

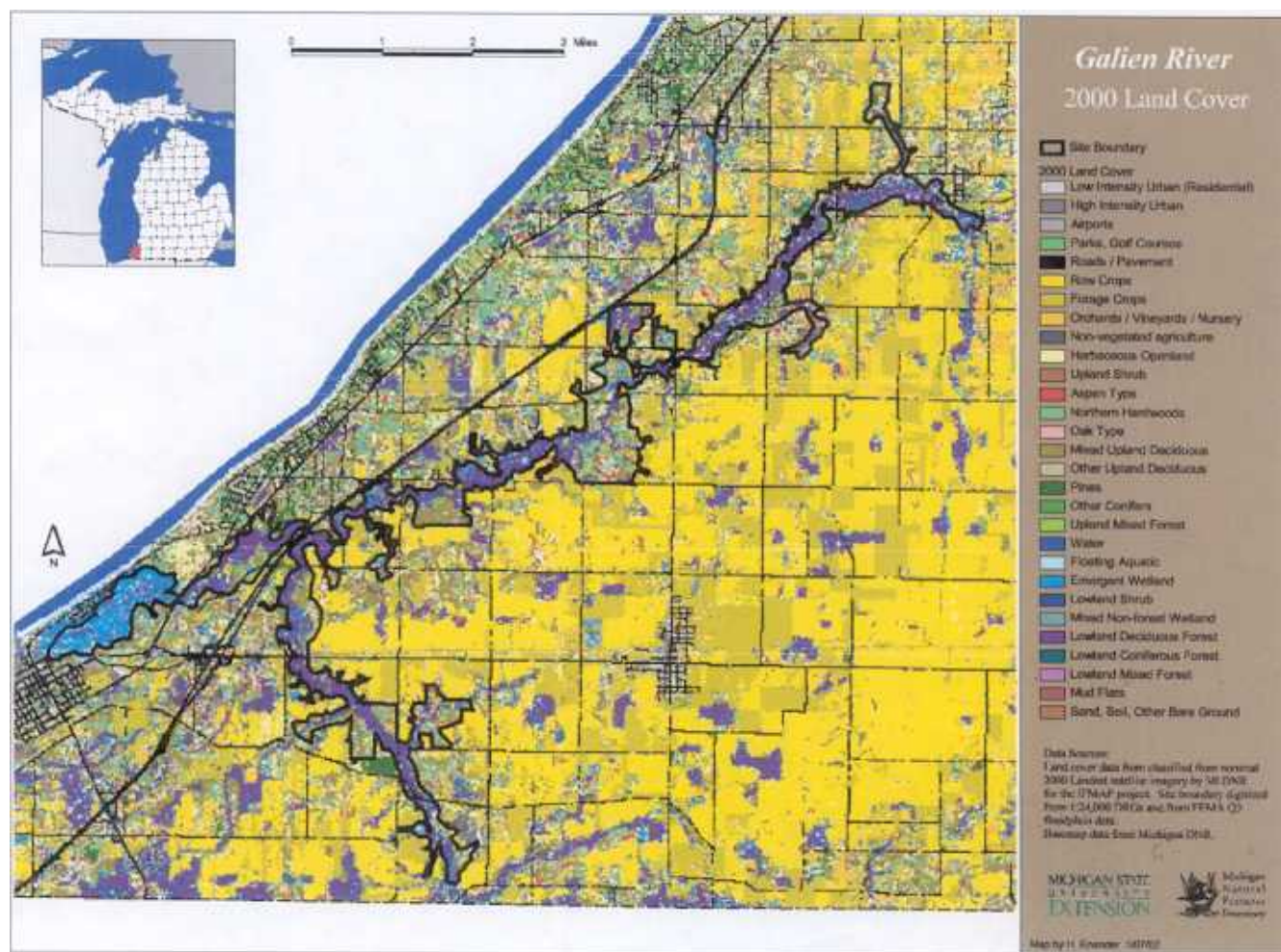
Site Ecological Summary

Site Name: Galien River
County (s): Berrien
Size: 3800 acres, 6 mi²
Great Lakes shoreline: 0 miles
Rivers/streams: 68 miles

Ecological Boundaries:

This site encompasses the most intact portions of forested floodplain and adjacent upland tracts along the main and south branches of the Galien River and includes the Great Lakes marsh associated with the river mouth.

Figure 1. 2000 Land Cover

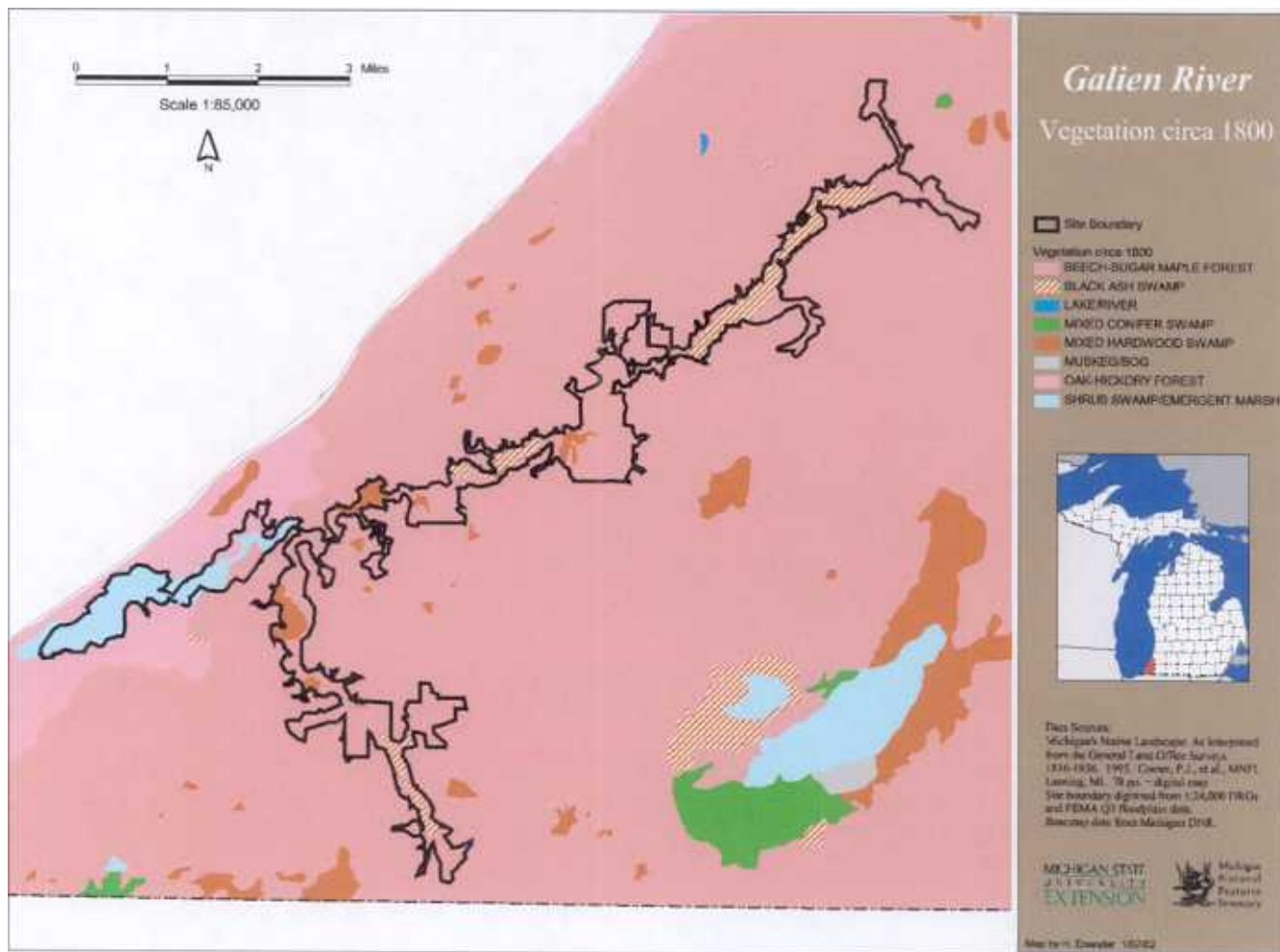


Michigan Natural Features Inventory
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Landscape Context:

The site is located in the southern Michigan lake plain and consists primarily of lacustrine deposits with some fine textured end and ground moraines. The topography of the area is flat to gently rolling. Most surface lacustrine deposits are sand while those of the moraines are loams or clays. In the 1800's forests in this area were dominated by beech and sugar maple with white oak and black oak common along the bluffs and broad ridges above the Galien River. Lowland hardwoods dominated by black ash and silver maple and extensive marshes formed broad bands along the river. Local references by surveyors indicate that Native Americans used fire to manage the land along the Galien river. Presently most of the lands are in agriculture and the wooded corridor along the river represents what remains of the old growth forest (Albert 1994).

Figure 2. Circa 1800 Vegetation



General Site Description:

The site is located in the southwestern most portion of the lower peninsula along the Galien River, just north of the Michigan-Indiana border and just east of Lake Michigan. The majority of the site is privately owned except for the Warren Woods Natural Area, a dedicated natural area owned by the state of Michigan. Most of the site is characterized as mesic southern forest and southern floodplain forest with associated ravines, found along the main and south branches of the Galien River. Warren Woods Natural Area contains a tract of old-growth beech-maple forest and floodplain forest. Near the mouth of the Galien River there is an area consisting of emergent marsh and wet meadow that is considered a quality Great Lakes marsh community. This marsh is essentially a drowned river mouth and contains extensive, fertile wetland habitat.



Figure 3. Element Data Tables

State Natural Areas	Acres
Warren Woods Natural Area	
Total Acres	

Quality Natural Communities	# of EO's
Great Lakes marsh	1
Mesic Southern forest	1
Southern floodplain forest	1

Most Common Elements	# of EO's
Prairie trillium	4
Yellow-throated warbler	3
Blanchard's cricket frog	2
Cup-plant	2

Elements	Types	# of EO's
Communities	3	3
Animals	10	13
Plants	11	15
Total	24	31

Figure 4. Element Occurrence Table

Galien River

EOCODE	SCIENTIFIC NAME	US	MI	LASTOBS	GRANK	SRANK	EO RANK
CPV0000000*043*MI	GREAT LAKES MARSH			1988-07-26	G2	S2	B
AFCAA01020*001*MI	ACIPENSER FULVESCENS		T	1970	G3	S2	
CPH0000000*001*MI	SOUTHERN FLOODPLAIN FOREST			1981-09-05	G3?	S3	AB
CTA0000000*001*MI	MESIC SOUTHERN FOREST			1987	G3?	S3	A
ABPBX03130*001*MI	DENDROICA DOMINICA		T	2001-07-26	G5	S1	E
ARAAD04010*001*MI	EMYDOIDEA BLANDINGII		SC	1990-05	G4	S3	E
ABNKC19030*062*MI	BUTEO LINEATUS		T	1991-06-27	G5	S3S4	B
PMLIL200R0*007*MI	TRILLIUM RECURVATUM		T	1996-05-02	G5	S2S3	A
PDAST8L0A0*003*MI	SILPHIUM PERFOLIATUM		T	1993	G5	S2	B
PMLIL200R0*029*MI	TRILLIUM RECURVATUM		T	1996-06-11	G5	S2S3	A
PMCYP033G0*001*MI	CAREX DAVISII		SC	1932-05-27	G4	S3	
AAABC01011*100*MI	ACRIS CREPITANS BLANCHARDI		SC	1997-04-29	G5T5	S2S3	E
ABPBX07010*003*MI	PROTONOTARIA CITREA		SC	1997-05-13	G5	S3	E
IMGASJ9040*001*MI	POMATIOPSIS CININNATIENSIS		SC	1955	G4	SU	
PDMOR0D040*017*MI	MORUS RUBRA		T	1921-05-19	G5	S2	
PDAST8L0A0*002*MI	SILPHIUM PERFOLIATUM		T	1981-08-07	G5	S2	D
PMPOA23010*003*MI	DIARRHENA AMERICANA		T	1981-09-05	G4?	S2	C
ABPBX03130*005*MI	DENDROICA DOMINICA		T	1997-05-13	G5	S1	E
AAABC01011*096*MI	ACRIS CREPITANS BLANCHARDI		SC	1997-04-29	G5T5	S2S3	E
PDMA0H0R0*002*MI	HIBISCUS MOSCHEUTOS		SC		G5	S3S4	
PDVIO02020*017*MI	HYBANTHUS CONCOLOR		SC		G5	S3	
PMLIL200R0*034*MI	TRILLIUM RECURVATUM		T	1995-05-12	G5	S2S3	C
PMPOA1D010*001*MI	CHASMANTHIUM LATIFOLIUM		T	1981-10-05	G5	S1	C
PMLIL200R0*003*MI	TRILLIUM RECURVATUM		T	1980-05-03	G5	S2S3	A
AMAFF11140*008*MI	MICROTUS OCHROGASTER		E	1919-08	G5	S1	H
PDVAL04030*001*MI	VALERIANELLA CHENOPODIIFOLIA		T		G5	S1	C
PMCYP033B0*001*MI	CAREX CRUS-CORVI		T	1952-06-28	G5	SH	
AMAFF11150*001*MI	MICROTUS PINETORUM		SC	1978-04-27	G5	S3S4	H
IIDOD01010*002*MI	TACHOPTERYX THOREYI		SC	1919-06-20	G4	S1S3	H
ABPBX03130*006*MI	DENDROICA DOMINICA		T	1997-05-14	G5	S1	E
PDAST3POM0*002*MI	EUPATORIUM FISTULOSUM		T	1991-08-28	G5?	S1	

LE=Listed endangered under the Federal Endangered Species Act

LT=Listed threatened under the Federal Endangered Species Act

C=Species being considered for federal status

E=endangered

T=threatened

SC=special concern



Ecological Significance:

This site contains high quality examples of mesic southern forest, southern floodplain forest and Great Lakes marsh. Four animal species and eight plant species listed as state threatened or endangered have been found at this site. One area of this site that is particularly significant is the Warren Woods Natural Area. It includes 312 acres and contains a 79-acre tract of old growth beech-maple forest and floodplain forest that has not been cut during the past 110 years. Selective cutting in this tract only occurred on the south side of the river between 1882-1892 and accounted for no more than 10% of the forest. In an area of the state that has been largely cleared for farming this old growth forest is especially significant. Warren Woods Natural Area is considered unique for the outstanding degree of biodiversity that it contains. A floristic quality assessment (designed to evaluate the relative significance of tracts of land in terms of their native floristic composition) was conducted for Warren Woods. This area registered a very high floristic quality index (FQI) of 84.4 (MDNR 2001). Areas of the state with FQI scores in the 50's or higher are extremely rare and represent a significant component of Michigan's native biodiversity and natural landscapes (Herman et al. 2001). In 1925, Warren Woods Natural area contained 311 native plant species, which represents 1/6th of the state total. It contained 173 species of forbs and 36 species of native trees (MDNR 2001). Warren Woods was designated a Natural National Landmark by the Secretary of the Interior in 1967. This is a cooperative agreement between the National Parks service and the public or private landowner on whose property the area occurs. This designation means that this is a nationally significant natural area that is considered to be one of the best examples of a type of biotic community or geologic feature in its physiographic province. In 1975 the State of Michigan provided this area with the strongest form of state protection by completing a legal dedication process to dedicate Warren Woods as a natural area. Today, this area is also considered to be one of the best bird watching spots in the state, especially for warblers.

The forested corridor of the Galien River hosts three of seven known populations of the state-threatened yellow-throated warbler (*Dendroica dominica*) in Michigan. The sycamore (*Platanus occidentalis* L.) trees that occur in this riparian habitat grow above the closed canopy of the other trees. Nests are typically placed in the highest branches of sycamores at least seventy feet from the ground. Maintenance and restoration of floodplain forest that contain mature sycamore trees is critical for the conservation of the yellow-throated warbler (Evers 1991). The state special concern prothonotary warbler (*Protonotaria citria*) is also known from this site. It is a cavity nester and utilizes the forested floodplains along the banks of Galien river. The cerulean warbler (*Dendroica cerulea*), hooded warbler (*Wilsonia citrina*) and Louisiana waterthrush (*Seiurus motacilla*) all state special concern species, are also known to breed in this area, although not currently documented in MNFI's database (Adams 1991, Brewer 1991, Hull 1991 and Walkinshaw 1991). Recent studies highlight the importance of floodplain forests to many bird species that either show a clear preference or depend on these forests when compared with upland forests. Studies of nesting success for some bird species indicate that reproductive success may be higher in the floodplains than in uplands. Loss, degradation and fragmentation of floodplain forests pose a serious threat to these birds. Conservation efforts that focus on restoring degraded floodplains, maintaining high tree species diversity and wide riparian corridors will aid in their recovery. Large contiguous tracts of floodplain and adjoining upland forests are needed to reduce cowbird parasitism and provide high quality habitat for area-sensitive neotropical migratory birds (Knutson et al. 1996).

Warren Woods Natural Area contains the only population of wild-oats (*Chasmanthium latifolium*) in the state. Michigan is at the northernmost edge of the range for this state-threatened plant, which is found in southern floodplain forest habitats. This plant was first discovered in Warren Woods in the 1930's and was last observed here in 1981. Since this species is restricted to floodplains, any alterations of river hydrology could threaten its existence. Heavy foot traffic on the south and east sides of the river in the floodplain should also be avoided. Further surveys are needed to confirm that this plant is still present at this location. Warren Woods Natural area also contains one of six recently confirmed populations of the state-threatened beak grass (*Diarrhena americana*) in Michigan. In Warren Woods it occurs under a beech-maple overstory in association with rattlesnake fern (*Botrychium virginianum*), wild ginger (*Asarum canadense*), sharp-lobed hepatica (*Hepatica acutiloba*) and downy yellow violet (*Viola pubescens*). One of only three known locations of the state-threatened hollow-stemmed joe-pye-weed (*Eupatorium fistulosum*) occurs at the edge of the forested floodplain of the Galien River near Union Pier. This species is generally a more southern and eastern species and Michigan is at the edge of its range. This plant occurs in openings in lowland woods behind the dunes. This site also contains four populations of the state threatened prairie trillium (*Trillium recurvatum*), three of which are A- ranked sites. This plant occurs in floodplain forests and in rich mesic forests. Prudent management of these species dictates maintaining natural floodplain hydrology and the forest overstory.



Figure 5. Element Rank Table

Galien River

Scientific Name	Common Name	Site Count	Site A Rank	State Total	State A Rank	Sub-Sub section Total	Sub-Sub section A Rank
ACIPENSER FULVESCENS	LAKE STURGEON	1	0	33	0	3	0
ACRIS CREPITANS BLANCHARDI	BLANCHARD'S CRICKET FROG	2	0	126	5	10	0
BUTEO LINEATUS	RED-SHOULDERED HAWK	1	0	274	6	7	0
CAREX CRUS-CORVI	RAVEN'S-FOOT SEDGE	1	0	3	0	1	0
CAREX DAVISII	DAVIS'S SEDGE	1	0	12	0	1	0
CHASMANTHIUM LATIFOLIUM		1	0	1	0	1	0
DENDROICA DOMINICA	YELLOW-THROATED WARBLER	3	0	7	0	4	0
DIARRHENA AMERICANA	BEAK GRASS	1	0	11	2	1	0
EMYDOIDEA BLANDINGII	BLANDING'S TURTLE	1	0	133	0	7	0
EUPATORIUM FISTULOSUM	HOLLOW-STEMMED JOE-PYE-WEED	1	0	3	0	3	0
GREAT LAKES MARSH	NONE	1	0	77	28	9	3
HIBISCUS MOSCHEUTOS	SWAMP ROSE-MALLOW	1	0	24	1	10	0
HYBANTHUS CONCOLOR	GREEN VIOLET	1	0	18	1	1	0
MESIC SOUTHERN FOREST	RICH FOREST, CENTRAL MIDWEST TYPE	1	1	44	6	7	1
MICROTUS OCHROGASTER	PRAIRIE VOLE	1	0	9	0	3	0
MICROTUS PINETORUM		1	0	23	0	4	0
MORUS RUBRA		1	0	14	0	1	0
POMATIOPSIS CININNATIENSIS		1	0	22	0	1	0
PROTONOTARIA CITREA	PROTHONOTARY WARBLER	1	0	5	0	1	0
SILPHIUM PERFOLIATUM	CUP-PLANT	2	0	19	0	2	0
SOUTHERN FLOODPLAIN FOREST	NONE	1	1	26	3	1	1
TACHOPTERYX THOREYI	GREY PETALTAIL	1	0	2	0	1	0
TRILLIUM RECURVATUM	PRAIRIE TRILLIUM	4	3	33	4	9	3
VALERIANELLA CHENOPODIIFOLIA	GOOSEFOOT CORN-SALAD	1	0	6	0	1	0

Conservation Planning:

Based on the information provided in this document, MNFI believes that there is enough information about this site to conduct conservation planning. Furthermore, MNFI recommends that the primary conservation targets should include the southern floodplain forest community and neotropical migratory birds.

Currently 34 listed plants and 43 listed animals are associated with southern floodplain forests in Michigan. Targeting and protecting this community and the ecological processes that sustain it will help to protect the unique biodiversity found at this site such as the three A-ranked populations of prairie trillium.



Information Gaps:

Some ecological and botanical surveys were conducted by MNFI in 1995, but they were not comprehensive and only targeted high priority areas along the Galien where landowner permission was granted. Although the state threatened prairie trillium was reconfirmed at four locations, it is likely that many more populations of this plant occur at this site. Other plants, which have the potential to occur here, include: the state threatened log fern (*Dryopteris celsa*), ginseng (*Panax quinquefolius*), state threatened Jacob's ladder (*Polemonium reptans*), state special concern Kentucky coffee-tree (*Gymnocarpium dioicus*), state special concern twinleaf (*Jeffersonia diphylla*) and state threatened wild hyacinth (*Camassia scilloides*). A new comprehensive floristic inventory of Warren Woods should be completed as the last one was conducted in 1925 and may not be completely representative of the current flora at Warren Woods. It would be very instructive to compare a newly calculated FQI from the present with the one calculated from 1925 information to learn how the area has changed. It would be especially useful to gauge the impact that invasive plants have had on the flora of Warren Woods.

Periodic breeding bird censuses, by canoe and foot, should be conducted along the Galien River to better document and assess nesting habitat for neotropical migratory birds, especially the cerulean warbler, hooded warbler, Louisiana waterthrush, prothonotary warbler, and yellow-throated warbler. In addition, spring bird counts should be conducted to determine the importance of the Galien River forested corridor as stopover habitat for migratory birds. The importance of stopover habitat to migratory birds that travel great distances between their wintering and breeding grounds has only recently been addressed (Moore and Simons 1992, Moore et al. 1993). Migration is one of the most energy demanding processes in a bird's life, resulting in a weight loss of approximately one-percent per hour of flight (Alerstam 1990). The risks that migratory birds face in seeking to replenish their energy reserves while avoiding predators and adverse weather in unfamiliar habitats have been well-documented (Lindstrom 1989, 1990, Aborn 1993, Wiedenfield and Wiedenfield 1995). Since birds spend as much as half of the year or more en route between breeding grounds and wintering areas, the habitats they depend on during this period are critical links in their survival. Degradation or elimination of suitable stopover habitats has the potential to increase mortality, reduce reproductive potential, and contribute to overall population declines of migratory birds. The forested corridor along the Galien River likely provides birds a source of food (especially aquatic insects) and protection as they travel north towards their breeding grounds.

Given the landscape context, in which the forested riparian corridor of the Galien River occurs, it is apparent that this site provides critical stopover and breeding habitat for neotropical migratory birds. This site is located along an important migratory bird flight path and provides birds with an unfragmented forested corridor in a county which is dominated by agriculture and suburban development. Protecting habitat for neotropical migratory birds in this area of the state is important for maintaining this established migration route as well as intact breeding bird habitat.

Although there is one record for the state threatened red-shouldered hawk (*Buteo lineatus*) along the south branch of the Galien, further surveys are needed, especially at Warren Woods and other areas with mature forest to document the extent and productivity of this population. Systematic red-shouldered hawk surveys using conspecific taped calls should be conducted in the early spring to locate nests followed by nest checks to assess productivity in late spring and early summer. Surveys for the state special concern cooper's hawk (*Accipiter cooperii*) could be conducted in conjunction with red-shouldered hawk productivity surveys. There also is some potential for the state endangered long-eared owl (*Asio otus*) to occur at this site. Surveys using conspecific taped calls should be conducted in February when the birds are nesting. Surveys for marsh nesting birds should be conducted in the Great Lakes marsh community at the Galien River estuary. In particular there is potential for the state special concern American bittern (*Botaurus lentiginosus*), state special concern black tern (*Chlidonias niger*) and the state threatened least bittern (*Ixobrychus exilis*).

Systematic herpetological surveys have not been conducted at this site and should be initiated to reconfirm old occurrence records and document the presence of other amphibians and reptiles. Frog call surveys should be conducted in the late spring to reconfirm the two records for the Blanchard's cricket frog (*Acris crepitans blanchardi*) and to determine if there are other populations, which occur at this site. Surveys for turtles and snakes should be conducted as there is potential for additional Blanding's turtle (*Emydoidea blandingii*) occurrences as well as the state endangered copperbelly watersnake (*Nerodia erythrogaster neglecta*) which is found in buttonbush swamps. The state special concern six-banded longhorn beetle (*Dryobius sexnotatus*) has potential to occur at this site in the mature upland and floodplain forest as it is found under the bark of dead standing trees in areas that are not subject to severe flood events.



Aquatic biological data is fairly incomplete for the Galien River. Focused clam inventories, including both wading and diving surveys, are especially needed to document the distribution of rare clams and assess the habitat suitability for a number of clam species. No recent systematic clam surveys have been conducted in the Galien River to our knowledge and it would be prudent to conduct this type of an inventory. Clam species that have some probability of occurring in the Galien include: the state endangered snuffbox (*Epioblasma triquetra*) and four special concern species including; elktoe (*Alasmodonta marginata*), purple wartyback (*Cyclonaias tuberculata*) round pigtoe (*Pluerobema coccineum*) and slippershell mussel (*Alasmodonta viridis*). In addition, the black sandshell (*Ligumia recta*) which is currently not listed but is thought to be rare has the potential to occur here. All of these species are indicators of high quality river systems and clean water and are vulnerable to stochastic events, which could eliminate their populations. The state threatened lake sturgeon (*Accipenser fulvescens*) is thought to have a low probability of rehabilitation in the Galien River due to few fish being recorded recently (Whalen 2001). Fish surveys are needed though to document the occurrence of other rare fish species and to assess the habitat quality for rare fish. Two species that have some probability of occurring here include the state special concern river redhorse (*Moxostoma carinatum*) and the greater redhorse (*Moxostoma valenciennesi*) which is not listed but is considered to be uncommon to rare. Aquatic insects that have the potential to occur at this site include dragonflies in the *Gomphidae* family. Six species of dragonflies in the genus *Gomphus* and *Stylurus* are listed as state special concern. They occur in areas of rivers and streams with sandy bottoms and are good indicators of clean streams with intact headwaters. Surveys should be conducted to determine if the state special concern Grey petaltail (*Tachopteryx thoreyi*), last observed in 1919, still occurs at this site. The larvae of this dragonfly can be found in the small seeps that feed into streams and rivers. The Douglas stenelmis riffle beetle (*Stenelmis douglasensis*) a special concern species, has potential to occur at this site as it is thought to occur under the roots of trees at the edge of stream banks and under submerged wood in lakes and warm, sand bottom streams that empty into larger rivers.

Great Lakes Marsh: Potential Elements- Galien River

Scientific Name	Common Name	MI Status	US Status
Plants			
<i>Nelumbo lutea</i>	American lotus	ST	
* <i>Hibiscus moschueutos</i>	Swamp rose-mallow	SC	
<i>Zizania aquatica</i> var. <i>aquatica</i>	Wild rice	ST	
Birds:			
<i>Botaurus lentiginosus</i>	American bittern	SC	
<i>Chidonias niger</i>	Black tern	SC	
<i>Nycticorax nycticorax</i>	Black-crowned night heron	SC	
<i>Gallinula chloropus</i>	Common moorhen	SC	
<i>Ixobrychus exilis</i>	Least bittern	ST	
<i>Cistothorus palustris</i>	Marsh wren	SC	
<i>Circus cyaneus</i>	Northern harrier	SC	
Herps:			
<i>Emydoidea blandingii</i>	Blanding's turtle	SC	

* reported from site

E= endangered, T= threatened, SC=state special concern

LE= Listed endangered under the Federal Endangered Species Act

LT= Listed threatened under the Federal Endangered Species Act



Southern Floodplain Forest: Potential Elements- Galien River

Scientific Name	Common Name	MI Status	US Status
Plants:			
<i>Arabis perstellata</i> var. <i>shortii</i>	Rock cress	T	
<i>Aristolochia serpentaria</i>	Virginia snakeroot	T	
<i>Armoracia aquatica</i>	Lake cress	T	
<i>Aster furcatus</i>	Forked aster	T	
<i>Camassia scilloides</i>	Wild-hyacinth	T	
		SC	
**<i>Carex crus-corvi</i>	Raven's foot sedge	T	
**<i>Carex davisii</i>	Davis's sedge	SC	
<i>Carex frankii</i>	Frank's sedge	SC	
<i>Carex lupuliformis</i>		T	
<i>Carex seorsa</i>		T	
*<i>Carex squarrosa</i>		SC	
<i>Carex straminea</i>		E	
<i>Carex trichocarpa</i>		SC	
<i>Carex typhina</i>		T	
<i>Chasmanthium latifolium</i>		T	
<i>Chelone obliqua</i>		E	
<i>Corydalis flavula</i>		T	
<i>Diarrhena americana</i>		T	
<i>Dryopteris celsa</i>	Log fern	T	
*<i>Eupatorium fistulosum</i>	Hollow-stemmed joe-pye-weed	T	
<i>Euonymus atropurpurea</i>	Wahoo	SC	
<i>Fraxinus profunda</i>		T	
<i>Gentianella quinquefolia</i>		T	
<i>Gymnocladus dioica</i>		SC	
<i>Hybanthus concolor</i>		SC	
<i>Isotria medeoloides</i>	Smaller whorled pogonia	E	LT
<i>Justicia americana</i>	Water willow	T	
<i>Lycopus virginicus</i>	Virginia water-horehound	T	
		T	
		T	
		E	
		T	
		T	
		T	
<i>Silphium perfoliatum</i>	Cup plant	T	
<i>Trillium nivale</i>	Snow trillium	T	
*<i>Trillium recurvatum</i>	Prairie trillium	T	
**<i>Valerianella chenopodiifolia</i>	Goosefoot corn-salad	T	
<i>Valerianella umbilicata</i>	Corn-salad	T	
<i>Viburnum prunifolium</i>		SC	

* reported from site

**Historical occurrence (>20 years old)

E= endangered, T= threatened, SC=state special concern

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LT= Listed threatened under the Federal Endangered Species Act

C = Species being considered for federal status



Southern Floodplain Forest: Potential Elements-Galien River Cont.

Scientific Name	Common Name	MI Status	US Status
Birds:			
*Buteo lineatus	Red shouldered hawk	T	
		SC	
		E	
		SC	
		SC	
		SC	
Fish:			
Ammocrypta pellucida	Eastern sand darter	T	
		E	
		SC	
		T	
		E	
		E	
Herps:			
*Acris crepitans Blanchardii	Blanchard's cricket frog	SC	
*Clemmys guttata	spotted turtle	T	
Clonophis kirtlandii	Kirtland's snake	E	
*Emydoidea blandingii		SC	
Sistrurus c. catenatus		SC	C
Terrapene c. carolina		SC	
Insects:			
Dryobius sexnotatus	Six-banded longhorn beetle	SC	
		SC	
		SC	
		SC	
		SC	
		SC	
		SC	
		SC	
Stylurus palgiatus	Russet-tipped clubtail	SC	
**Tachopteryx thoreyi	Grey petaltail	SC	
Mammals:			
Myotis sodalis	Indiana bat	E	LE
Mussels:			
Alasmodonta marginata	Elktoe	SC	
Alasmodonta viridis		SC	
Cyclonaias tuberculata		SC	
Epioblasma triquetra		E	
Pleurobema coccineum	Round pigtoe	SC	
Simpsoniconcha ambigua	Salamander mussel	E	
Venustaconcha ellipsiformis	Ellipse	SC	
Villosa fabalis	Bean villosa	E	

* reported from site

** Historical occurrence (>20 years old)

E= endangered, T= threatened, SC=state special concern

LE= Listed endangered under the Federal Endangered Species Act

LT= Listed threatened under the Federal Endangered Species Act



Mesic Southern Forest: Potential Elements- Galien River

Scientific Name	Common Name	MI Status	US Status
Plants:			
<i>Carex oligocarpa</i>	Eastern few-fruited sedge	T	
<i>Carex platyphylla</i>		T	
<i>Castanea dentata</i>		T	
<i>Dentaria maxima</i>		T	
**Diarrhena americana		ST	
<i>Galearis spectabilis</i>		T	
<i>Geum virginianum</i>		SC	
<i>Gymnocladus dioicus</i>		SC	
**Hybanthus concolor		SC	
<i>Hydrastis canadensis</i>		T	
<i>Smilax herbacea</i>		SC	
<i>Panax quinquefolius</i>		ST	
<i>Polymnia uvedalia</i>		T	
<i>Tipularia discolor</i>		T	
<i>Trillium nivale</i>		T	
*Trillium recurvatum		ST	
<i>Trillium sessile</i>		T	
<i>Trillium undulatum</i>		E	
<i>Triphora trianthophora</i>		T	
<i>Jeffersonia diphylla</i>		SC	
Birds:			
<i>Accipiter cooperii</i>	Cooper's hawk	SC	
*Buteo lineatus	Red-shouldered hawk	ST	
		SC	
		SC	
		SC	
Herps:			
*Acris crepitans blanchardii	Blanchard's cricket frog	SC	
<i>Ambystoma opacum</i>	Marbled salamander	ST	
<i>Terrapene c. carolina</i>	Eastern box turtle	SC	
Insects:			
<i>Dryobius sexnotatus</i>	Six-banded longhorn beetle	SC	
Mammals:			
**Microtus pinetorum	Woodland vole	SC	

* reported from site

**historical occurrence (>20 years old)

E= endangered, T= threatened, SC=state special concern

LE= Listed endangered under the Federal Endangered Species Act

LT= Listed threatened under the Federal Endangered Species Act

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