Creek, Lake Superior
2	Y		Standing water provides habitat for amphibians and aquatic invertebrates – AA area had 1” of inundation at time of site visit, buffer areas have standing water present
3		P	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y		Vegetation is inundated in spring - Portions of the AA and areas within buffer have seasonal inundation
SP			<b>Shoreline Protection</b>
1	Y		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - The AA is upgradient of any waterways and is not specifically providing shoreline habitat but wetlands within the buffer area do so and abut Parker Creek, Oronto Creek and the marina
2	Y		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – This is not applicable to the AA although Lake Superior is nearby and experiences significant wind fetch, wave action and heavy boat traffic. In addition, the Lake Superior shoreline, Parker and Oronto Creeks are highly susceptible to erosive soils and high flows and are located within buffer area

3		P	Densely rooted emergent or woody vegetation - This is not applicable to the AA since it is not technically a shoreline wetland community directly abutting a waterway. Areas within the buffer provide some shoreline protection although very significant erosion and bank cutting has occurred along the stream banks and the marina shoreline is comprised of rip-rap so any densely rooted emergent or woody vegetation is minimal
ST			<b>Storm and Floodwater Storage</b>
1	Y		Basin wetland, constricted outlet, has through-flow <u>or</u> is adjacent to a stream – A non-wetland channel is present in the western portion of the wetland community connecting the north and south wetland communities and a culvert is located at the north end of the AA. These constrictions may result in extended storage periods for storm and floodwaters
2	N		Water flow through wetland is NOT channelized – Overall wetland impact area is within a drainageway which is not channelized, although a portion of the wetland community is connected by a channel
3	Y		Dense, persistent vegetation
4	Y		Evidence of flashy hydrology – Water marks and sediment deposits were observed on trees within the AA. The Superior clay plains experience flashy hydrology. This is particularly applicable along Parker and Oronto Creeks
5	Y		Point or non-point source inflow - Culverts/roads along CTH A result in inputs, prior sampling has indicated that failing septic systems are a significant pollutant source to Oronto Creek. Although outside of the AA, current pollutants to buffer areas likely include motorized vehicles, boats, campers, motors and associated fuel discharges
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	N		Within a watershed with ≤10% wetland
8	N		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			<b>Water Quality Protection</b>
1	N		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland <u>or</u> constricted outlet – A narrow channel is present on the west side of the AA connecting south and north wetland communities, as well as a culvert and historic road fill on the northern edge of the AA
3	N		Water flow through wetland is NOT channelized – The majority of the AA is not channelized but a channel is present within a portion of the AA
4	Y		Vegetated wetland associated with a lake or stream – The AA and adjacent wetlands areas ultimately connect to Parker Creek to the east, Oronto Creek to the west, marina to the north and Lake Superior to the north
5	Y		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth – No signs of excess nutrients were observed although prior sampling of Oronto Creek indicated the presence of filamentous algae due to failing septic systems located along it's route upgradient (to the south).
7	N		Stormwater or surface water from agricultural land is major hydrology source
8	Y		Discharge to surface water – Oronto Creek, Parker Creek, Lake Superior
9	N		Natural land cover in 100m buffer area < 50%
GW			<b>Groundwater Processes</b>
1	Y		Springs, seeps or indicators of groundwater present – <i>Caltha palustris</i> was observed and is typically indicative of seeps or groundwater flow.
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic - mineral
5	N		Wetland is within a wellhead protection area

This wetland comprises a large, mostly contiguous area to the south and east with only perimeter disturbances from CTH A to the west, the marina, campground, roads and parking areas to the north and northwest and residences to the west and northwest. Limited invasive or non-native species were observed in the AA and buffer area although areas of *Phalaris arundinacia* (buffer area) and *Myosotis scorpioides* (within AA) were observed during the site visit.

**Wildlife Habitat and Species Observation (including amphibians and reptiles)**  
**List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.**

Both the AA and buffer areas provide nesting, migratory and winter use for the following species. Eagles were observed nesting nearby to the east.

Observed	Potential	Species__Habitat/Comments
	X	White-tailed Deer ( <i>Odocoileus virginianus</i> )
	X	American Black Bear ( <i>Ursus americanus</i> ) – tracks observed
	X	Gray Wolf ( <i>Canis lupus</i> )
	X	Coyote ( <i>Canis latrans</i> ) - tracks observed
	X	Red Fox ( <i>Vulpes vulpes</i> )
	X	Gray Fox ( <i>Urocyon cinereoargenteus</i> )
	X	River Otter ( <i>Lontra canadensis</i> )
	X	Fisher ( <i>Martes pennanti</i> )
	X	Beaver ( <i>Castor canadensis</i> )
	X	Muskrat ( <i>Ondatra zibethicus</i> )
	X	Common Shrew ( <i>Sorex araneus</i> )
	X	Bobcat ( <i>Lynx rufus</i> )
	X	Raccoon ( <i>Procyon lotor</i> ) – tracks observed in buffer area
	X	Striped Skunk ( <i>Mephitis mephitis</i> )
	X	Sandhill Crane ( <i>Grus canadensis</i> )
	X	Blue Jay ( <i>Cyanocitta cristata</i> )
	X	Great Blue Heron ( <i>Ardea herodias</i> )
	X	Mallard ( <i>Anas platyrhynchos</i> )
	X	Canada Goose ( <i>Branta canadensis</i> )
	X	Wood Duck ( <i>Aix sponsa</i> )
	X	Ruffed Grouse ( <i>Bonasa umbellus</i> )
X		Killdeer ( <i>Charadrius vociferous</i> ) – observed in buffer area
X		Sandpiper ( <i>Actitis hypoleucos</i> ) – observed in buffer area
X	X	Herring Gull ( <i>Larus argentatus argentus</i> ) – observed in buffer area
	X	American Toad ( <i>Anaxyrus americanus</i> )
	X	Spring Peeper ( <i>Pseudacris crucifer</i> )
	X	Wood Frog ( <i>Lithobates sylvatica</i> )
	X	Painted Turtle ( <i>Chrysemys picta</i> )
	X	Snapping Turtle ( <i>Chelydra serpentina</i> )
	X	Common Gartersnake ( <i>Thamnophis sirtalis</i> )
	X	Eastern Red-Backed Salamander ( <i>Plethodon cinereus</i> )
	X	Eastern Newt ( <i>Notophthalmus viridens louisianensis</i> )
	X	Red-Winged Blackbird ( <i>Agelaius phoeniceus</i> )
X		Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) – observed in buffer area
	X	Osprey ( <i>Pandion haliaetus</i> )
	X	Red-Tailed Hawk ( <i>Buteo jamaicensis</i> )
	X	Broad-Winged Hawk ( <i>Buteo platypterus</i> )

	X	Snowy Owl ( <i>Bubo sandiacus</i> )
	X	Barred Owl ( <i>Strix varia</i> )
	X	American Robin ( <i>Turdus migratorius</i> )
X		American Crow ( <i>Corvus brachyrhynchos</i> ) – observed in buffer area

#### Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

The open water communities within the buffer area provide habitat, spawning, nesting and nursery areas for some of these species although many are more likely to utilize nearby Lake Superior as their primary habitat.

Observed	Potential	Species/Habitat
	X	Brook Trout ( <i>Salvelinus fontinalis</i> )
	X	Rainbow Trout ( <i>Oncorhynchus mykiss</i> )
	X	Cisco ( <i>Coregonus artedii</i> )
	X	Lake Sturgeon ( <i>Acipenser fulvescens</i> )
	X	Lake Trout ( <i>Salvelinus namaycush</i> )
	X	Lake Whitefish ( <i>Coregonus clupeaformis</i> )
	X	Longnose Sucker ( <i>Catostomus catostomus</i> )
	X	Muskellunge ( <i>Esox masquinongy</i> )
	X	Northern Pike ( <i>Esox lucius</i> )
	X	Rock Bass ( <i>Ambloplites rupestris</i> )
	X	Smallmouth Bass ( <i>Micropterus dolomieu</i> )
	X	Walleye ( <i>Sander vitreus</i> )
	X	White Sucker ( <i>Catostomus commersonii</i> )
	X	Rainbow Smelt ( <i>Osmerus mordax</i> )
	X	Opossum Shrimp ( <i>Mysis diluviana</i> )
	X	Crayfish ( <i>Orconectes</i> spp.)

## SECTION 2: Floristic Integrity

This type of wetland community classified as a Hardwood Swamp, primarily dominated by Black Ash and Red Maple in the overstory, is ranked as an S3 on the State of Wisconsin Natural Heritage Inventory Program, which means this wetland community is “Vulnerable in Wisconsin due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.” Globally this wetland community is ranked as a G4, which means this wetland community is “Apparently secure. At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.”

Scientific Name	Common Name	Indicator Status	C of C
<i>Acer rubrum</i>	Red Maple	FAC	3*
<i>Bromus ciliatus</i>	Fringed Brome	FACW	7
<i>Catba palustris</i>	Marsh Marigold	OBL	6
<i>Carex bromoides</i>	Brome-Like Sedge	FACW	8*
<i>Carex crinita</i>	Fringed Sedge	OBL	6*
<i>Carex scoparia</i>	Broom Sedge	FACW	4
<i>Dryopteris intermedia</i>	Evergreen Wood Fern	FAC	7
<i>Equisetum arvense</i>	Field Horsetail	FAC	1
<i>Equisetum sylvaticum</i>	Woodland Horsetail	FAC	7
<i>Fraxinus nigra</i>	Black Ash	FACW	8*
<i>Geum aleppicum</i>	Yellow Avens	FAC	3
<i>Impatiens capensis</i>	Orange Jewelweed	FACW	2
<i>Matteuccia struthiopteris</i>	Ostrich Fern	FAC	5*
<i>Myosotis scorpioides</i>	Forget-Me-Not	OBL	0*
<i>Onoclea sensibilis</i>	Sensitive Fern	FACW	5*
<i>Poa palustris</i>	Fowl Bluegrass	FACW	5*
<i>Rubus pubescens</i>	Dwarf Raspberry	FACW	7
<i>Solidago gigantea</i>	Giant Goldenrod	FACW	3

Coniferous/Hardwood Swamp:

Cover Weighted Mean C Value = 5.4 (Medium)

Cover Weighted FQI Value = 22.9 (Medium)

\* = dominant species

*Myosotis scorpioides* was not present within the immediate wetland disturbance area but up-gradient (to the south) approximately 100 feet from proposed wetland impact area.

## SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

This plant community is somewhat diverse although not for the area and this is not a rare community for this area. The FQI value includes all species observed and not just dominant species. Mean C Values are medium and FQI values are medium within the community.

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	L	C	Filling, berms (non-impounding) – Common in buffer area with marina and associated roads, bridges, and parking space but not in AA. One historic road observed in buffer area
	X	X	L	UC	Drainage – roadside ditches along CTH A, historic culvert and possible ditching
	X	X	L	UC	Hydrologic changes - high capacity wells, impounded water, increased runoff
	X		L	C	Point source or stormwater discharge – sampling of Oronto Creek indicated contamination from failing septic systems. Additional discharges are likely from campground and parking lot
	X		L	UC	Polluted runoff – Potentially from vehicles and boats at marina
	X	X	M	C	Pond construction – Marina construction
					Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X		M	C	Roads or railroad – CTH A, Marina parking area, roads, campground
	X		L	UC	Utility corridor (above or subsurface) – Overhead and underground utilities along CTH A
					Dams, dikes or levees - no man-made impoundments observed
X	X		H	C	Soil subsidence, loss of soil structure – Loss of soil structure is common along Lake Superior and associated waterways
X	X		H	C	Sediment input – Common within Lake Superior and associated waterways due to erosive clay soils
	X		L	UC	Removal of herbaceous stratum – mowing, grading, earthworms, etc. – Mowing in campground area and recent grading associated with repairs from storm event
	X		L	C	Removal of tree or shrub strata – No evidence in AA but clearing in marina and campground common
	X		L	C	Human trails – unpaved
					Human trails – paved
	X		L	C	Removal of large woody debris – within marina and campground areas
X	X		L	UC	Cover of non-native and/or invasive species – <i>Phalaris arundinacea</i> observed north of AA and <i>Myosotis scorpioides</i> observed in southern portion of AA
	X		L	UC	Residential land use – Homes along Lake Superior and one residence/restaurant located across CTH A
	X		L	C	Urban, commercial or industrial use – commercial fishing access from marina

	X		M	C	Parking lot – parking area is paved and covers a sizable area down-gradient of wetland
					Golf course
					Gravel pit
X	X		M	C	Recreational use (boating, ATVs, etc.) –boating, camping and hiking in buffer area, potentially hiking in AA
	X	X	M	C	Excavation or soil grading – Significant earth-moving activities occurred for construction of the marina and associated infrastructure down-gradient of AA
					Other (list below):

\* L= Low, M = Medium, H = High

\*\*Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

It is important to note that the majority of the activities noted as present within the buffer area occur down-gradient of this wetland community so may not directly impact this community as much as if they were up-gradient impacts.

### SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

This assessment area is in moderate/medium condition with moderate vegetative diversity and a medium Mean C value. Few human impacts were observed in the AA, more so observed in buffer and surrounding areas. Wetland community is relatively pristine although invasive species were observed in both the AA and buffer area.

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity		X			
Human Use Values			X		
Wildlife Habitat			X		
Fish and Aquatic Life Habitat		X			
Shoreline Protection					X
Flood and Stormwater Storage		X			
Water Quality Protection		X			
Groundwater Processes		X			

Note, these functional values as assessed in this table are for the AA specifically.

FUNCTION	RATIONALE
Floristic Integrity	Mean C values (5.40) and FQI (22.9) values are Medium with all strata present in the AA. This specific community is primarily in its natural state, other than a historic road and culvert at the north end of the AA. However, there has been significant disturbance down-gradient (north) of the AA with the marina, parking areas, roads, campgrounds and residential development to the west and northwest. Although all observed disturbances appear to be downgradient and the majority of which do not appear to be impacting this wetland community. All 3 strata were present and overall this is a pristine community although Common Forget-Me-Not, a known invasive species, was observed in abundance in the southeast portion of the AA.
Human Use Values	The AA appears relatively untouched and may see only rare foot traffic but the adjacent areas are heavily used for camping, fishing, hiking and likely birding and other related activities. The AA is partially visible from CTH A and partially visible from existing tent camping areas to the east and is aesthetically pleasing with all strata present and providing high quality wildlife habitat and a corridor to open water areas of Parker Creek, Oronto Creek, Lake Superior and the marina. It is possible the area could be used for educational and research purposes in the future due to its relatively high quality and convenient location near the campground and marina. This area has potential to support or provide habitat for endangered, threatened or special concern species.



Wildlife Habitat	Wildlife habitat is high in this location with this wetland community being part of a large contiguous, undeveloped area including the wetland and adjacent wetlands and uplands to the south and east that serve as an important habitat corridor. All three strata, trees, shrubs and herbaceous vegetation, are present throughout the AA although areas within the buffer area have been cleared of woody debris, trees, are mowed, graveled or paved. CTH A is located immediately west of the AA and the marina and associated parking lots, roads, campground and residences are located to the north and northwest, all resulting in an existing fragmentation of the community but with a large buffer of land around this wetland to the south and east. The AA wetland community is a hardwood swamp with several other habitats (hardwood swamp, floodplain forest, shrub-carr, emergent wet meadow, marsh, open water, etc.) within the buffer area and provides a diverse range of habitat. The AA has standing water in the spring and during larger precipitation events thereby providing habitat for amphibians and other aquatic species. The open water communities of the marina, streams and Lake Superior provide open water through the spring, summer and fall seasons and outer edges of the open water communities provide seasonally exposed mudflats during low tide and/or during drier climatic conditions, which are attractive to migratory birds. However, this wetland community and associated
Fish and Aquatic Life Habitat	The AA itself does not provide fish habitat, although it may provide aquatic life habitat during wetter periods given the western portion of the AA was inundated (1 inch above grade) at the time of the site visit and likely experiences inundation during spring runoff, as well as heavier precipitation events. Parker Creek, Oronto Creek, the marina and Lake Superior are within the buffer area and do provide high quality fish and aquatic life habitat although there is high sediment loading from highly erosive soils and flashy hydrology. The AA and buffer areas likely provide habitat for NHI listed aquatic species. However, Parker Creek, Oronto Creek, the marina and Lake Superior shoreline have minimal emergent vegetation and therefore do not provide as diverse of habitat or noteworthy protective cover for aquatic species as compared to more heavily vegetated shorelines.
Shoreline Protection	Shoreline protection is not applicable within the AA. Parker Creek, Oronto Creek and the marina areas within the buffer have minimal shoreline protection due to flashy hydrology, highly erosive soils and therefore limited vegetation along the shores of those waterbodies. Dense emergent and/or woody vegetation was not observed along those waterways..
Flood and Stormwater Storage	Flood and stormwater storage is moderate in this location due to the small size of the AA (5.33 acres) with approximately 30 acres of contributing watershed with very low permeability soils and flashy hydrology although the watershed overall has >10% land surface cover comprised of wetlands. The AA does have dense, persistent vegetation which is beneficial for flood and stormwater storage but the narrow width of the wetland also limits it's storage potential. Water marks and sediment deposits on trees were observed during the site visit indicating flashy hydrology. A portion of the AA is channelized and a culvert and old fill road constricts the northern portion of the AA wetland community. These constrictions may be beneficial in retaining stormwater and floodwaters for extended periods of time. Point and non-point source inflow may occur from adjacent CTH A and culverts under the road, although with likely minimal impacts to the AA. Prior sampling of Oronto Creek identifies failing septic systems as a significant pollutant source although may not directly affect the AA. Pollutants within the buffer area include motorized vehicles, boats, motors, campers and associated fuel discharges and runoff from roads, parking areas and the boat launch and marina.

Water Quality Protection	Water quality protection is moderate in this location due to the narrow configuration of the wetland, low permeable soils, flashy hydrology and limited storage ability of storm and floodwaters. This wetland has a two constricted outlets, one being an unvegetated, eroded channel connecting portions of the wetland and the other being a culvert on the northern portion of the AA. These constrictions may be beneficial in retaining stormwater and floodwaters for extended periods of time, which in turn may allow for greater sediment and pollutant retention and improved water quality. However, the dense vegetation within the AA is important and beneficial to the water quality of Parker and Oronto Creeks and Lake Superior given the proximity of the wetland to these waterways. No signs of excess nutrients were observed although sampling of Oronto Creek indicates failing septic systems upgradient are a significant pollutant, although may not directly impact the AA. This wetland may provide some filtering of those inputs and this is important given the proximity to the open water communities. Although there have been many disturbances in the marina and campground areas, the natural land cover within the buffer area is >50% and the wetland land cover is > 10%.
Groundwater Processes	Groundwater processes are moderate in this area with seeps and indicators of groundwater present with clay soils allowing the wetlands to remain saturated for an extended period of time without additional inputs. Soils are not organic and this wetland is not located within a groundwater divide, headwater wetland or wellhead protection area.

### Brief Project Description

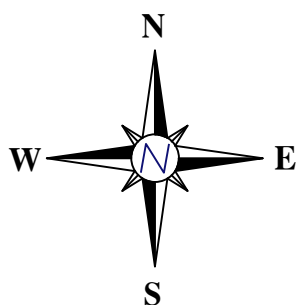
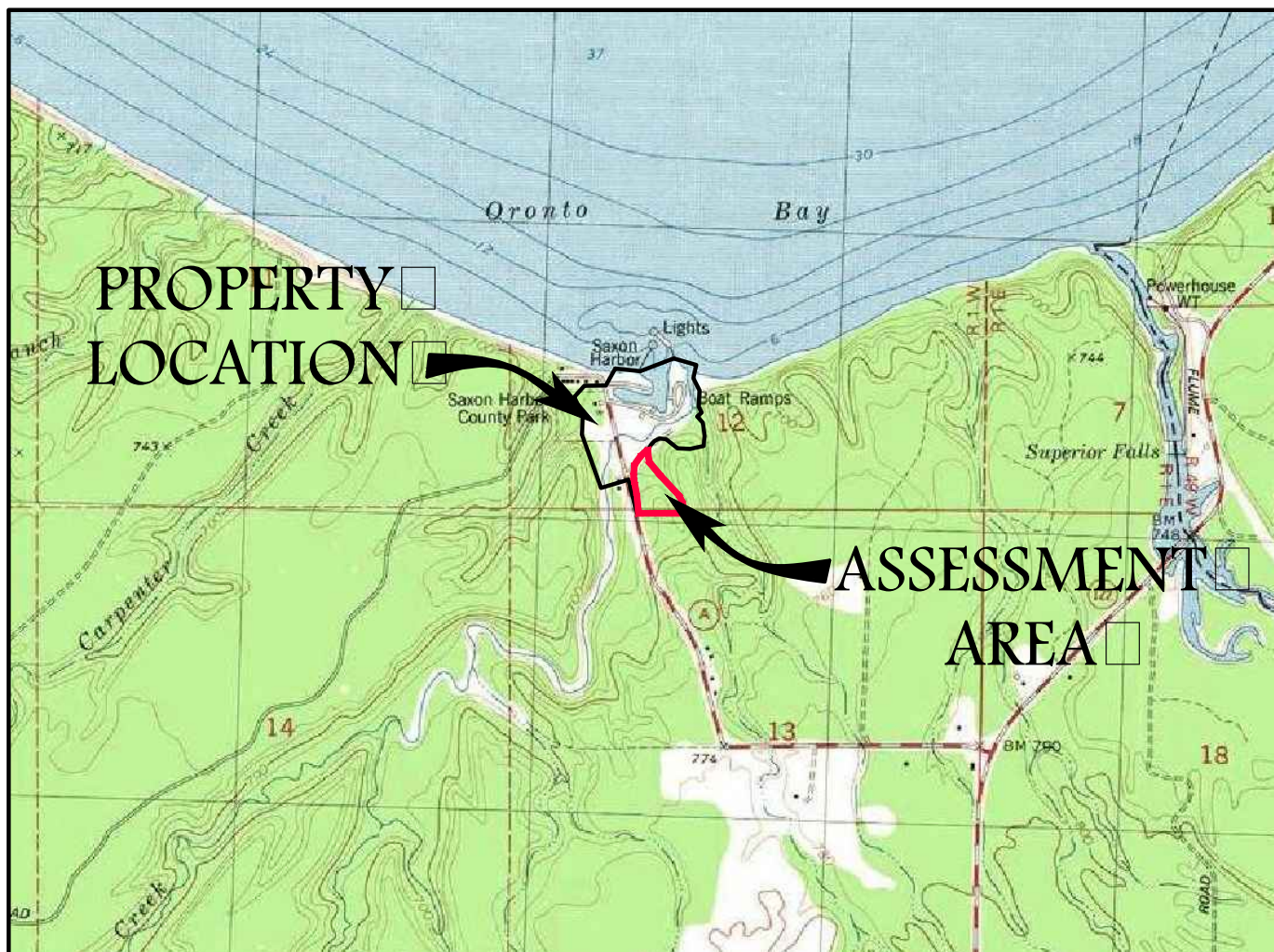
The proposed project involves reconstruction the Saxon Harbor marina and campground after a devastating storm event washed out much of the original marina and campground area.

### Expected Project Impacts

IMPACT: describe ( + or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	- -	Medium – 0.96 acres of this wetland are proposed to be filled as part of this proposed project, which is a permanent/irreversible direct impact in fill areas.
	+ +	Medium – wetland impacts were minimized to the greatest extent feasible
	+ + +	High - This wetland community is not rare or unique to the area.

Secondary Impacts (including impacts which are indirectly attributable to the project)	- - -	<p>High – Secondary impacts are likely to occur particularly within the immediately adjacent buffer areas of the wetland impact area and will likely include; introduction or spread of invasive species, fragmentation of wildlife and aquatic life habitat, alteration of the hydrologic regime, potential alteration of wetland community due to hydrology alterations and stressors on plant communities. Although a stormwater permit will be prepared to address stormwater runoff and sedimentation, grading and filling in this area will result in more impervious surface area and may result in increased stormwater runoff, increased sedimentation and lowered storm and floodwater retention abilities of the community. Other secondary impacts are likely to include a decrease in vegetative cover or change in community types in adjacent areas due to increased foot and vehicle traffic, campers gathering firewood and overall stressors on vegetation from disturbance and pollutants.</p>
	+ +	<p>Medium – Elimination of some extremely steep hillsides and slopes within the AA and buffer area may reduce stormwater runoff volumes and/or rates, thereby reducing overall erosion and sediment outputs. There are opportunities to create more heavily vegetated retention areas where currently there are very steep, erosive slopes.</p>
	+ + +	<p>High – the wetland impact area is very small in comparison to the overall wetland and watershed. The wetland community is not rare and there are many acres of this community type upgradient that will persist and continue to provide many of the same functions and possibly more than this community.</p>
	+ + +	<p>High – relocating this campground to this location has required significant evaluation of human safety and the results of another large storm event. This location is significantly safer being located up-gradient and away from Parker and Oronto Creeks which experience significant flow and flashy hydrology in spring and after storm events and were a major contributing factor to the significant destruction that occurred during the prior storm. This location is also located well away from Lake Superior which is also very dangerous during storm events due to wind and wave action. This location</p>
	+	<p>Low – Roads and associated culverts may provide greater stormwater retention periods and ultimately result in improved water quality prior to entering down-gradient waterways.</p>

Cumulative Impacts	<p>--</p> <p>++</p>	<p>Medium – The cumulative impacts of this project may include future expansions of the existing campground with increased utilization and need for camping space. Increased use of the campground and expansion may also coincide with increased use of the marina, roads and parking areas. Road, parking area, marina and boat launch improvements and expansions may result. Greater human use would also likely equate to increased pollution and damage to adjacent natural communities and affect wildlife and aquatic life movement and habitat. Reduced wetland acreage in the watershed along with increased impervious area may result in increased sedimentation and pollutants ultimately entering Lake Superior and affecting fish and aquatic life habitat and health and potentially affect commercial fishing of certain species.</p> <p>Medium – Most wetlands within this watershed will be jurisdictional and are subject to permitting through state and federal agencies and would require minimization of direct, secondary and cumulative impacts as well as mitigation for more significant fills, which is intended to compensate for the wetland impacts in the same watershed.</p>
Spatial/Habitat Integrity	<p>-</p> <p>++</p>	<p>Low –The spatial/habitat integrity will be compromised within the AA and buffer areas and due to proximity to open water communities it may affect certain species patterns and habitat near those communities.</p> <p>Medium - The wetland impacts are in very close proximity to existing land disturbances, which species have either adapted to or altered their patterns and habitat to vast tracts of undisturbed lands in the surrounding watershed. These impacts do not occur in an area that has been completely pristine and free of human influence and activity. This is not a rare community and many acres of similar communities exist nearby.</p>
Rare Plant/Animal Communities/ Natural Areas	<p>-</p> <p>++</p>	<p>Low – With this project located near Lake Superior which is known to support many rare plant/animal communities and natural areas, as well as this project being located near Parker and Oronto Creeks, it is possible this area supports more rare plant/animals communities although the specific rare plant and animal communities present have yet to be identified.</p> <p>Medium – this wetland impact is very small in comparison to the overall watershed and wetland community. There is significant undisturbed land along Lake Superior and similar wetland communities within the watershed, as well as wide tracts of undisturbed land along Parker and Oronto Creeks.</p>



SCALE IN FEET

1" = 2000'



CONTOUR INTERVAL 10 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929



QUADRANGLE LOCATION

BASE MAP SOURCE: USGS 7.5 MINUTE QUADRANGLE, OROTONO BAY, WISCONSIN, 1980 (NATIONAL GEOGRAPHIC HOLDINGS, INC.)

**SITE LOCATION &  
LOCAL TOPOGRAPHY**

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN

APPROVED BY:  
AMK

DRAWN BY:  
NLB

DATE:  
4-13-17

SCALE:  
1"=2000'

THIS DRAWING AND ALL INFORMATION  
CONTAINED THEREON IS THE PROPERTY  
OF WETLANDS & WATERWAYS LLC, AND  
SHALL NOT BE COPIED OR USED EXCEPT  
FOR THE PURPOSE FOR WHICH IT IS  
FURNISHED.

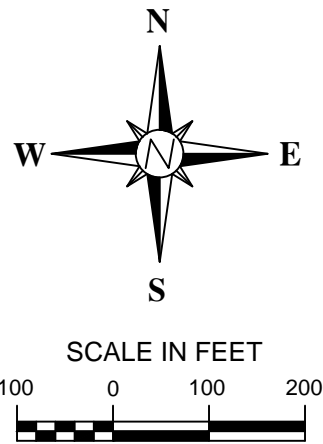


PROJECT NUMBER:  
444

FIGURE NO.

**1**

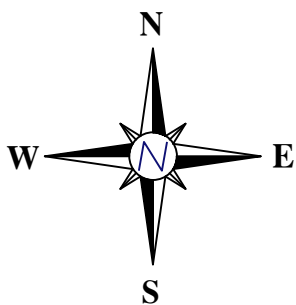




- LEGEND:
- DELINEATED WETLAND
  - DELINEATED WETLAND EXEMPTED PER WDNR AND USACE REVIEW
  - SAMPLE POINT LOCATION
  - CULVERT LOCATION
  - 100 METER ASSESSMENT AREA BUFFER
  - DELINEATION LIMITS
  - ASSESSMENT AREA (AA) - PROPOSED CAMPGROUND AREA
  - STRUCTURES
  - CHANNEL
- WETLAND 1: 3.68 ACRES  
WETLAND 2: 0.15 ACRES  
WETLAND 3: 0.06 ACRES  
WETLAND 4: 0.50 ACRES  
WETLAND 5: 0.18 ACRES  
WETLAND 6: 0.11 ACRES

WETLAND LOCATION MAP	APPROVED BY: AMK	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC, AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED.			PROJECT NUMBER: 444	FIGURE NO. <b>2</b>
	DRAWN BY: NLB	Wetlands & Waterways LLC				
SAXON SITE SEC. 12, T48N, R1W, TOWN OF SAXON, IRON COUNTY, WISCONSIN	DATE: 9/13/17					
	SCALE: 1"=200'					





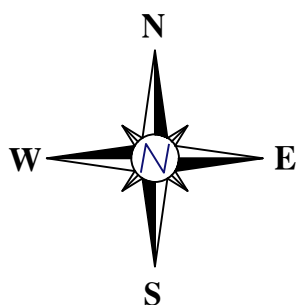
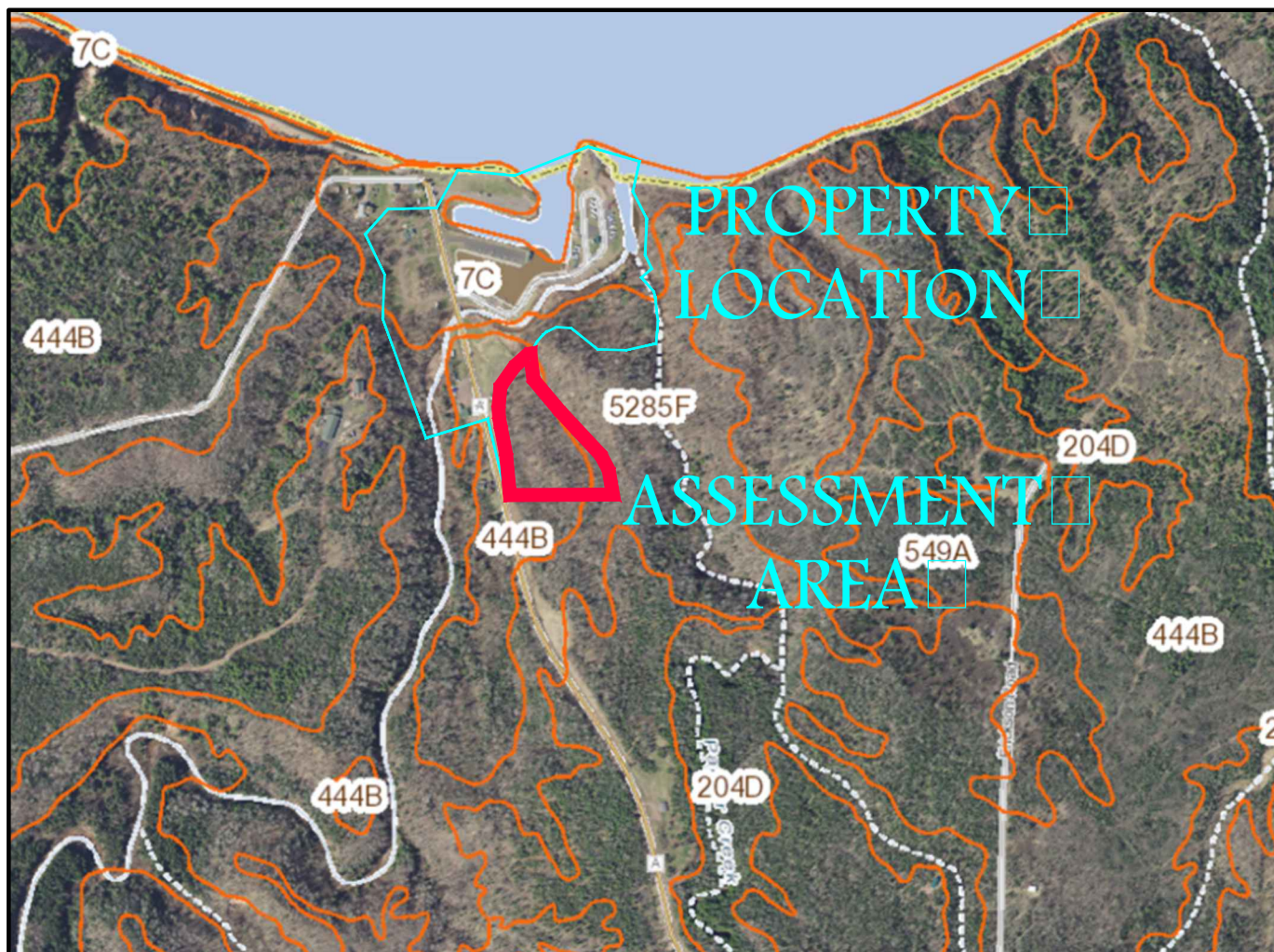
QUADRANGLE LOCATION

BASE MAP SOURCE: WISCONSIN WETLAND INVENTORY MAP

WISCONSIN WETLAND INVENTORY MAP	APPROVED BY: AMK	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC, AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED.	PROJECT NUMBER: 444
	DRAWN BY: NLB		
SAXON SITE SEC. 12, T48N, R1W, TOWN OF SAXON, IRON COUNTY, WISCONSIN	DATE: 4-13-17		FIGURE NO. <b>3</b>
	SCALE: NONE		








#### SOILS LEGEND:

- 7C Beaches, 2 to 12 percent slopes
- 444B Gichigami-Oronto complex, 0 to 6 percent slopes
- 5285F Rockland-Arnheim, frequently flooded complex, 0 to 70 percent slopes

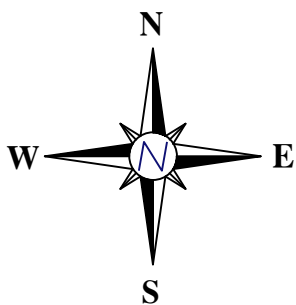


QUADRANGLE LOCATION

BASE MAP SOURCE: IRON COUNTY SOIL SURVEY MAP


<p><b>IRON COUNTY SOIL SURVEY MAP</b></p>	<p>APPROVED BY: AMK</p> <p>DRAWN BY: NLB</p>	<p>THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS &amp; WATERWAYS LLC, AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED.</p>	 <p>Wetlands &amp; Waterways LLC</p>	<p>PROJECT NUMBER: 444</p>
<p>SAXON SITE SEC. 12, T48N, R1W, TOWN OF SAXON, IRON COUNTY, WISCONSIN</p>	<p>DATE: 4-13-17</p> <p>SCALE: NONE</p>			<p>FIGURE NO. <b>4</b></p>



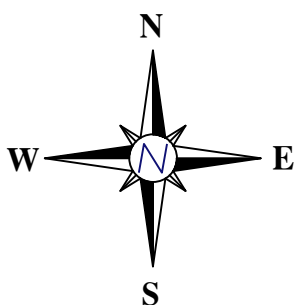
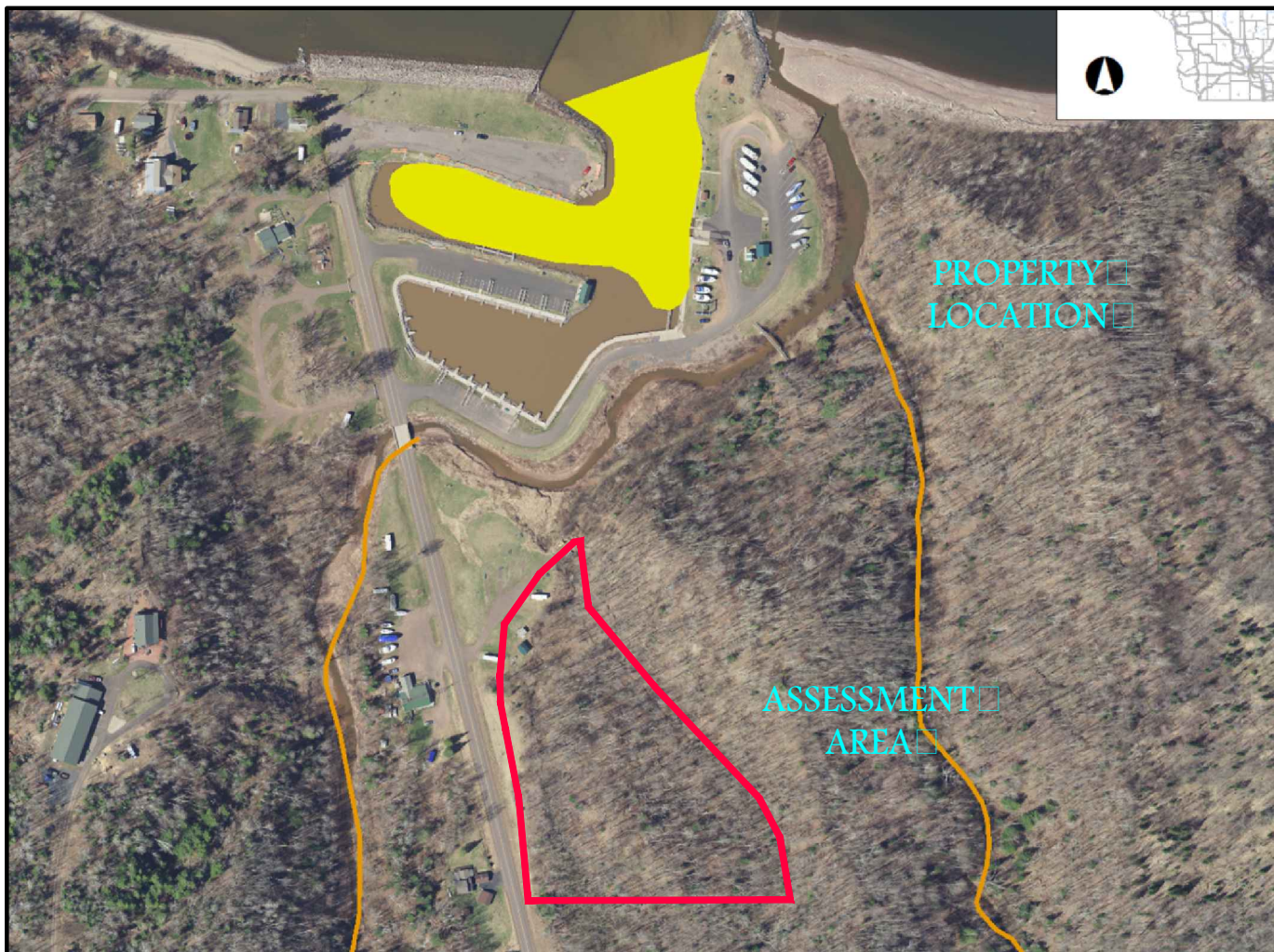


QUADRANGLE LOCATION

BASE MAP SOURCE: FEMA MAP (SWDV)


FEMA MAP	APPROVED BY: AMK	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC, AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED.	 Wetlands & Waterways LLC	PROJECT NUMBER: 444
SAXON SITE SEC. 12, T48N, R1W, TOWN OF SAXON, IRON COUNTY, WISCONSIN	DRAWN BY: NLB			FIGURE NO. <b>5</b>
	DATE: 4-13-17			
	SCALE: NONE			

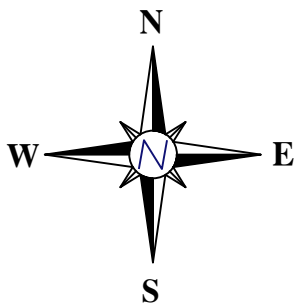




QUADRANGLE LOCATION

BASE MAP SOURCE: DESIGNATED WATERS MAP (SWDV)

<b>DESIGNATED WATERS MAP</b>	APPROVED BY: AMK  DRAWN BY: NLB	THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC, AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED.	 Wetlands & Waterways LLC	PROJECT NUMBER: 444
SAXON SITE SEC. 12, T48N, R1W, TOWN OF SAXON, IRON COUNTY, WISCONSIN	DATE: 4-13-17  SCALE: NONE			FIGURE NO.  <b>6</b>



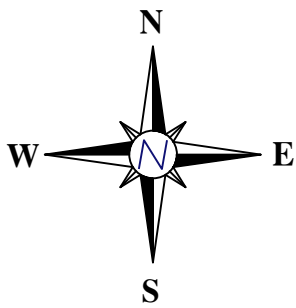
1998 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION

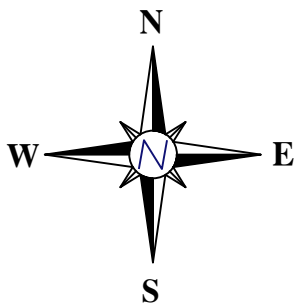




2005 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN





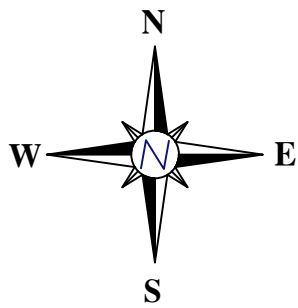
2006 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION



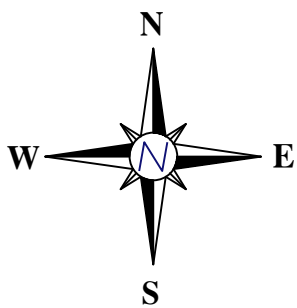


2009 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION



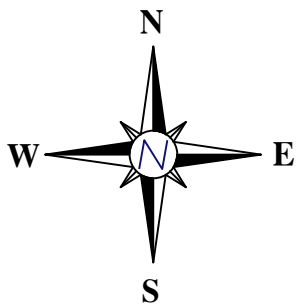
2010 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION





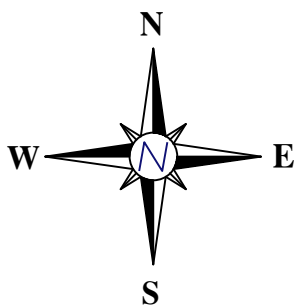
2011 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION





2015 AERIAL

SAXON SITE  
SEC. 12, T48N, R1W, TOWN OF SAXON,  
IRON COUNTY, WISCONSIN



QUADRANGLE LOCATION



## Endangered Resources Preliminary Assessment

Created on **3/6/2018**. This report is good for one year after the created date.

### Results

Endangered resources are present and the species present are legally protected. **Further actions are required to ensure compliance** with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43). Therefore you should request an Endangered Resources Review <http://dnr.wi.gov/topic/ERReview/Review.html>.

### Project Information

Landowner name	Iron County
Project address	CTH A, Saxon Harbor
Project description	Saxon Harbor Marina and Campground Reconstruction

### Project Questions

Does the project involve a public property?	Yes	Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	No
Is there any federal involvement with the project?	Yes	Is the project property in Managed Forest Law or Managed Forest Tax Law?	No



## Project Area Maps



The information shown on these maps has been obtained from various sources, and is of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. Users of these maps should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>.

<https://dnrx.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

# WI Rapid Assessment Methodology: Storm and Floodwater Storage

Question 8: Can the wetland store >10% of the runoff from a 2-yr 24-hour storm event?

Wetland Assessment Area = 5.33 Acres  
 Contributing Areas Total = 25.08 Acres  
 Total Watershed Area = 30.41 Acres

## Step 1: Calculate Runoff based on Hydrologic Soil Group (HSG) and Land Cover

Land Cover	Soil Type	HSG (from soil survey)	Inches of Runoff (from Table)	Feet of runoff	Area (Acres)	Runoff Volume (Acre Feet)
Gichigami-Oronto complex, 0 to 6 percent slopes	444B	B/D	0.7	0.06	10.60	0.62
Rockland-Arnheim, frequently flooded complex, 0 to 70 percent slopes	5285f	C	0.5	0.04	14.48	0.60
<b>Total</b>					25.08	<b>1.22</b>

Inches of Runoff from the 2-year 24 hour storm event				
Land Cover*	HSG A	HSG B	HSG C	HSG D
Woodland	0	0.1	0.5	0.9
Grassland	0	0.2	0.6	0.9
Cropland	0.1	0.5	0.9	1.2
Impervious Surface	2.6	2.6	2.6	2.6

\*For Wetland soils choose Land Cover of Woodland or Grassland or Cropland . Wetland soils HSG depends on presence/absence of drainage.  
 Drained wetland soils are treated as HSG "A" (no ponding or runoff when drainage features are functioning).  
 Undrained wetlands soils are treated as HSG "D" (no infiltration, all precipitation will pond in wetland).

## Step 2: Calculate Wetland Storage

(area × depth)

Wetland Area	5.33 Acres
Average Wetland Depth	1.5 feet
Wetland Storage	7.995 Acre-feet

Average Wetland Depth	0.5 feet
Wetland Storage	2.665 Acre-feet

## Step 3: Compare Wetland Storage to Runoff Volume (in Acre Feet)

Storage/Runoff

6.55

Storage/Runoff >10%?

NO

2.18

NO



# Transect/Plot Assessment

Edit This Transect/Plot

Download Report

Done

## Saxon Harbor Campground Reconstruction Area

### » Date & Location:

2017-09-08  
Saxon Harbor  
Town of Saxon  
Iron, WI, U.S.

### » FQA Database:

Region: **Wisconsin (WDNR)-NCNE Wetland Region (Northern and South-central Wisconsin)**  
Year Published: **2017**  
Description:  
Chung-Gibson, M., Bernthal T., Doyle K., Wetter, M., Haber, E. (2017). Wisconsin Department of Natural Resources, Water Quality Bureau. From WDNR\_FQA\_Calculator\_v1.5.17. Nomenclature from Wisconsin State Herbarium, University of Wisconsin-Madison (2016). COFC values from Bernthal, TW. Development of a Floristic Quality Assessment Methodology for Wisconsin. Wisconsin Department of Natural Resources, 2003. Note that regions differ only in Wetland Indicator Status.

### » Details:

Practitioner: **Ann Key**  
Latitude: 46.558449  
Longitude: -90.438495  
Community Code: Superior Coastal Plain  
Community Name: Hardwood Swamp  
Community Type Notes:  
Weather Notes:  
Duration Notes:  
Universal FQA (v1.0) Description:  
Other Notes:

### » Transect/Plot Design:

Transect or Plot: **Plot**  
Plot Size (m<sup>2</sup>): 30  
Quadrat/Subplot Size (m<sup>2</sup>):  
Transect Length (m):  
Sampling Design Description:  
Cover Method: % Cover (0 - 100)

Universal FQA (v1.0) Description:  
This assessment is private (viewable only by you)

[FQA Databases \(/view\\_databases\)](#)

[Account Info \(/view\\_account\)](#)

[Help \(/help\)](#)

[Logout \(/logout\)](#)

### » Conservatism-Based Metrics:

Total Mean C: **4.8**  
Cover-weighted Mean C: **5.4**  
Native Mean C: **5.1**  
Total FQI: **20.4**  
Native FQI: **21**  
Cover-weighted FQI: **22.9**  
Cover-weighted Native FQI: **23.5**  
Adjusted FQI: **49.6**  
% C value 0: **5.6%**  
% C value 1-3: **27.8%**  
% C value 4-6: **33.3%**  
% C value 7-10: **33.3%**

### » Species Richness:

Total Species: **18**  
Native Species: **17 (94.4%)**  
Non-native Species: **1 (5.6%)**

### » Species Wetness:

Mean Wetness: **-2.5**  
Native Mean Wetness: **-2.4**

### » Duration Metrics:

Annual: **1 (5.6%)**  
Perennial: **17 (94.4%)**  
Biennial: **0 (0%)**  
  
Native Annual: **1 (5.6%)**  
Native Perennial: **16 (88.9%)**  
Native Biennial: **0 (0%)**

### » Physiognomic Relative Importance Values:

Physiognomy	Frequency	Coverage	Relative Frequency (%)	Relative Coverage (%)	Relative Importance Value
-------------	-----------	----------	------------------------	-----------------------	---------------------------

Native forb	6	55	33.3	13.6	23.5
Native tree	2	115	11.1	28.4	19.8
Native sedge	3	60	16.7	14.8	15.8
Native grass	2	80	11.1	19.8	15.5
Native rush	3	0	16.7	0	8.4
Native fern	0	55	0	13.6	6.8
Non-native forb	1	25	5.6	6.2	5.9
Native shrub	1	15	5.6	3.7	4.7

» Species Relative Importance Values:

Species	Family	Acronym	Nativity	C	W	Physiognomy	Duration	Frequency	Coverage	Relative Frequency (%)	Relative Coverage (%)	Relative Importa Value
Fraxinus nigra	Oleaceae	FRANIG	native	8	-3	tree	perennial	1	85	5.6	21	13.3
Poa palustris	Poaceae	POAPAL	native	5	-3	grass	perennial	1	70	5.6	17.3	11.5
Acer rubrum	Sapindaceae	ACERUB	native	3	0	tree	perennial	1	30	5.6	7.4	6.5
Carex crinita	Cyperaceae	CARCRI	native	6	-5	sedge	perennial	1	25	5.6	6.2	5.9
Carex bromoides	Cyperaceae	CARBRO	native	8	-3	sedge	perennial	1	25	5.6	6.2	5.9
Onoclea sensibilis	Dryopteridaceae	ONOSEN	native	5	-3	fern	perennial	1	25	5.6	6.2	5.9
Myosotis scorpioides	Boraginaceae	MYOSCO	non-native	0	-5	forb	perennial	1	25	5.6	6.2	5.9
Matteuccia struthiopteris	Dryopteridaceae	MATSTR	native	5	0	fern	perennial	1	20	5.6	4.9	5.3
Impatiens capensis	Balsaminaceae	IMPCAP	native	2	-3	forb	annual	1	15	5.6	3.7	4.7
Rubus pubescens	Rosaceae	RUBPUB	native	7	-3	shrub	perennial	1	15	5.6	3.7	4.7
Solidago gigantea	Asteraceae	SOLGIG	native	3	-3	forb	perennial	1	15	5.6	3.7	4.7
Carex scoparia	Cyperaceae	CARSCO	native	4	-3	sedge	perennial	1	10	5.6	2.5	4.1
Dryopteris intermedia	Dryopteridaceae	DRYINT	native	7	0	fern	perennial	1	10	5.6	2.5	4.1
Equisetum sylvaticum	Equisetaceae	EQUSYL	native	7	-3	forb	perennial	1	10	5.6	2.5	4.1
Bromus	Poaceae	BROCIL	native	7	-3	grass	perennial	1	10	5.6	2.5	4.1

ciliatus													
Caltha palustris	Ranunculaceae	CALTPAL	native	6	-5	forb		perennial	1	5	5.6	1.2	3.4
Equisetum arvense	Equisetaceae	EQUARV	native	1	0	forb		perennial	1	5	5.6	1.2	3.4
Geum aleppicum	Rosaceae	GEUALE	native	3	0	forb		perennial	1	5	5.6	1.2	3.4

» Quadrat/Subplot Level Metrics:

Quadrat/Subplot	Species Richness	Native Species Richness	Total Mean C	Native Mean C	Total FQI	Native FQI	Cover-weighted FQI	Cover-weighted Native FQI	Adjusted FQI	Mean Wetness	Mean Native Wetness	Latitude	Longitu
1	18	17	4.8	5.1	20.4	21	22.9	23.5	49.6	-2.5	-2.4	n/a	n/a
Average	18	17	4.8	5.1	20.4	21	22.9	23.5	49.6	-2.5	-2.4	n/a	n/a
Standard Deviation	0	0	0	0	0	0	0	0	0	0	0	n/a	n/a

» Quadrat/Subplot 1 Species:

Scientific Name	Family	Acronym	% Cover	Cover Range (Midpt)	Nativity	C	W	Physiognomy	Duration	Common Name
Acer rubrum	Sapindaceae	ACERUB	30	% Cover (0 - 100)	native	3	0	tree	perennial	red maple
Bromus ciliatus	Poaceae	BROCIL	10	% Cover (0 - 100)	native	7	-3	grass	perennial	fringed brome
Caltha palustris	Ranunculaceae	CALTPAL	5	% Cover (0 - 100)	native	6	-5	forb	perennial	cowslip
Carex bromoides	Cyperaceae	CARBRO	25	% Cover (0 - 100)	native	8	-3	sedge	perennial	brome-like sedge
Carex crinita	Cyperaceae	CARCRI	25	% Cover (0 - 100)	native	6	-5	sedge	perennial	fringed sedge
Carex scoparia	Cyperaceae	CARSCO	10	% Cover (0 - 100)	native	4	-3	sedge	perennial	broom sedge
Dryopteris intermedia	Dryopteridaceae	DRYINT	10	% Cover (0 - 100)	native	7	0	fern	perennial	fancy wood fern
Equisetum arvense	Equisetaceae	EQUARV	5	% Cover (0 - 100)	native	1	0	forb	perennial	common horsetail
Equisetum sylvaticum	Equisetaceae	EQUSYL	10	% Cover (0 - 100)	native	7	-3	forb	perennial	wood horsetail
Fraxinus nigra	Oleaceae	FRANIG	85	% Cover (0 - 100)	native	8	-3	tree	perennial	black ash
Geum aleppicum	Rosaceae	GEUALE	5	% Cover (0 - 100)	native	3	0	forb	perennial	yellow avens
Impatiens capensis	Balsaminaceae	IMPCAP	15	% Cover (0 - 100)	native	2	-3	forb	annual	orange jewelweed
Matteuccia	Dryopteridaceae	MATSTR	20	% Cover (0 - 100)	native	5	0	fern	perennial	american

struthiopteris

ostrich fern

Myosotis scorpioides	Boraginaceae	MYOSCO	25	% Cover (0 - 100)	non-native	0	-5	forb	perennial	common forget-me-not
Onoclea sensibilis	Dryopteridaceae	ONOSEN	25	% Cover (0 - 100)	native	5	-3	fern	perennial	sensitive fern
Poa palustris	Poaceae	POAPAL	70	% Cover (0 - 100)	native	5	-3	grass	perennial	fowl meadow grass
Rubus pubescens	Rosaceae	RUBPUB	15	% Cover (0 - 100)	native	7	-3	shrub	perennial	dwarf red raspberry
Solidago gigantea	Asteraceae	SOLGIG	15	% Cover (0 - 100)	native	3	-3	forb	perennial	giant goldenrod



**Attachment 5**  
**Tree Survey Project**





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**LEGEND**

- |  |                          |
|--|--------------------------|
|  | EXISTING CONTOUR         |
|  | EXISTING WATER           |
|  | EXISTING TREE/BRUSH      |
|  | EXISTING BUILDING        |
|  | EXISTING<br>PAVED ROAD   |
|  | EXISTING<br>UNPAVED ROAD |
|  | EXISTING TRAIL           |
|  | EXISTING BRIDGE          |
|  | EXISTING SEA WALL        |
|  | EXISTING PIER            |
|  | EXISTING MISC POST       |

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RECORD DRAWING OF COMPLETED CONSTRUCTION BY:

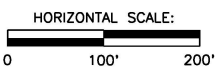
RECORD DRAWINGS OF COMPLETED CONSTRUCTION  
CONFORMING TO CONTRACTOR AND/OR OWNERS RECORDS.

BY \_\_\_\_\_ DATE \_\_\_\_\_

DATE OF PREPARATION

	BY	DATE
SURVEYED		
DRAWN	JOW	JUNE 2017
SIGNED		
CHECKED	RDF	JUNE 2017

## EXISTING CONDITIONS



PROJECT ID: 17I004.00

**Potl Infrastructure & Environment, LLC**  
2121 Innovation Court, Suite 300  
P.O. Box 5126  
De Pere, WI 54115-5126  
Phone: 920-497-2500 Fax: 920-497-8516

**REUSE OF DOCUMENTS**

THIS DOCUMENT HAS BEEN DEVELOPED FOR A SPECIFIC APPLICATION AND NOT FOR GENERAL USE. THEREFORE IT MAY NOT BE USED WITHOUT THE WRITTEN APPROVAL OF FOTH INFRASTRUCTURE AND ENVIRONMENT, LLC. UNAPPROVED USE IS THE SOLE RESPONSIBILITY OF THE UNAUTHORIZED USER.

WISCONSIN

**IRON COUNTY**



**Attachment 6**  
**USFWS Species by County**

# Wisconsin

## County Distribution of Federally-listed Endangered, Threatened and Proposed Species

May 18, 2017

County	Species	Status	Habitat
Adams	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Kirtland's warbler <i>Setophaga kirtlandii</i>	Endangered	Young jack pine stands (5 to 25 years old)
	Whooping crane <i>Grus americanus</i>	**Non-essential experimental population	Open wetlands and lakeshores  Whooping cranes have nested in this county
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine
Ashland	Canada lynx <i>Lynx canadensis</i>	Threatened	While no resident populations are known from Wisconsin, the species occasionally occurs in northern forested areas, and counties listed are those with the highest likelihood of occurrence.
	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Piping plover <i>Charadrius melodus</i>	Endangered	Sandy beaches; bare alluvial and dredge spoil islands
	Piping plover <i>Charadrius melodus</i>	Critical Habitat Designated	
	Rufa red knot <i>(Calidris canutus rufa)</i>	Threatened	Along Lake Superior
Barron	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.

	Poweshiek skipperling ( <i>Oarisma poweshiek</i> )	Endangered and Critical Habitat  Maps of Critical Habitat	Native prairie
	Eastern prairie fringed orchid ( <i>Platanthera leucophaea</i> )	Threatened	Wet grasslands
Iowa	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane ( <i>Grus americanus</i> )	**Non-essential experimental population	Open wetlands and lakeshores
	Higgins eye pearly mussel ( <i>Lampsilis higginsii</i> )	Endangered	Lower Wisconsin Rivers
	Sheepnose Mussel ( <i>Plethobasus cyphyus</i> )	Endangered	Wisconsin River
	Hine's emerald dragonfly ( <i>Somatochlora hineana</i> )	Endangered	Calcareous streams & associated wetlands overlying dolomite bedrock
	Rusty patched bumble bee <i>Bombus affinis</i>  <b>Note for project proponents:</b> this bee is not known to occur throughout the entire counties. To determine if your project or ongoing action is within an area that is likely to have the rusty patched bumble bee, use our online tool at <a href="https://ecos.fws.gov/ipac/">https://ecos.fws.gov/ipac/</a>	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
	Mead's milkweed ( <i>Asclepias meadii</i> )	Threatened	Upland tallgrass prairie or glade/barren habitat  <b>Note:</b> all the Mead's milkweed sites in Wisconsin are reintroduction attempts and occur on protected conservation lands.
	Prairie bush-clover ( <i>Lespedeza leptostachya</i> )	Threatened	Dry to mesic prairies with gravelly soil
Iron	Canada lynx <i>Lynx canadensis</i>	Threatened	While no resident populations are known from Wisconsin, the species occasionally occurs in northern forested areas, and counties listed are those with the highest likelihood of occurrence.
	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas

	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
Jackson	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane <i>Grus americanus</i>	**Non-essential experimental population	Open wetlands and lakeshores
	Kirtland's warbler <i>Setophaga kirtlandii</i>	Endangered	Potential breeding in young jack pine stands (5 to 25 years old)
	Eastern massasauga <i>Sistrurus catenatus</i>	Threatened	Open to forested wetlands and adjacent uplands
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine
Jefferson	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane <i>Grus americanus</i>	**Non-essential experimental population	Open wetlands and lakeshores
	Eastern prairie fringed orchid <i>(Platanthera leucophaea)</i>	Threatened	Wet grasslands
Juneau	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane <i>Grus americanus</i>	**Non-essential experimental population	Open wetlands and lakeshores  Whooping cranes have nested in this county
	Eastern massasauga <i>Sistrurus catenatus</i>	Threatened	Open to forested wetlands and adjacent uplands
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine

**Attachment 7**  
**WDNR NIH Report Summary**



## Endangered Resources Preliminary Assessment

Created on **6/25/2018**. This report is good for one year after the created date.

### Results

**Further actions recommended.** You are encouraged to request a full [Endangered Resources Review](#), although it is not required. If an ER Review is requested for this project, it would provide recommended (voluntary) actions that could be taken during the course of the project.

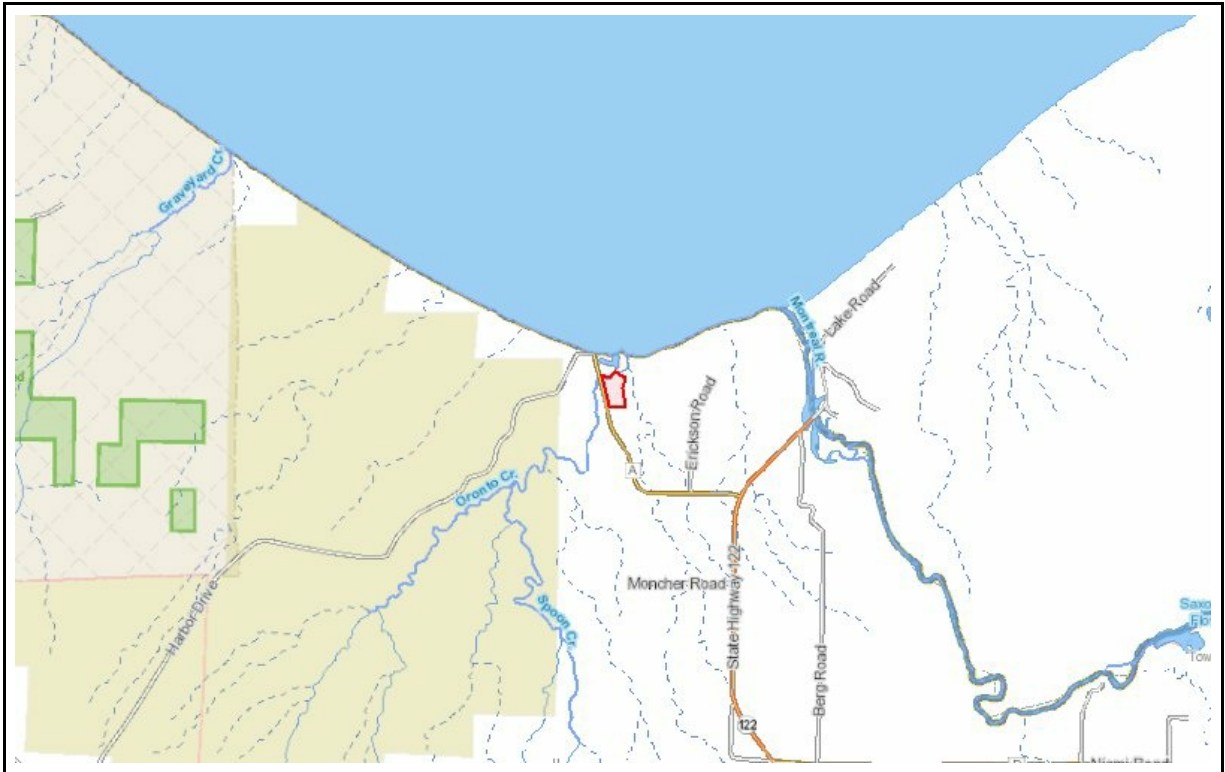
### Project Information

Landowner name	Iron County Forestry Department
Project address	Saxon Harbor, Wisconsin
Project description	Campground reconstruction and restoration.

### Project Questions

Does the project involve a public property?	Yes	Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	Yes
Is there any federal involvement with the project?	Yes	Is the project property in Managed Forest Law or Managed Forest Tax Law?	No





The information shown on these maps has been obtained from various sources, and is of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. Users of these maps should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>.

<https://dnrx.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

**Attachment 8**  
**Archaeology Report Saxon Harbor**

**Phase I Archaeological Investigations  
Saxon Harbor and Saxon Harbor Campground Relocation  
Iron County Forestry Department  
DR-4276 PW 148 and 149  
Iron County, Wisconsin**

Prepared for  
Foth Infrastructure & Environment, LLC  
5117 West Terrace Drive, Suite 401  
Madison, WI 53718  
Contact Person: Michael S. Raimonde, Project Manager  
Email: Michael.Raimonde@Foth.com

Prepared by  
Archaeological Research, Inc.  
Middleton, WI 53562  
(773)456-1811  
[www.arch-res.com](http://www.arch-res.com)



This document was prepared by David Keene, Ph.D., RPA  
Date: September 2017

## **EXECUTIVE SUMMARY/ABSTRACT**

Archaeological Investigations were conducted on public land in Iron County, Wisconsin, commonly referred to as Saxon Harbor. The area on the shore of Lake Superior had been severely damaged by a series of thunderstorms and floods that hit the area in early July 2016. With funding from FEMA the county intends to restore the destroyed harbor and associated campground facility. Background documents suggest that there are three previously reported archaeological sites in or adjacent to the area of potential effect (APE). IR-0018, the Saxon Harbor Trading Post Site, is located within the APE. Investigations suggest that evidence of this site is no longer present and most likely by erosion, and previous campground activity. Field Investigation failed to locate archaeological deposits or artifacts. No further archaeological work is recommended. The total area under investigation here was approximately 34 acres.

## **DESCRIPTION OF UNDERTAKING**

On 11 July 2016 multiple rounds of thunderstorms hit portions of Northern Wisconsin and Northeast Minnesota. In particular, hard hit was the area along Lake Superior known as Saxon Harbor. A series of streams converge forming a hollow which drains the uplands to the south and flows into Lake Superior. High winds and floodwaters swelled the hollow and destroyed the entire man made harbor and surrounding landscape. Included in the destruction were the harbor and docking facilities and an adjacent campground. Iron County plans to reconstruct the destroyed and damaged recreational facilities and restore them to their original function.

## **PROJECT AREA and AREA OF POTENTIAL EFFECT**

Foth Infrastructure & Environment, LLC, provided ARI with project location information including a site sketch delineating the location of the proposed construction.

The area of potential effect (APE) includes areas of reasonably anticipated direct and indirect impacts. For the purpose of this investigation archaeological investigations were conducted on three separate parcels outlined by the client (See **Attachment 3**). Area #1 (approximately 7 acres in size) is the location of the campground that was destroyed by floodwaters. Area #2 (approximately 17 acres in size) is an area that may be developed as a new campground. Area #3 (approximately 10 acres in size) contains the location of IR-0018 and is an

area that may be developed as a new campground. It should also be noted that the Harbor area was also inspected. The storm had destroyed the most of the harbor landscape and features.

## **LEGAL DESCRIPTION**

The project area is located in the following section, township and range:

Iron County, Wisconsin

Oronto, WI 7.5 Minute Quadrangles

T47N, R1W; Section 12

Civil Township: Saxon (**SEE ATTACHMENT 2**)

## **BACKGROUND DOCUMENTARY and LITERATURE SEARCH**

The purpose of the background documentary and literature search is to evaluate the existing data on cultural resources within the APE of the proposed project area and identify the potential for impacts to significant historic properties. For the purposes of this search, all cultural resources that are listed on or eligible for state or national registers are considered to be significant historic properties. The archaeological and historical background documentary research was conducted by ARI on the proposed project area in April 2017.

## **METHODS**

The background documentary and literature search was compiled from a number of sources, including summaries of previous cultural resource investigations within the sections containing the APE.

The following sources were identified and consulted:

\*Archaeological and Historical Structure Survey site files as recorded on the Wisconsin Historic Preservation Database.

\*Archaeological review and compliance reports housed at the State Historical Society of Wisconsin.

\*Historic Plats and Atlases housed at Archaeological Research Incorporated including Government Land Office maps and the Charles E. Brown Archaeological Atlas of Wisconsin.

## **PREVIOUSLY RECORDED CULTURAL RESOURCES**

A search of the Wisconsin Historic Preservation Database housed at the State



Historical Society of Wisconsin indicates that one recorded archaeological sites is located within the APE. In addition two other sites are adjacent to the project areas. These sites are summarized below in **TABLE 1**.

**TABLE 1. Previously Recorded Archaeological Sites near the Project Areas**

Site Number	Site Type	Site Name	Cultural Affiliation
IR-0018 (in project area)	Trading/Fur Post	Saxon Harbor Trading Post	Historic EuroAmerican
IR-0017	Cultural Site	Saxon Harbor Birching Station	Historic Indian
IR-0019	Campsite/Village	N/A	Historic Indian

## **AFFECTED ENVIRONMENT**

It is necessary to understand the geomorphology and topography of the project area prior to conducting field investigations. Any such study necessitates a discussion of not only physiography, but also soils, drainage systems, and present land uses. These factors contribute to an understanding of what the prehistoric and historic landscape looked like at the time of site formation as compared to the present landscape.

### *Physiographic setting*

Paull and Paull (1977), following Martin (1965), have divided Wisconsin into four physical provinces. These are the Northern Highland, the Central Plain, the Western Upland, and the Eastern Ridges and Lowlands (see **ATTACHMENT 1**). In addition they have designated a narrow band along the shores of Lake Superior as the Lake Superior Lowland. The project area is located in both the Lake Superior Lowland and the edge of the Northern Highlands.

The lowland area is essentially the result of movement of glacial ice at the end of the last ice age. The area is flat and subject to streams and runoff from the adjacent uplands.

The project area lies within the Northern Highlands contains a great deal of topographic relief due to glacial action and erosion into Lake Superior. Pre-settlement vegetation consisted of Boreal Forest species such as White Spruce,

Balsam Fir, Tamarack, White Cedar, White Birch and Aspen (Curtis 1959; Finley 1976).

#### Drainage

The project areas are drain by Parker and Oronto Creeks which flow into Lake Superior.

#### **GROUND COVER and INVESTIGATION TECHNIQUES**

The field survey was conducted on 24 and 25 May 2017 by David Keene, Ph.D., RPA.

The Harbor Area was visually inspected in this investigation. Flood and storm waters had totally destroyed all man-made structures including docks, moorings, and slips as well as the man-made land that they rested upon.

Area #1 is seven (7) acres in size and the former campground totally destroyed by storm and flooding (see **Attachment 8**). The USDA Soil Survey for this area characterizes all soils in this area as Beach Soils. At the time of the current archaeological survey the entire top level of loosely packed sand (A Horizon) was completely stripped from the area by storm and flooding. The more firm hard packed sand was now the ground surface completely bare and exposed with little to no vegetation. This area was surface inspected and shovel tested at 5 to 10 meter intervals on a checkerboard pattern. The depth of testing was about 50 to 60 centimeters. The entire depth was sand.

Area #2 is seventeen (17) acres in size. The northern tip is an old campground and the balance of the area is forested with severe topographic relief. The forested area was walked and shovel tested at irregular intervals based on terrain. The relief is so great in the forested area that there were few areas suitable for testing let alone habitation (see **Attachment 7** for an illustration of the topographic relief). The dominant soil group in Area #2 is Gichigami-Oronto complex, 0 to 6 percent slope. This is a moderately to well drained loamy till soil heavily eroded in some places. The A Horizon is less than 2 inches deep and of recent deposit by wind and water.

The northern tip of Area #2 is an old campground (see **Attachment 9**). There are also a couple of modern utility sheds in this area. It is clearly landscaped and contains buried utilities and camp pads. This area was shovel tested at irregular intervals.

Area #3 is ten (10) acres in size. Terrain is similar to Area #2. The entire area was forested with a high canopy and an exposed forest floor. Topographic relief was severe. The forested area was walked and shovel tested at irregular intervals based on terrain. The dominant soil group in Area #3 is the "Rockland-Arnheim frequently flooded complex, 0 to 70 percent slopes." This is a well drained soil found on slopes in valleys. The A horizon is often less than 1 inch deep due to erosion.

Special attention was given to the location of IR-0018. The topography was sloping and irregular. Shovel tests were at close ranks and irregular intervals because of the irregularity of the terrain.

### **SURVEY LIMITATIONS**

There were no serious limitations to a comprehensive survey of the project area.

### **RESULTS**

The Harbor Area was completely destroyed by storm activity to the point where rip rap and other construction materials used to support artificial land were exposed. At the time of survey most of the harbor area was mud and water. Some man-made land area was still intact but no natural ground surface has survived.

Area #1 is the location of the recently destroyed campground. No historic or prehistoric archaeological remains were encountered during testing in this area.

Area #2 No historic or prehistoric archaeological materials were encountered during the testing of this area.

Area #3 No historic or prehistoric archaeological materials were encountered during the testing of this area.

### **Concerning IR-0018**

In spite of intensive testing within the recorded location of this site no archaeological material or evidence of structures was encountered. The 1979 investigation found some artifacts but these could not be definitely associated with the Trading Post. In addition they were unable to secure any historic

documents that provided information on the location or dates of the trading post. All information they provided came from local informants who claimed to know of the site. There is even some suggestion in their report that the post may have been located elsewhere (Wackman and Oerichbauer 1979:89).

There was also some suggestion that a cemetery may be associated with the post. They found no evidence of this nor did this current investigation. During the course of this investigation no archaeological materials or subsurface features suggesting prehistoric or historic occupations were encountered.

## **CONCLUSION**

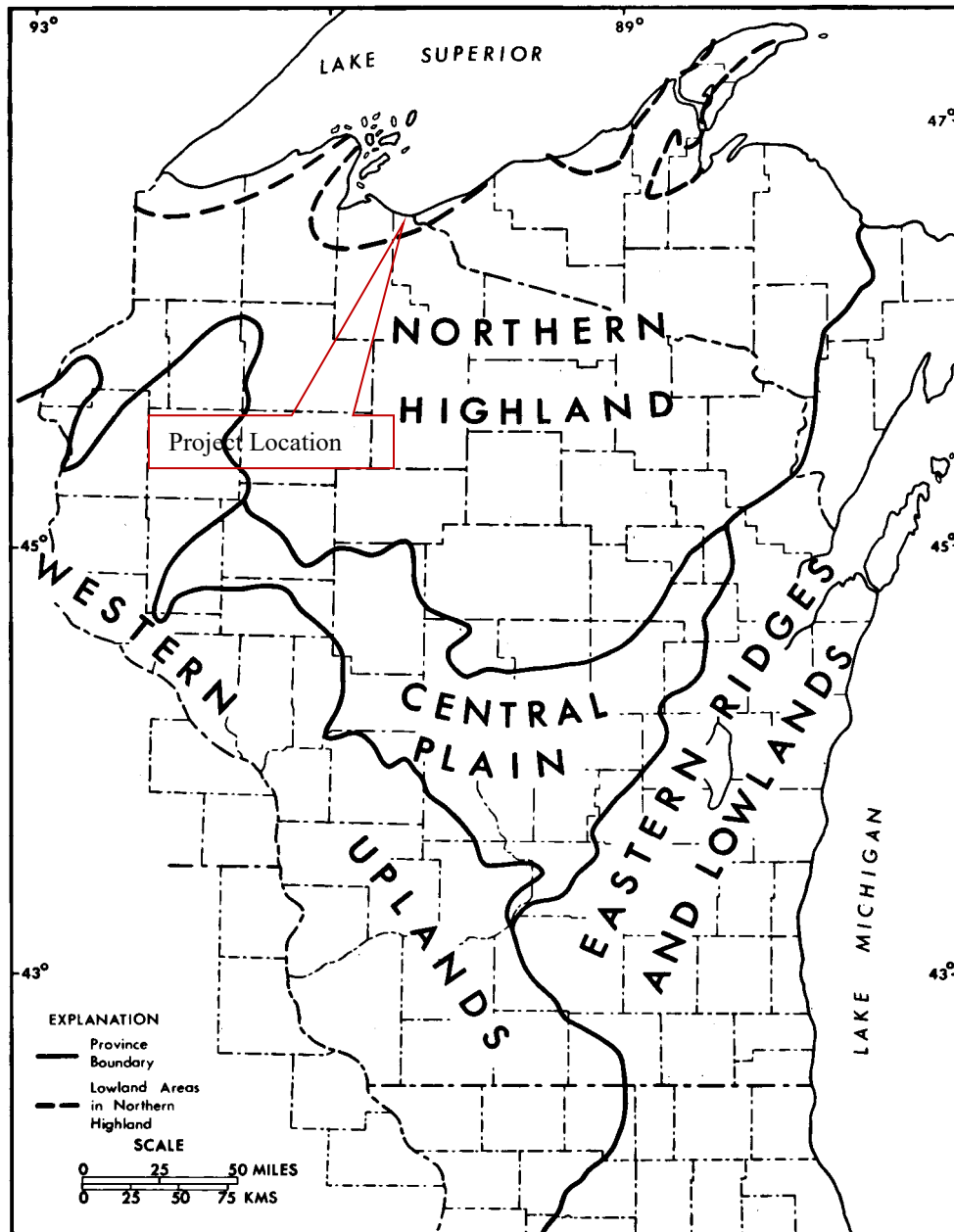
No historic or prehistoric archaeological remains were encountered during the course of this investigation. Field investigations were intensive and methods were appropriate for the particular conditions. If any unanticipated cultural resources or human remains are encountered during construction, construction activities will be halted in that location and appropriate authorities and specialists will be contacted immediately.



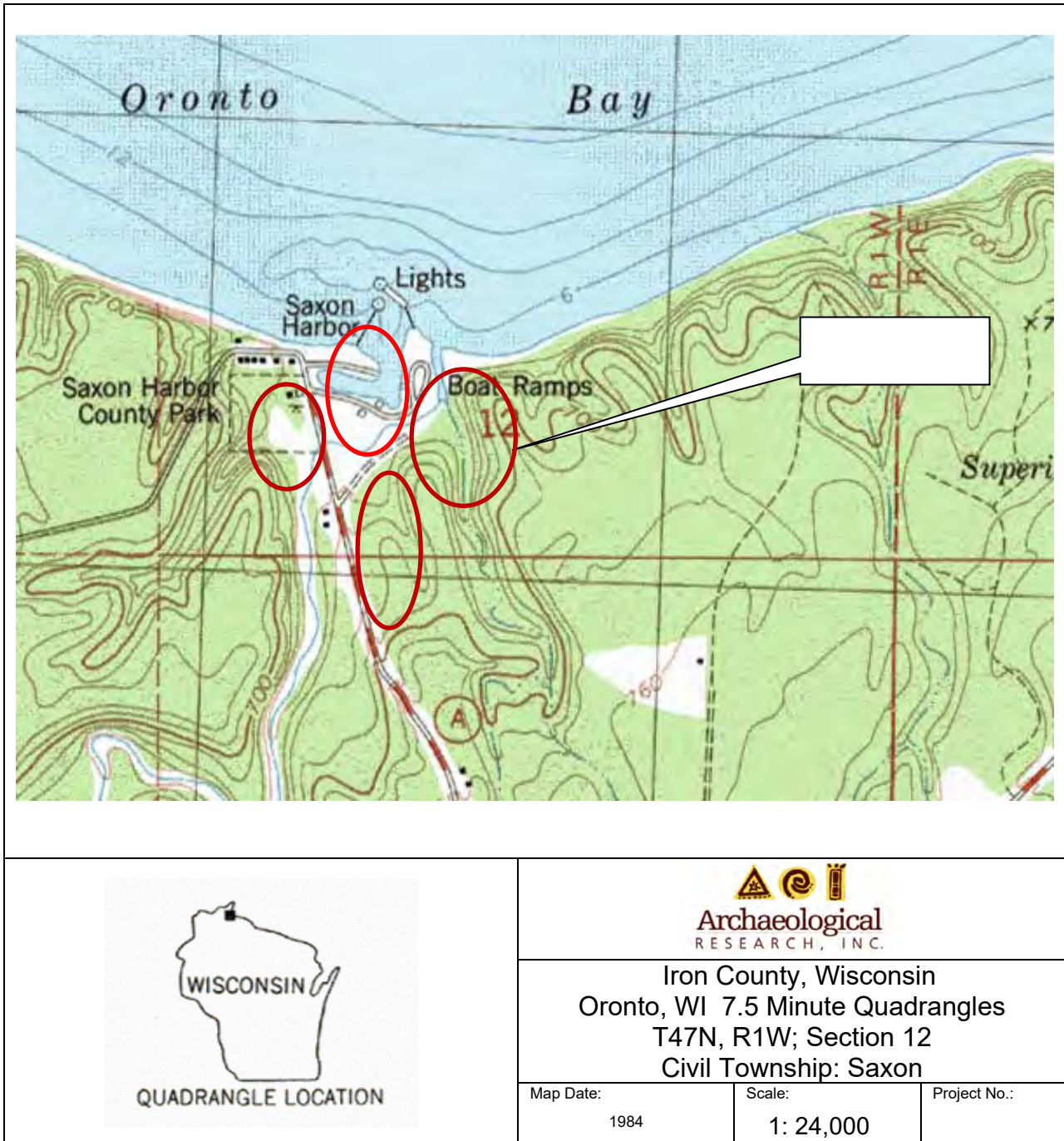
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1976 Menominee, In Handbook of North American Indians 15, ed. W. C. Sturtevant, pp. 708-724, Smithsonian Institution: Washington D.C.
- Wackman, John, and Edgar Oerichbauer  
1979 A Historical and Archaeological Reconnaissance of the Saxon Harbor Area, Iron County, Wisconsin. GLARC Report of Investigation No. 57.

### Attachment 1: Project Location Map



## Attachment 2: Topographic Location Map

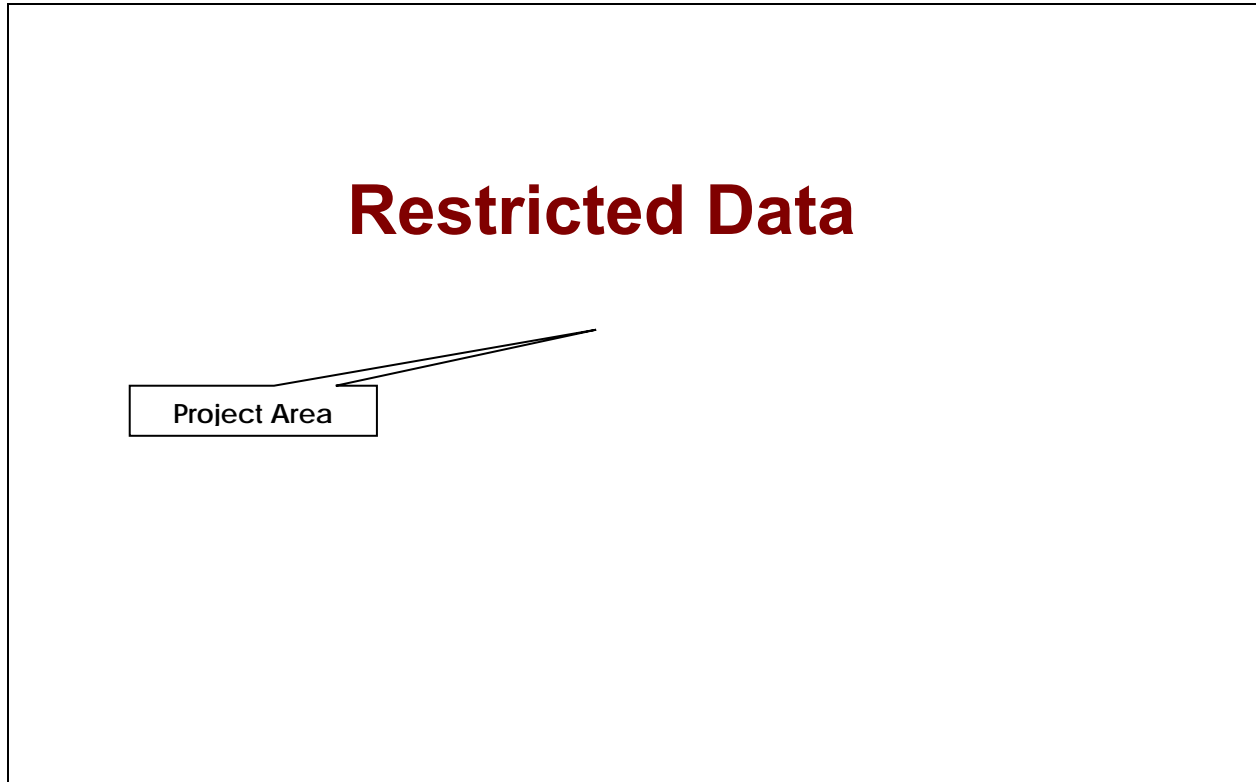


**Attachment 3. Project Location Map Provided by Client.**





**Attachment 4. Historic Properties in and near the project area.**



Source: Wisconsin Historic Preservation Database; Archaeological Site Inventory

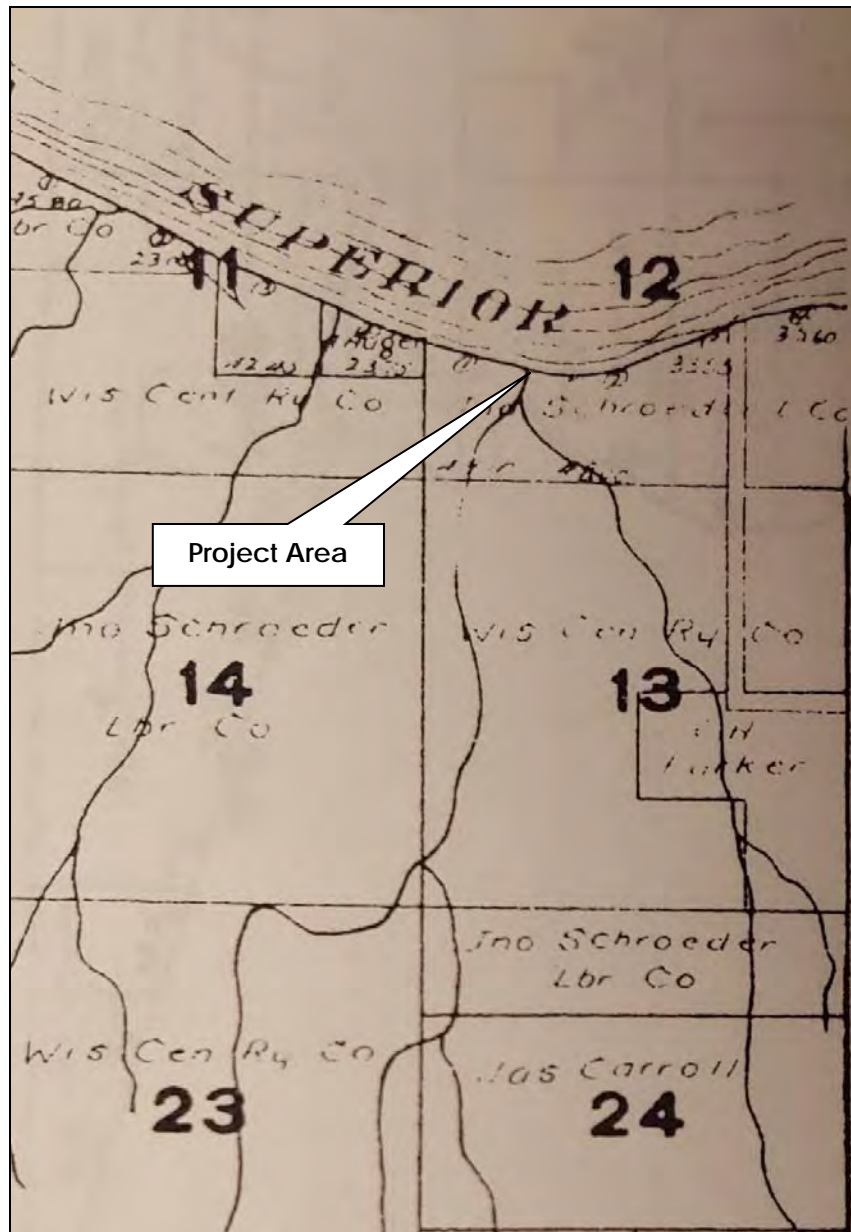
**Attachment 5. 1861 General Land Office Map.**



Source: Wisconsin Public Lands Survey Records  
<http://digicoll.library.wisc.edu/SurveyNotes/SurveyNotesHome.html>

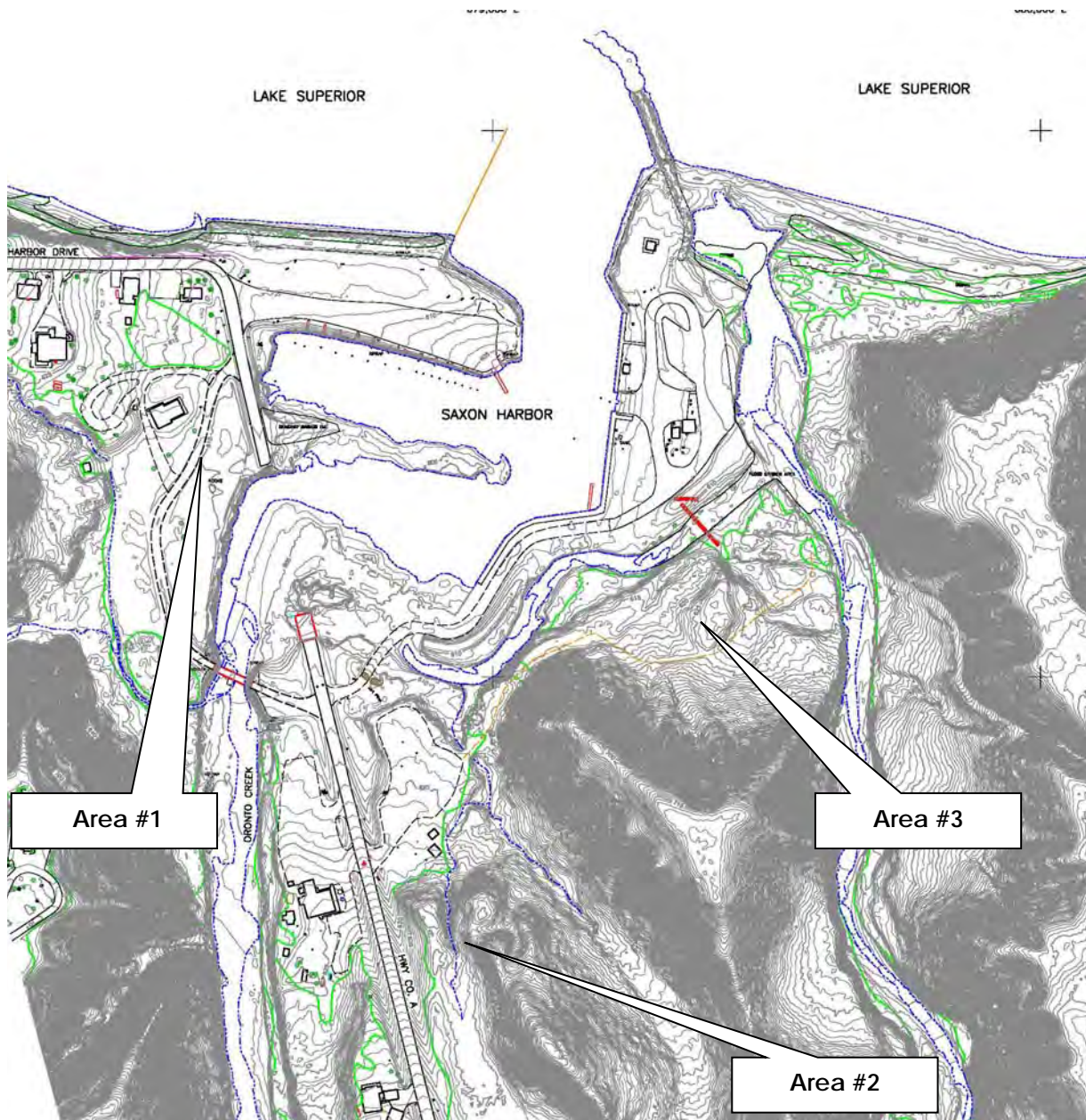
Note there is a structure, most likely the trading post, near the mouth of the river.

Attachment 6. Charles E. Brown Atlas



Source: Charles E. Brown Atlas

**Attachment 7. Topographic detail of Project Area at one foot contour intervals**



Current topographic drawing of the project area with one foot contour intervals prepared by Foth Infrastructure & Environment, LLC.

The purpose of this Attachment is to demonstrate the severity of topographic relief in Areas #2 and #3.



**Attachment 8. Photo of Project Area.**



View to the south. This is the location of the campground that was destroyed by flooding of the Oronto Creek which is just south and east of this 7 acre plot. Saxon Harbor rests immediately to the east. What we see in this picture is an improvised dirt road. The paved road was washed away. That fact along with this picture provides evidence of the force of the storm and flooding through the area. In addition, all topsoil and most surface vegetation was removed by the flooding.

### Attachment 9. Photo of Project Area



This is a view within Area #2. View to the west from the center of the project area. Building on the left of the photo are warehouses, harbor for recreational boats on the right and parking areas in the center.



**Attachment 10. Photo of Project Area**



View to the north from the north end of Area #2. This photograph illustrates the landscaping on the north end of Area#2. The area has been landscaped with buried utilities for camping.

### Attachment 11. Photo of Project Area



View to the north with the Oronto Creek in the far background. The foreground is the location of depressions attributed to the Trading Post (IR-0018). There is also water in the middle ground of the photo. This area is all sand and the water in the middle ground appears to be of recent origin – most likely from the storm and flooding of the previous year. Behind the photographer in this photo is a small camping area with a picnic bench and fire pit. Clearly this area has been used as a wilderness campground for a many years. There is considerable pitting in the area some appears to be man-made – probably for camping reasons others are clearly the result of tree falls.



**Attachment 12. Photo of Project Area**



View to the south. This photo illustrates the topographic relief and ground cover in Area #3.

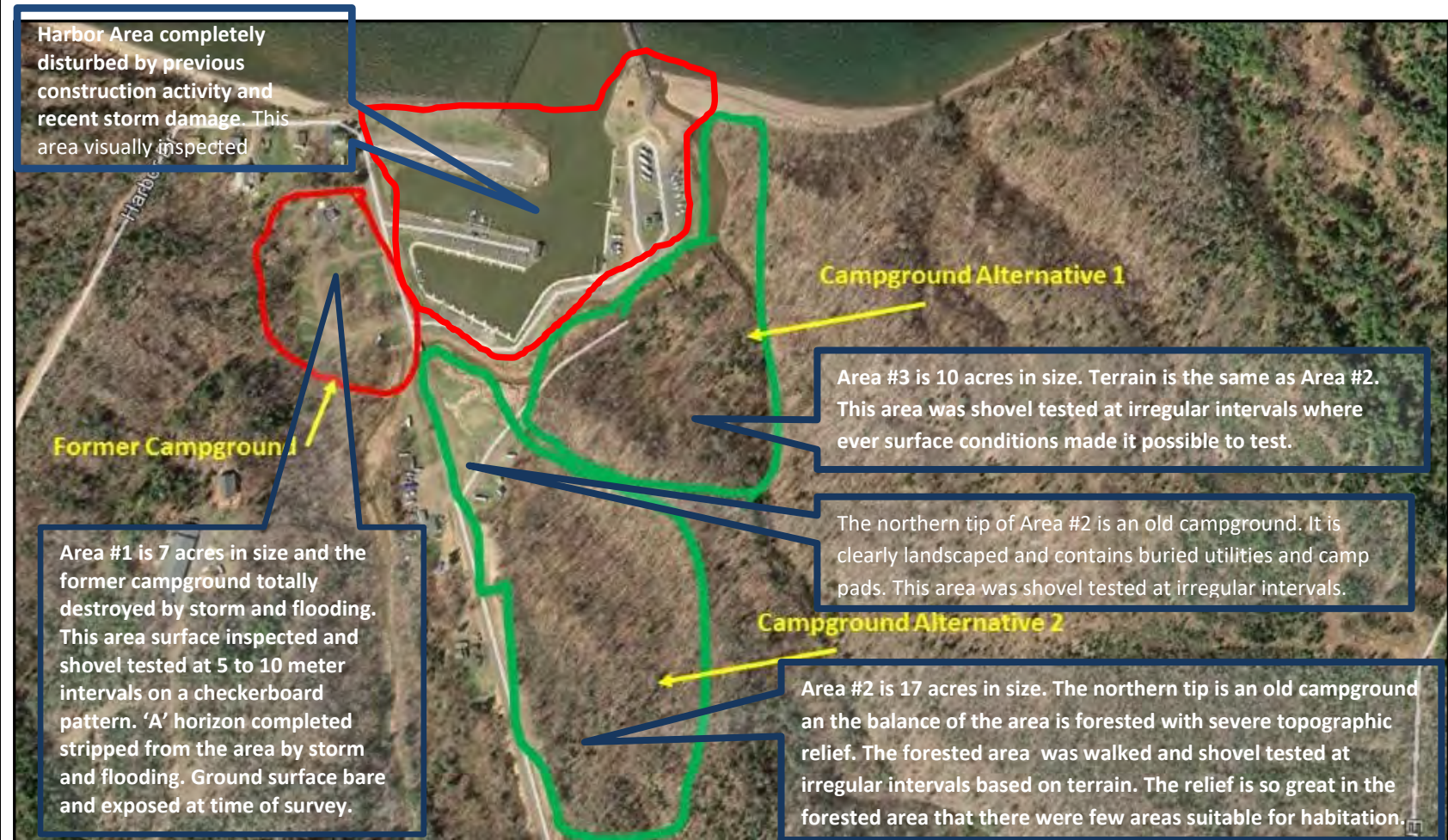
### Attachment 13. Photo of Project Area



View to the south. This is the western end of the Harbor Area. Lake Superior is behind the photographer. The area to the left was once an active harbor with slips and moorings. What land there was is gone.



This is a summary map of field observations made by David Keene on May 25 and 26, 2017



# Wisconsin ASI Update/Correction Form

IR-0018

Saxon

47

1

West

12

Oronto

## Site Description

During the course of field investigation in 2017 no evidence of this site was encountered. Previous work in 1979 did not recover historic documents providing dates or location of this trading post. Local informant claimed knowledge of the post.

It is my experience with early to mid 19th century trading post site that they often do not leave much of a footprint. They were hastily made structures, once abandoned, the building materials and other items were salvaged by locals for their own use.

David Keene

David Keene

Archaeological Research, Inc.

Archaeological Research, Inc.

May 2017

July 2017

FOR WHS

☐ ASI# \_\_\_\_\_

☐ CHK'D \_\_\_\_\_

☐ GIS ENTRY \_\_\_\_\_

OFFICE USE:

☐ GIS ENTRY CHK'D \_\_\_\_\_

☐ ENTER \_\_\_\_\_

☐ ENTRY CHK'D \_\_\_\_\_

HP-00-000 (rev. 08/2002)



**WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT, 2017**  
REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS. STAT. § 44.47  
Wisconsin Historical Society

Name/Organization/Contact David Keene Phone 773-456-1811  
Address 6907 University Avenue #161 City Middleton State WI Zip Code 53562  
Email dkeene@arch-res.com FAX \_\_\_\_\_  
Institutional Affiliation Archaeological Research, Inc.

Location: County Iron Civil Town Saxon  
Town 47N Range 1W Section 12&13 Quarter Sections \_\_\_\_\_

Hwy/Rd \_\_\_\_\_ Other Type of Project ☒

Project Description restoration of the destroyed marina and campground

Type of fieldwork: Phase I/Survey ☒ Phase II/Testing ☐ Phase III/Excavation ☐ Monitoring ☐

Purpose of the fieldwork: Federal Compliance ☒ State Compliance ☐ Education ☐ Other ☐

Site # IR-17;IR-18 Burial Site # \_\_\_\_\_ Burial Permit Secured? Y ☐ N ☒

Dates of field work: Begin date 20 May 2017 End date 20 August 2017

What institution will curate recovered artifacts, notes, and records? Neville Public Museum  
(Curation agreement must be on file with WHS; all materials must be curated in an appropriate, staffed facility.)

Print name David Keene ☐ see attachments

Signature of Archaeologist David Keene Digitally signed by David Keene  
DN: cn=David Keene, o=Archaeological Research, Inc, ou,  
email=dkeene@arch-res.com, c=US  
Date: 2017.05.16 14:15:37 -0500 Date 16 May 2017

Maps and/or letters of explanation can accompany this application.

Landowner or custodian name (print) Eric J. Peterson Phone 715-561-2697

Affiliation Iron County Forestry & Parks Department

Signature of Landowner Eric J. Peterson Digitally signed by Eric J. Peterson  
Date: 2017.05.16 14:57:03 -05'00' Date 5/16/2017

DO NOT WRITE BELOW THIS LINE

Permit Approved  Date 18 May 2017

PLP # 17- 062

John H. Broihahn  
State Archaeologist  
Wisconsin Historical Society  
816 State Street Madison, WI 53706  
FAX: 608-264-6504 / PH 608-264-6496  
Email: [john.broihahn@wisconsinhistory.org](mailto:john.broihahn@wisconsinhistory.org)



**WISCONSIN  
HISTORICAL  
SOCIETY**

Two copies of the final report must be submitted to the State Historic Preservation Office.

Additional authorization or permitting is necessary to conduct work within the boundaries of uncataloged and cataloged human burial sites under Wis. Stat. § 157.70. For additional information: [wihist.org/Request-to-Disturb](http://wihist.org/Request-to-Disturb)

# ARCHAEOLOGICAL REPORTS INVENTORY FORM

WHS PROJECT # \_\_\_\_\_

COUNTY Iron

AUTHORS: David Keene, Ph.D., RPA

REPORT TITLE: Phase I Archaeological Investigations; Saxon Harbor and Saxon Harbor  
Campground Relocation; Iron County Forestry Department; DR-4276 PW 148 and  
149; Iron County, Wisconsin

DATE OF REPORT (MONTH AND YEAR): September 2017

SERIES/NUMBER: \_\_\_\_\_

PLACE OF PUBLICATION: Middleton, Wisconsin

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]  
T47N, R1W; Section 12

U.S.G.S. QUAD MAP(S): Oronto 7.5 Minute Series

SITE(S) INVESTIGATED: IR-0018

ACRES INVESTIGATED: 34

AGENCY # \_\_\_\_\_

## INVESTIGATION TECHNIQUES COMPLETED (Check all that apply.)

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Historical Research    | <input checked="" type="checkbox"/> Surface Survey              | <input type="checkbox"/> Geomorphology         |
| <input type="checkbox"/> Interview/Informant               | <input type="checkbox"/> Soil Core                              | <input type="checkbox"/> Underwater            |
| <input checked="" type="checkbox"/> Records/Background     | <input checked="" type="checkbox"/> Walk Over/Visual Inspection | <input type="checkbox"/> Avocational Survey    |
| <input type="checkbox"/> Literature Background Research    | <input type="checkbox"/> Mechanical Stripping                   | <input type="checkbox"/> Chance Encounter      |
| <input type="checkbox"/> Traditional Knowledge             | <input type="checkbox"/> Test Excavation/Phase II               | <input type="checkbox"/> Osteological Analysis |
| <input type="checkbox"/> Monitoring                        | <input type="checkbox"/> Major Excavation/Phase III             | <input type="checkbox"/> Faunal Analysis       |
| <input checked="" type="checkbox"/> Shovel Testing/Probing | <input type="checkbox"/> Remote Sensing                         | <input type="checkbox"/> Floral Analysis       |

ABSTRACT: ☒ Included in report ☐ Written in space below