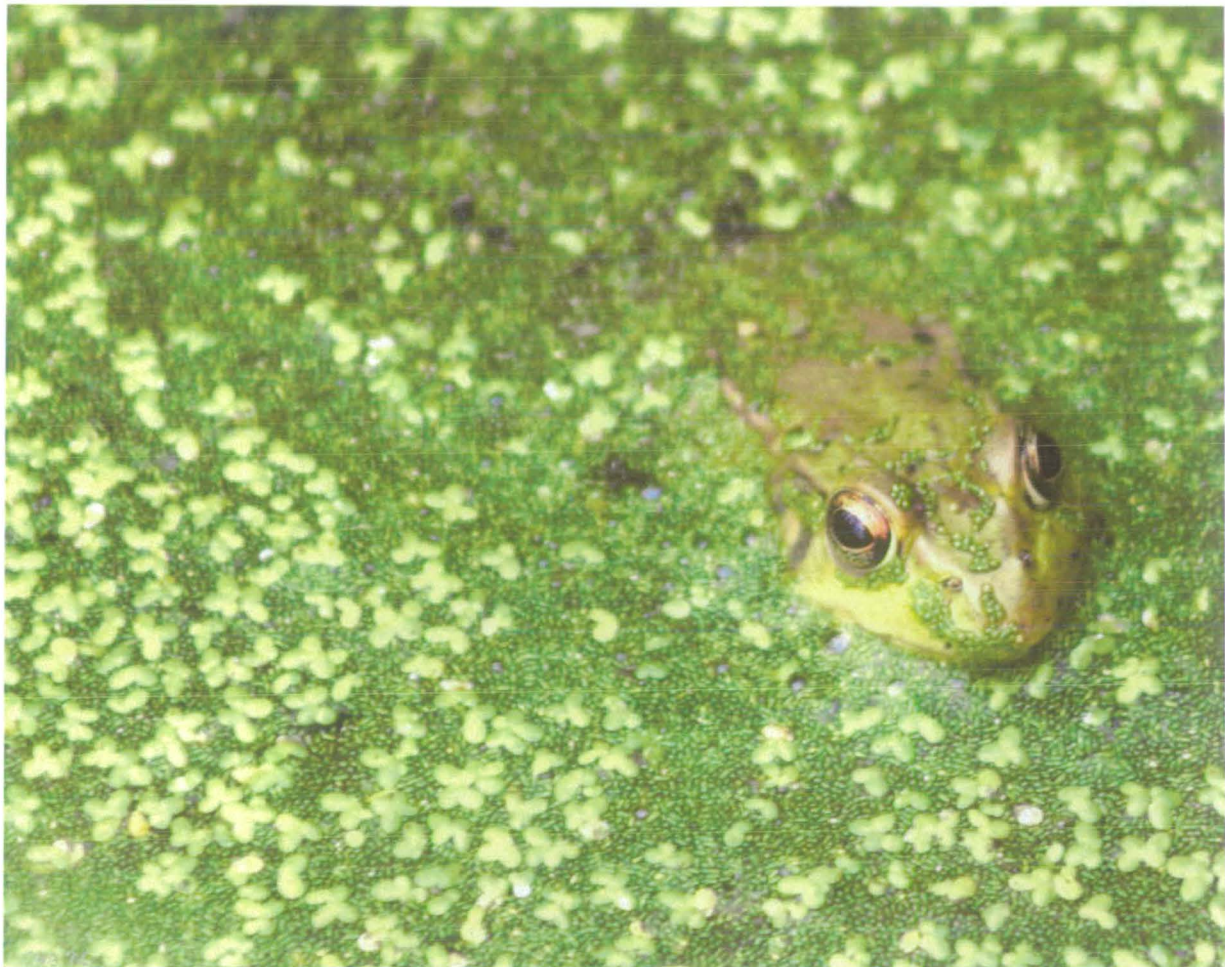


SHIAWASSEE NATIONAL WILDLIFE REFUGE  
Saginaw, Michigan

ANNUAL NARRATIVE  
Fiscal Year 2006



*"A Hiding Place" by David M. Blanford, 2006 Refuge Photo Contest Manager's Choice*

 2-27-2007  
Refuge Manager Date

 3/13/07  
Refuge Supervisor I Date

 3.19.2007  
Regional Chief, NWRS Date

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## INTRODUCTION

Shiawassee National Wildlife Refuge (NWR) is located in the central portion of Michigan's Lower Peninsula, near the south end of Saginaw Bay. The north boundary of the refuge adjoins the south boundary of the City of Saginaw. The refuge is in the fourth and fifth U.S. Congressional Districts of Michigan. The Michigan Islands NWR is also administered by Shiawassee NWR.

The establishment of Shiawassee NWR was authorized in March, 1953, by the Migratory Bird Conservation Commission under the Migratory Bird Conservation Act (16 U.S.C. 715-715s) "...as an inviolate sanctuary, or for any other management purpose, for migratory birds." As a result of local and regional conservationists' initiatives, the State of Michigan established the Shiawassee River State Game Area adjacent to the refuge. Together, these two areas encompass approximately 20,000 acres of some of the most valuable wetland habitat in the State. The refuge is 9,427 acres in size, which includes 413 acres of refuge-managed land leased from the City of Saginaw and Bridgeport Township under long-term agreements.



*Rivers flowing through the refuge produce some great fishing!*

Shiawassee NWR, a portion of an area known locally as the *Shiawassee Flats*, has a contributing drainage area of approximately 6,260 square miles (10.6 percent of the state of Michigan). Four rivers converge in the Shiawassee NWR and account for the majority of the contributing drainage area. These rivers, along with their drainage area at the nearest U.S. Geological Survey gauge, are as follows: the Tittabawassee, with a 2,400 square-mile drainage at gauge on river mile 23; the Flint, with a 1,200 square mile drainage at gauge on river mile 12; the Cass with an 850 square-mile drainage at gauge on river mile 17; and the Shiawassee, with a 640 square mile drainage at gauge on river mile 14. In addition to the four main tributaries, several smaller streams enter the Shiawassee River within or just upstream of the refuge. The largest of these are the Bad

River, draining 248 square miles; Misteguay Creek, draining 137 square miles; and Swan Creek, draining 176 square miles. At the northeastern edge of the Shiawassee NWR, at the confluence of the Tittabawassee and Shiawassee Rivers, the Saginaw River proper begins. The Saginaw River, 22 miles long, flows northerly from this point through the cities of Saginaw and Bay City to discharge into Saginaw Bay, which opens to Lake Huron. Topography on the Shiawassee NWR is flat and generally ranges from 580 to 590 feet Mean Sea Level (M.S.L.).

As recognized during its initial establishment, Shiawassee NWR provides a valuable stopover for waterfowl migrating through the Saginaw Valley. In the fall, peaks of 35,000 ducks utilize the refuge, including up to 4,000 black ducks. The significance of this last figure is such that the refuge is included within one of six focus areas designated by the lower Great Lakes/St. Lawrence Basin Joint Venture of the North American Waterfowl Management Plan. The area also remains an important migration site for the Southern James Bay Population of Canada geese, with spring/fall peaks of 25,000/23,000, respectively. Due to its habitat diversity, the entire refuge serves as endangered and threatened species habitat for a number of federal and state-listed wildlife species.

The Shiawassee NWR Private Lands Wetland Management District (PLWMD), established in 1988, covers 48 counties in central and southern Michigan. It includes 115 easements (159 landowners) totaling 4,780 acres, located in 34 different counties. The District also manages a 22-county area for private land wetland and native grassland restoration projects.

In September 1993, Shiawassee NWR entered into a partnership with the City of Saginaw to manage Green Point Nature Center, a city-owned, environmental education facility. Renamed by the Service as Green Point Environmental Learning Center (ELC), the Center is located on the Tittabawassee River, which flows through the refuge.

Currently, nine permanent employees staff the Shiawassee NWR. The positions include a refuge manager, a wildlife refuge specialist, a wildlife biologist, a fish and wildlife biologist, an administrative support assistant, a tractor operator, an engineering equipment operator, and two park rangers.



## HIGHLIGHTS

- High water levels experienced in March (Climate Data).
- Record numbers of migrant dunlin, sand hill cranes, and short-eared owls utilize the refuge, plus a third time ruff observation (Section 1A).
- Several research projects underway on the refuge (Sections 1B and 6C).
- Efforts continue to effectively control invasive plant species (Section 3G).
- A busy year for Private Lands work, and a Partners for Wildlife wetland site is featured in a report to Congress (Section 5C).
- Record number of law enforcement incidents documented (Section 6A).
- Dioxin contamination saga in Tittabawassee River Basin continues (Section 6C).
- A total of 28 hikes, tours, special events, and programs held (Section 7A).
- A number of refuge maintenance projects accomplished (Section 8B).
- Cormorant management issues come to the forefront on the Michigan Islands NWR (Wilderness and Special Areas).

## CLIMATE DATA

The climatic factors encountered on Shiawassee Flats could best be expressed as above normal, with precipitation more than 10 inches above the long term average while temperatures were above the same average 10 out of 12 months. This weather pattern permitted the refuge to operate Pools 3 and 5 as greentree reservoirs during the spring migration, impacted the development and vigor of many plants over the growing season and delayed the harvest of agricultural crops. Spring migrants responded by pushing through the area quickly. In various refuge habitats, plant response was altered to favor emergent vegetation and other groups that do well in very moist conditions, mast production was average, and crop yields were down and experienced harvest delays. Over the upper three Great Lakes, water levels were well below their long term averages. This makes a significant difference in frequency and duration of flooding on refuge lands, and affects the ability for mechanical manipulation of water levels. However, because moisture levels were well above the long term average, lake level impacts were mitigated permitting the refuge to mechanically manipulate water and inundate or drain units at will. End of the year warm weather kept many units open and delayed migration of a number of bird species, particularly waterfowl.

# 1. MONITORING AND STUDIES

## A. SURVEYS AND CENSUSES

The refuge was established as a migratory bird sanctuary, so it may be considered appropriate that once again, birds received the greatest amount of survey attention. The core of this effort was the bi-weekly waterfowl census and the weekly International Shorebird Surveys, both conducted by refuge staff. During the winter, the former are timed so as to also constitute the refuge's contribution to the December state-wide waterfowl count, and the January national mid-winter waterfowl count. The refuge's other two established standard bird surveys; a forest interior point count and a taped-call playback marsh bird count; were not undertaken in 2006, due to the ongoing vacancy in the refuge's bio-tech position. These four regular bird surveys are supplemented by any number of informal counts, which are conducted by both staff and volunteers. These provide the majority of information on refuge passerine populations.

The most uncommon bird recorded during 2006 surveys was a ruff, which represented the third Shiawassee NWR record of this species. Other out of the ordinary bird species or dates recorded included a Ross' goose (an annual visitor to Shiawassee NWR, but still considered rare in Michigan), a little blue heron, American avocet, two golden eagles, six cattle egrets, a red-necked phalarope, a lesser black-backed gull, a Franklin's gull, a Carolina wren, and individual pine warblers at the headquarters bird feeder in both mid-December and mid-March. Among a number of species that had new peak counts established were stilt sandpiper, short-eared owl, willow flycatcher, and common yellowthroat. The highest count of northern pintails (1,705) recorded in the surrounding Saginaw Bay Area in the last 15+ years occurred on the refuge in early April. A peak count of 258 black-crowned night herons were counted on August 15. Recent increases to the overall composition of the refuge's breeding birds were in evidence again during 2006, as up to three orchard orioles established territories, sandhill crane colts were observed for the second straight year, and a pair of trumpeter swans arrived in late May and remained through the end of the year.

The frog and toad portion of the refuge's amphibian population is surveyed as part of the Michigan Frog and Toad Survey, now in its eleventh year. The same series of 10 listening stops that comprise this route also form Shiawassee NWR's contribution to the U.S. Geological Survey North American Amphibian Monitoring Program (NAAMP). The most notable result this year was the continued expansion and growth of the refuge's western chorus frog population.



*American toad doing his best to attract a mate. Photo by SK.*

The refuge white-tailed deer herd is surveyed via a winter aerial count flow by the Michigan Department of Natural Resources, and summer vehicle counts conducted by staff and volunteers. The former was not conducted in 2006 due to scheduling problems. The later was used to determine a 1.5:1 buck to doe sex ratio.

The refuge fish list that is included in the 2001 Comprehensive Conservation Plan (CCP) is composed only of species known or expected to occur in the waters flowing through the refuge, not from actual documented occurrences, so efforts to establish a more legitimate record were initiated. This is being done by cataloguing the results of informal survey activities done on site by the staff, and by compiling records established by the staff of the Alpena (MI) Fishery Resources Office and others during recent survey projects at Shiawassee NWR. The most unexpected result was the collection of a tadpole madtom, a species that was not included on the CCP's expected list.



*The pygmy grasshopper grows to merely 9 mm in length. Photo by DP.*



No formal invertebrate or flora surveys were conducted in 2006, but work to catalog these important but little known components of refuge biodiversity was again carried out by staff on an informal basis. This year, specific attention was given to damselflies and Orthoptera. Thirteen species of the former were identified, and of the latter, six grasshoppers, ten katydids, four crickets, and three tree crickets. The two tiger beetle species known to occur on the refuge were also catalogued.



*The narrow-winged tree cricket is a newly listed Orthopteran for the refuge insect list. Photo by DP.*

## B. STUDIES AND INVESTIGATIONS

Species Richness and Densities of Small Mammals in the Shiawassee National Wildlife Refuge, Saginaw County, Michigan. Donald E. Poppe, Department of Biology, Lake Superior State University, Sault Ste. Marie Michigan.

The field work for this study took place in the combined 240 acres of the Gosen, Leach, and Bremer Units, from June 4 through July 21. Target species were captured via traps set out in a web pattern, then marked and released. Final analysis has yet to be completed, but preliminary results show that a total of 155 individuals were captured, composed of the following: 86 meadow voles, 35 white-footed mice, 24 deer mice, 9 meadow jumping mice, and 1 masked shrew. A total of 110 recaptures were also made. Masked shrew had not been previously documented for the refuge.

Refuge volunteers Bob Grefe and Carolyn Szaroletta, with field assistance from Saginaw Valley Audubon Society members, as well as habitat evaluation and data entry assistance from refuge staff, operated a Monitoring Avian Production and Survival (MAPS) station again in 2006. Forty-one previously un-banded birds were processed, as well as ten recaptures of birds banded at the station in previous years. Set up in Gosen Marsh, this is one of the few MAPS stations in the nation to be located in open meadow habitat. Red-winged blackbird, bobolink, sedge wren, and common yellowthroat are the

primary nesting species being mist-netted and banded.



*Male American goldfinch captured and banded at the MAPS site. Photo by SK.*

Refuge volunteers assisted staff from the FWS Alpena Fishery Resources Office (FRO) / Waterford Fisheries Station in 2006, during the second year of a three year study to determine lake sturgeon activity in the tributaries of the Saginaw River during spawning season. Egg mats were placed downstream of the dams on the Cass River and Tittabawassee River in early spring, and maintained weekly throughout the period of suitable water temperatures. Collected eggs are transported to the U.S. Geological Survey laboratory in Ann Arbor, MI., where they are incubated. The project is funded through the Saginaw Bay Watershed Initiative Network and the National Fish and Wildlife Foundation, in partnership with the Michigan Department of Natural Resources, the City of Frankenmuth, and Dow Chemical Corporation.



## 2. HABITAT RESTORATION

### A. WETLAND RESTORATION

A one-acre mitigation wetland was constructed by refuge maintenance staff in the Trinklein unit. This wetland mitigation was a requirement pursuant to a permit issued by the Michigan Department of Environmental Quality (DEQ). Approximately three years ago, when the east dike of the Grefe Pool was set back from the Spaulding Drain, the DEQ determined that the footprint of the new dike across the marsh would require mitigation elsewhere, thus the need for this new wetland in a former agricultural unit.



*Constructing the wetland.  
Photo by ED.*



*Following wetland  
construction. Photo by SK.*



## B. UPLAND RESTORATION

After the agricultural harvest season in 2005, the Sawatzki tract, along M-13, was taken out of agricultural production in order to return it to a more natural state. In 2006, a site plan was developed to assist with this large scale transition. A North American Wetland Conservation Act grant was obtained by the USFWS, State of Michigan, Ducks Unlimited and many other partners, to assist with this restoration as well as with many other projects on property owned by the State of Michigan, Detroit River International Wildlife Refuge and private lands.



*Sawatzki tract two weeks after herbicide application. Photo by MV.*

The restoration plan included planting 120 acres of native grasses and wildflowers and restoring 15 acres of semi-permanent and seasonal wetland habitat. The native grass and wildflower acreage was planted in spring of 2006 and, so far, has responded with great promise. By late summer, many of the native species, including switchgrass, big bluestem, indiagrass, and partridge pea were taking hold.

Refuge staff also initiated a partnership with the Saginaw Correctional Facility to grow seed for future restoration projects on the refuge. This program will take seed from existing native sources on the refuge and turn it over to the prison's horticulture program for propagation. Once there is enough seed and/or plant plugs, the sources will be transferred back to the refuge for restoration activities. Currently, the prison has New York ironweed, prairie cordgrass and sunflower seed to initiate this program.

### 3. HABITAT MANAGEMENT

#### A. WATER LEVEL MANAGEMENT

Persistent rains throughout the year had direct impact on management of refuge wetlands. Greentree reservoirs and moist soil units carried standing water over the entire spring period and most of the fall. Even during the summer, precipitation levels resulted in standing water over large tracts of refuge lands. Shiawassee NWR spent most of the year trying to drain water from many units. These factors along with above normal temperatures altered the types and abundance of species using many of the habitat units.



*Grassland tract flooded during March. Photo by ED.*

Results of management on the various pools, marshes and moist soil units are summarized in the following sections.

#### POOL 1A

This 315 acre open water unit offers year round habitat to a variety of waterfowl, marsh and water birds, and occasional seasonal habitat for shorebirds. Along with the adjacent 241 acre mosaic of shallow seasonal pools, moist soils, emergent marsh and grasslands in the Trinklein Tract, this pool acts as part of a larger complex used by the birds. The refuge operated this pool as an emergent marsh/open water area during the early spring flights and the pool was used chiefly by waterfowl as a loafing area during this time. As the season progressed, the pool was slowly drained to operate at the optimum depth for the various wildlife species moving through the area. The drawdown was designed to continue until the pool was dry and reverted to an aerobic condition. By mid-June the drawdown was complete, with 2/3 of the unit dry and the remainder had a shallow pool in the central portion of the tract. Renovation work along the cross dike Between Pools 1A and 1B commenced and the dried sites exploded with a massive

bloom of moist soil plants. However, heavy and sustained rains over the summer prevented the refuge from reaching many of its invasive management goals designed in the drawdown. Only portions of the water lily community (approx. 50%) were eliminated or set back while the purple loosestrife incursion showed no impacts. The refuge was able to treat the *phragmites* site in the southeast corner and it appeared to be eliminated. In early fall after renovation work was completed, the refuge gradually captured water providing ideal habitat conditions for waterfowl, covering the moist soils with shallow standing water. Rains continued to fill the pool, with the unit ending the year spillway full.

### **Grefe Pool**

Grefe Pool is a 190 acre sister unit to Pool 1A and part of the pools/conversion complex described in the previous segment. This open water/emergent marsh habitat has the same management objectives as Pool 1A. The pool contains a unique feature with woody plants encroaching along scattered islands and dikes. These offer distinctive sites for wading birds and have reached a height that offers some potential for nesting night herons. The water management plan for Grefe Pool was designed to operate the unit near a maximum yearly cycle depth, with the pool full during the spring flight and gradually losing depth through the summer and early fall due to evaporation. It was predicted the pool would refill in the fall and early winter as seasonal precipitation commenced. However, with renovation work directed at the cross dike, the refuge dropped water about half a foot lower before the beginning of the summer evaporation cycle. Above average precipitation kept the pool fuller than expected throughout the year, and late in the year heavy fall rains again pushed the level above spillway heights. This pool finished the year draining water through the spillways. A diverse group of birds used the pool during the year, including waterbirds, marsh and shore birds, ducks and geese. Invasive plants were treated near dikes in the southeast corner of the pool.

### **Pool 2**

Pool full was the descriptive phrase for this 115 acre wetland throughout the year. An early winter thaw quickly pushed the water depth level with the spillway; where it remained until spring floods overtopped dikes. The water management plan called for retaining as much water as possible for the remainder of the year. The target of this management action was to nurture muskrat populations and help impact the dense emergent vegetation. Above-average rain fall sustained water levels better than expected and above plan projections. In an effort to foster the goal mentioned above, trapping on the pool was limited to the dike facilities. No incursion of purple loosestrife was recorded this year and the proliferation of *Galerucella* beetles appears to have checked plant development on this unit. Future water management plans for this pool will be centered on moving the area to a hemi-marsh condition. Nesting waterfowl and marshbirds used this unit extensively.

### **Pools 3 and 5**

Management of these two adjacent "greentree reservoir" pools, totaling 820



acres, is intended to provide secure loafing and feeding areas for waterfowl during migration periods. As in the past few years, these units were successfully operated as greentrees during the spring migration. An early winter thaw combined with rain elevated river levels enough to overtop the spillways and fill the slough. This was followed by March floods covering most of the wooded area. Waterfowl use started instantaneously and continued to the end of April. During the same timeframe the refuge commenced a gradual drawdown to ensure trees were not flooded as they leafed out. Standing water was only found on the lower 1/4 of wooded tracts at that point. By the end of May the depth was 583.6, which left the woods dry but the slough bank full. Persistent rains through the summer resulted in shallow standing water being recorded over the lower 1/3 of wooded sites from July to the end of the year. During the field season the refuge chemically treated two small incursions of *phragmites*.

### North Marsh

This 113 acre wetland is providing an emergent marsh habitat used by waterfowl, marsh and shorebirds plus a variety of other wildlife. Over the last few years renovations have molded North Marsh into a wetland complex. The complex incorporates Eagle Marsh, North Marsh and Moist Soil Units 3 and 4. Spillways have been set at heights allowing a more natural state of water movement. A typical spring season results in flooding this entire set of management units. As water recedes it leaves a mosaic pattern of shallow open water, emergent marsh, and wetland grasses. The draining is gradual, encouraging successful fish spawning, egg development, and fingerling movement and growth.

This marsh unit followed the same seasonal pattern mentioned above in the other pools. A winter thaw covered the entire area with standing water, which quickly receded, iced over, and remained this way into the spring. A second surge of water during the spring flooding pushed water levels over Evon Rd. As the water declined, migrating and nesting species quickly moved into the area.



High water in March flooded parts of the refuge. Photo by ED.

A gradual decline in water depth continued from April through early September. At that point the refuge commenced pumping water into the marsh and continued the operation until the marsh was spillway full. The old great blue heron rookery was re-established this year with approximately a dozen nests. With the small scattered *phragmites* plots chemically treatment in 2005, invasive efforts this year centered on one of the larger plots. Some control efforts were expanded on buckthorn invasion along the west dike.

### **Trinklein 1N, 1C, 1S**

These three wetlands, totaling 241 acres, complete the management complex mentioned in sections 1A and Grefe Pool. They comprise a mosaic pattern of semi-permanent marsh, moist soil areas, and brood habitat. At the beginning of the year the units were ice covered. The spring thaw in March left the fields with standing water covering all the marsh and moist soil areas, with anxious migratory birds quickly using these sites. The Bremer tract was quickly drained in late March to prepare the unit for a prescribed burn. The other two tracts were allowed to drain naturally throughout the spring to enhance their use for migratory birds. In mid-April the field was burned with success in meeting most of the prescription goals. The fields continued to dry through the early summer until rains in late July put standing water on all low areas. The tracts gradually dried over the next few weeks and remained dry until the end of the year. Invasive plants continue to be an issue on these sites with control efforts expended on woody invasion in the Bremer unit and reed canary grass encroachment in the Leach unit. A late season bloom of purple loosestrife (due to unusual summer rains) was left untreated.

## **B. MOIST SOIL MANAGEMENT**

The refuge currently has five units designed for moist soil management in various states of operation. The following summarizes activities and results for the year.

### **MOIST SOIL UNIT 1**

This 137 acre wetland is usually operated for optimum waterfowl feeding potential during the spring and fall flights. The unit sometimes provides mudflats for shorebirds after waterfowl migration. This was the third year of a new cycle of moist soil management for the unit. Moist Soil Unit 1 remained frozen until late March after spring thaws and warm rain opened the water; with good to excellent waterfowl use reported. The unit was gradually drained to follow the timing of different bird groups moving through on their spring migration. In the first part of May the tract went through a rapid drawdown. Unfortunately, the timing of the drawdown matched that of the cottonwood seed flight, and although an excellent bloom of desired moist soil plants developed, a large number of cottonwood seedlings were observed. This design was also timed well for the growth of cocklebur. As the moist soils gained vigor in the summer, rains raised river levels enough for the refuge to place standing water over 3/4 of this unit. The water

levels gradually declined after that point to late September. This pattern was enough to kill about 95% of the cocklebur incursion but was only able to stress cottonwood. In late September, river levels again permitted the refuge to apply standing water to the unit. This was timed well for the fall flights and ideal water levels for waterfowl were maintained for the rest of the year. Purple loosestrife plants were observed on the unit but were heavily impacted by *Galerucella* beetles.

### MOIST SOIL UNIT 2

This 75 acre unit is operated and managed with the same intent as MSU 1, and is sub-divided into two separate water-controlled moist soil units (MSU 2E and 2W). The renovation of MSU 2E, originally scheduled for 2002, was finally completed in 2005.



MSU 2E following renovation  
in August, 2005. Photo by SK.

A 27 acre portion of the moist soil unit was renovated in August, 2005. The chopped and matted plant material scattered over the renovated site offered an ideal media for invertebrate development. The predicted invertebrate bloom did occur and after the spring thaw in 2006, migratory birds made tremendous use of this unit. The tract went through a gradual drawdown as flights moved north and the unit was completely drained by mid-June. Field assessments showed an early season bloom of purple loosestrife which was heavily attacked and impacted by *Galerucella* beetles.





*MSU 2E during drawdown in May, 2006. Photo by SK.*

Beneficial moist soil plants dominated the renovated site. The central section which was left undisturbed showed heavy development of Joe Pye weed, marsh milkweed and similar plants. The unusually heavy rains in July created a second bloom of purple loosestrife which flowered and went to seed after *Galerucella* beetle production had been completed for the year. The plants showed some chewing by adults that will over-winter in the area. As standing water evaporated over the rest of the summer, surveys showed good song bird use in the heavily developing seed bank.

Moist Soil Unit 2W started the year mostly dry with water only on 1/4 of the field. The spring thaw pushed the water depth to 583.3 and this was maintained until early April. At that point the tract went through a rapid drawdown to prepare the field for renovation. The field was mowed to prepare for a chemical application to kill all live vegetation on the site. The unusually heavy rains in July delayed the treatment for a couple of weeks. After the vegetation was eliminated a deep plowing was initiated. This too was stopped due to rain and the rest of the field renovation was not completed until September.

### MOIST SOIL UNIT 3

This 92 acre field is part of the larger North Marsh Complex and is intended to operate in a natural fashion, dictated by area weather patterns and water cycles. MSU 3 is positioned on the southwest quarter of the North Marsh Complex and bears the highest elevations of any portion of the area. The unit is dominated by an interesting historic wetland prairie community; primarily cordgrass with a moist soil understory. The hydrology of the unit and complex also benefits fish as this natural cycle frequently provides ideal spawning conditions for adult fish, and plenty of cover for juvenile fish, along with easier movement patterns in and out of the unit.

In 2006, the unit went through a winter thaw which flooded the entire site and



quickly froze again. The tract remained in this condition into March when the spring thaw filled the entire unit to the top of the road. Birds made minor use of the tract during the spring migration even though for a time ideal conditions were present. With heavy rains scattered through the summer and early fall the tract remained fairly wet through the entire year. The lowest level of 582.5 was reached in the middle of August. Moisture levels kept the unit around the 583.0 mark through most of the fall. Cordgrass still dominated the field with emergent species found in the northwest portion of the field. However, with this grass not producing much seed the last two years, reed canary grass has become more aggressive and moved into the field in a number of locations. Willow has also encroached into the unit in the east central portion. The small *phragmites* community found along the eastern ditch was mostly eradicated last year, but was spot treated to completely eliminate the nuisance plant.

#### MOIST SOIL UNIT 4

This unit is the last portion of the North Marsh Complex mentioned above, and the 82 acre moist soil unit operates under the same cycles. This tract went through the same water regime reported for MSU 3. An early winter thaw followed by the typical spring warming trend flooded the tract in March; with the water depth gradually declining through the rest of the growing season. This unit experienced the same couple of spikes in water level that occurred on the rest of the refuge wetlands during the summer. Heavy late fall rains pushed the field to full capacity by the end of the year. Plant response to this water regime was identical to past years, with an emergent /moist soil plant community covering the northern 1/3 of the tract, woody vegetation dominated by willow over the middle 1/3, and a cordgrass/reed canary grass site covering the southern 1/3 of the field. A prescribed fire planned for the year could not be carried out due to fire parameters outside the prescription the entire burning season. Moist Soil Unit 4 received no invasive treatments over the year.

#### KAUFMAN TRACT

This unit was formerly a 71 acre farm tract, and was converted to wetland habitat in 2000. In most years, the unit operates naturally as a moist soil unit. However, with private property issues along the west boundary of the tract, little if any active management can take place. Currently the refuge has repaired breaches to the dike by placing spillways in these locations set at the height of 590.00 and added an Agri-Drain water control structure along the east side. This should relieve the pressure on weakened dikes along the south and east sides and permit some future water management. However, with flooding concerns and the lack of dikes along the north and west sides, the refuge has been limited to a narrow window of water control. Currently, the refuge manages spring water levels with four boards set in the Agri-Drain. Any river water levels deeper than this will carry water through the tube or over the spillways until the river recedes. Afterwards, water will gradually drain through the Agri-Drain until the four-board level is reached. At this point, the tract will have standing water covering from 1/2 to 2/3 of the unit, with the northwest 1/4 dry. This appears to be a good compromise with neighboring land owners. As the spring wanes, the refuge places

additional boards in the water control structure to prevent any flooding into the area unless the river overtops the spillways. The unit is allowed to gradually evaporate during the summer and fall, until crops have been harvested, then boards are again removed, leaving just four in place. This pattern resulted in a plant community with grasses (reed canary grass) dominating most of the area, some woody and other invasive plants developing along the transition line between the grass areas and the lower sites dominated by moist soil plants. In 2006, field inspections have shown a gradual shift as grass and invasives are slowly dominating more of the moist soil sites. Even though this tract was flooded for both migratory seasons, little wildlife use was observed.

### C. GRAZE/MOW/HAY

The refuge has about 580 acres of grasslands in several scattered parcels. Most of the tracts are maintaining themselves in meadow-like conditions while the remainder slowly is converting to brushlands. None of the grasslands are being managed for grazing or haying. The objectives for management of the refuge grassland units are to provide habitat for migrating grassland bird species, nesting opportunity for resident species, and a ready small mammal food source for raptor populations throughout the year. Management of some of this grassland acreage calls for prescribed burning, and in tracts such as the Trinklein Conversion and prairie cordgrass community, active burning operations are planned. The 91 acre Bremer Tract, a portion of the Trinklein Conversion, was burned this year. Burns are intended to reduce fuels and understory matting, reduce woody encroachment, and improve nesting cover for grassland birds. The burn on the Bremer Tract met most of these goals, with some woody invasion surviving in the wettest sites.

The Sawatski agricultural tract just off M-13 underwent conversion to a grassland tract in 2006. The conversion was completed in June, with the 120 acres seeded to warm season grasses. The warm season seeding in the buffer strips on this site carried out two years ago blossomed this season, particularly along the south and west sides. These strips were dominated by big bluestem, little bluestem, cordgrass, switchgrass, and indiangrass. The few scattered reed canary grass bunches observed will be spot treated this coming field season. Generally, bird numbers have responded well to recent conversions from agricultural use and improvement of habitat conditions. The results have included very large flights of migrating grassland birds, increased nesting, and increased wintering populations of hawks and owls.

### D. FARMING

The refuge managed 1,126 acres as cropland under a soybean/corn/small grain rotation last year. The 144-acre Sawatski Tract conversion to a wetland/grassland community brought an overall decline in farm acreage. The primary objective for the program is to provide food for waterfowl during spring and fall flights, support a greater complexity of habitats within the refuge, and support the managed goose hunt. The 2006 growing season was quite unusual for the cooperators, with above average temperatures producing conditions for good yields, but heavy rain patterns delayed planting and

harvesting crops. Cooperators often had to spend time and money drying crops enough to be accepted by elevators. This mixed bag produced average crops and yields but cost farmers more to produce. Waterfowl made good use of cropland acreage during migration periods, as well as the winter season for feeding and loafing. Waterfowl made especially good use of the barley units this year. Other wildlife species also took advantage of the tracts this year, with heavy rains flooding out portions of the crop, thus providing habitat for shorebirds and wading birds. These bare zones were later filled with grasses such as foxtail which provided wonderful feeding areas for grassland birds in the fall.

## E. FOREST MANAGEMENT

The 4,225 acres of forested habitat at Shiawassee NWR includes two tracts that operate as a greentree reservoir. The acreage is almost exclusively bottomland hardwood made up of second growth, even-age stands. The exception is the upland tract of the Cass River Unit totaling 18 acres. Especially notable in this stand are the very mature beech trees and the abundance of understory forbs such as trilliums, spring beauties, and jack-in-the-pulpit. The refuge's forest management goal is to develop a two tier canopy forest, favoring mast and cavity producing trees without jeopardizing populations of forest interior birds. Regeneration of the selective and clear cuts carried out in the late 1980's has shown steady improvement. Seedlings such as green ash and cottonwood have now reached 30 feet in height or more. Other trees species such as oak, hickory and maple appear to be improving, but a significant portion of the year's growth is browsed by deer. Seedlings, planted by the refuge in lowland areas appear to be a marginal proposition. These plantings suffer exceedingly high mortality (often 90 % or more) as a result of periods of severe drought or flooding, wildlife browsing, poor planting techniques and mowing. Glossy buckthorn has invaded the edges of several wooded tracts. Efforts to set back this invasion were carried out again this year with efforts concentrating along tracts off Evon Road. Plants were given a combination treatment of cutting and chemical applications. Initial observations indicate early treatments were very successful, but as the growing season waned, the sites frequently required follow up treatments to be effective.

A long-term project begun in 2003 to inventory and analyze the forested habitat throughout the Shiawassee and Michigan Islands NWR's, was again delayed in 2006. This was the result of a loss in staff and funding. The purpose of this inventory is to use the information obtained to evaluate current forest habitat conditions relative to our habitat management goals as outlined in the refuge's Comprehensive Conservation Plan. These are the initial steps in developing a forest management plan for the refuges. After reviewing several different inventory systems, the refuge decided to base the inventory on the U.S. Forest Service FSVeg Common Stand Exam protocols. So far, over 900 acres of forest have been examined and inventoried.

Additional work on the forest inventory project will be carried out as staffing and funding permit. There was some effort by the staff to acquire missing data from plots already inventoried, and prepare all the data from these sites for incorporating them into



GIS attribute mapping layers.

## F. FIRE MANAGEMENT

In 2006, fire was used as a management tool on one tract of refuge land. New policies, procedures, staffing, limited number of burn plans, personnel scheduling problems, and weather patterns (which infrequently fit prescription parameters) have all narrowed the window for prescribed fire operations. Two fires were scheduled for 2006, but heavy rains prevented sufficient drying in one of the units for a fire to carry. With refuge water management capabilities on the Bremer tract, this unit was dried enough to meet the goals and objectives of the prescribed burn. The unit was within prescription parameters and fire was applied to the site on April 13<sup>th</sup>. Fire carried through 70 acres of this 91 acre tract. The goals for this prescribed burn were to reduce hazardous fuels, remove woody communities invading portions of the tract and improve nesting conditions for grassland birds. These goals were met in all but the wettest sites.



*Prescription burn on Bremer Unit. Photo by SK.*

The wildfire season at the national level reached critical highs during the summer, initiating calls for support. The refuge contributed one staff member to this national fire fighting effort.

## G. PEST PLANT CONTROL

Invasive plant management has become a larger and larger issue on Shiawassee NWR each year. Control efforts have centered on purple loosestrife, garlic mustard, *phragmites*, buckthorn, and reed canary grass. The refuge has pretty well contained invasions of purple loosestrife by using the *Galerucella* beetle as a biological control agent. Purple loosestrife populations still exist but are no longer impacting habitat maintenance or management goals. The number of plants observed each year depends on the beetle's population cycles. Plants which are not defoliated are generally under stress

and if they flower, produce smaller seed heads. Control efforts by the staff have been limited to eradication of individual plants found in isolated locations.

Control efforts focused on invasives in specific management units, first to eliminate any newly recorded incursions before they became an issue, then to eliminate or reduce any impacts to our managed wetland units, and lastly to continue efforts to control large infestations, reduce future potential problems, and restore native vegetation to those sites.

Field observations of the Bremer marsh revealed woody invasion in the southeast corner of the field. This incursion was chemically treated and its effectiveness will be assessed this coming year. A few scattered purple loosestrife plants were recorded in this unit, but the plants showed sign of *Galerucella* beetle impacts. No control efforts were undertaken.

Control efforts targeting reed canary grass were concentrated in MSU 2E and the Leach Tract. The goal for MSU 2E was removal of any individual small bunches that survived from the previous year's renovation. These were chemically treated using spot applications to individual plants. These treatments were very successful in portions of the field receiving the applications. However, time and staffing prevented the entire field from receiving the control effort. Only the moist soil portions of the Leach Tract were given any control considerations. Again, the effort was effective, but time and staffing prevented all targeted sites from receiving treatment.

Scattered small encroachments of willows and cottonwood were individually spot treated with chemicals. A few colonies of giant reed (*Phragmites sp.*) totaling a couple acres in the North Marsh Complex were treated with glyphosate. The heavy outbreaks of invasive garlic mustard reported in 2004 were reduced in 2005 by natural causes, and no control efforts were expended on this pest species. In MSU 2E, about 27 acres were plowed and double disked to control reed canary grass and purple loosestrife.

Major efforts were expended to control invasive glossy buckthorn in a number of areas on the refuge. Control efforts started at the Cresswell parking area and moved north along the Birch Run drain, up into the Houlihan Road area, moved west to the Birch Run Bridge, continued north on the cross road between Houlihan and Evon road, and finally extended west along Evon Road, heading into the North Marsh Complex. Cutting and chemical techniques were used to rid the refuge of the plants in these locations. Treatments continued through August and ended with the refuge obtaining good control of most treated sites. Efforts will continue in 2007.



## 4. FISH AND WILDLIFE MANAGEMENT

### A. BIRD BANDING

This was the first year in a very long time that eagles nesting on the refuge were unsuccessful in rearing even a single eaglet, so no eagle banding was done on the refuge. Refuge personnel assisted the Michigan DNR with banding efforts on waterfowl in the early fall, with 37 mallards, 19 green-winged teal, 2 blue-winged teal, 2 black ducks, and 1 black duck/mallard hybrid banded. Personnel from the University of Georgia and the Michigan DNR took blood samples from captured ducks to assess the waterfowl for avian influenza (H5N1). No influenza was found. The MAPS (Monitoring Avian Production and Survival) banding site has been in operation eight years of a ten year commitment. Volunteers were able to capture and band 41 birds comprised of sedge wrens, bobolinks, American goldfinch, red-winged blackbirds, common yellowthroat, yellow warbler, mourning warbler, phoebe, northern flicker, savannah sparrow, swamp sparrow, song sparrow, indigo bunting, brown-headed cowbird, and downy woodpecker.



*Volunteers Carolyn Szaroletta and Larry Abraham remove a bird from a mist net at the MAPS site. Photo by SK.*

### B. DISEASE MONITORING AND TREATMENT

The Saginaw County Mosquito Abatement Commission again removed discarded tires from the refuge. In addition, they continued to monitor disease vector mosquitoes in 2006. The outbreak of West Nile Virus that was so active in 2002 has pretty much run its course, though there was another slight upswing in activity in 2006, with 71 dead birds reported with the virus, although none came from the refuge. No human cases were reported for Saginaw County. However, monitoring efforts of mosquitoes on the refuge did show positive samples for the virus.



## C. REINTRODUCTIONS

Nothing to report

## D. NEST STRUCTURES

Shiawassee NWR has both wood duck and bluebird nest structures. Volunteers Gary VanKirk and Lidia Godina manage these nest boxes, respectively. A total of 37 wood duck nests structures were available in 2005, a mix of 54 double and single apartment boxes. Of these, 39 were used by wood ducks, 7 were used by both wood ducks and hooded mergansers, and another 5 were used just by hooded mergansers. Three nest boxes were not used during the year. Three of the nests showed owl use after wood ducks used them. Of the total 551 wood duck eggs laid, 223 hatched (41%) and 5 eggs were removed for the dioxin study (see Section 6C). A total of 33 (39%) out of 86 mergansers eggs hatched, with 5 removed for the dioxin study. Six dump nests were found in the boxes, where a dozen or more eggs were laid and then abandoned. This may be due to nests being in close proximity to each other. For this reason, double nest boxes are gradually being replaced with single structures.



*Drake hooded  
merganser in  
spring plumage.  
Photo by Kim  
LeBlanc.*

During the 2006 season there were 25 bluebird nest boxes available for use. Of these, four were used by bluebirds with 9 nestlings fledged. Tree swallows nested in 12 of the boxes with 33 nestlings fledged. The remaining boxes were used by house wrens with 99 eggs laid and 91 nestlings fledged.

## E. PREDATOR AND EXOTIC CONTROL

Nothing to Report

## 5. COORDINATION ACTIVITIES

### A. INTERAGENCY COORDINATION

Throughout the year, refuge staff participated in the Saginaw Bay Watershed Initiative Network (WIN). This group is made up of federal, state, and local governments and organizations that are located in or associated with the Saginaw Bay Watershed and interested in the environmental improvement of the watershed. Refuge staff participate in the Agricultural, Land Use, Wildlife Stewardship, and Water Resources Task Groups. The Dow Foundation and The Conservation Fund are the lead funding organizations involved in WIN.

Each year Shiawassee NWR coordinates both the goose and deer hunting programs with the Michigan DNR and the Shiawassee Flats Advisory Council. Regularly scheduled meetings hosted by the Advisory Council are held the second Monday evening of each month at the DNR field office in St. Charles, to discuss management issues on the state and federal areas. With goose and deer populations viewed as one management unit within and surrounding the state and federal areas, the Michigan DNR has designated this area as Deer Management Unit 173 and the Saginaw County Goose Management Unit.

Refuge staff also participated in Saginaw County's Vision 2020, which has a goal of providing future direction for the County by developing strategies and actions in the areas of education, economic development, quality of life, government, infrastructure, and leadership. The refuge participates in the River Corridor Task Force which has a goal of protecting the Saginaw River system while providing recreation and further riverfront development in an environmentally responsible way.

### B. TRIBAL COORDINATION

Nothing to Report

### C. PRIVATE LANDS ACTIVITIES

#### CONSERVATION EASEMENTS

The Shiawassee NWR-Private Lands Wetland Management District (PLWMD) is responsible for a 48 county area located in southern Michigan. Currently, the PLWMD administers 115 conservation easements in 34 counties, totaling 4,779.79 acres. In addition there are 2 conservation easements (totaling 214 acres) that were transferred in fee title to County Soil and Water Conservation Districts to be managed as outdoor education areas, which the Service monitors.

Shiawassee NWR has two staff members who are responsible for the management of 93 easements. In addition, the Michigan Private Lands Office (MIPLO) in E. Lansing inspects 22 easements.

Resale of easements and property (easements) division continues to occur. Of the 115 easements managed by this office, we identified 162 landowners with ownership in some portion of a conservation easement. Due to new easement regulations which require the presence of law enforcement officers on easement visits, very few of the easements were visited this year. Three landowners called to request a biologist visit their easement in order to approve habitat management objectives. While visiting these sites, boundary signs were checked and any violations were discussed with the landowners. One easement in Van Buren County required easement enforcement due to farming and wetland violations. Non-permitted farming on the easement resulted in a meeting with the landowners and mitigation which will require prairie restoration of this easement.

Special use permits (SUP) are issued every year to conservation easement landowners to assist with habitat management and improvement. In 2006, permits were issued for grassland maintenance, pond development, and timber cutting.

## PARTNERS FOR FISH AND WILDLIFE

The Shiawassee National Wildlife Refuge administers a 24 county Private Lands Wetland Management District (PLWMD) located in central Michigan. Eight of these counties, on the west side of the state, are currently being covered by a Term Biologist position from the MIPLO. The restoration acreage for these counties is not included in this report.

In 2006, the Partners for Fish and Wildlife Act was signed by President Bush. This law provides a Congressional authorization for the Partners Program and formalizes and ensures annual program funding to private landowners for restoration and management opportunities.

## WETLAND RESTORATION

In FY 2006, Shiawassee NWR restored 107 acres of wetlands in 13 counties in the Saginaw Bay Watershed. These restorations were accomplished under the Service's Partners for Fish and Wildlife (PFW) Program in partnership with Ducks Unlimited Inc.-Great Lakes/Atlantic Region, Saginaw Bay WIN, NAWCA and the Bay, Gladwin-Clare, Genesee, Huron, Isabella, Lapeer-St. Clair, Midland, Ogemaw, Saginaw, Sanilac and Tuscola Conservation Districts.





*Lapeer County landowner with  
Private Lands Biologist Michelle  
Vander Haar. Photo by Jeff Tuller.*

The landowner above restored a 17.5 acre complex of wetland and native grasses on his property in Lapeer County. A visit to the site, in the early fall of 2006, proved successful with approximately 200 migrant waterfowl visiting only one year after the restoration was completed.



*Lapeer County restoration. Photo  
by MV.*

A second site in Tuscola County was a 32.5 acre complex of wetland and grassland restoration. This site was done in partnership with the landowner, USDA Debt for Nature program, and the State of Michigan's Landowner Incentive Program. This property is now protected under a 50 year agreement with the USDA.



*Tuscola County wetland restoration.  
Photo by MV.*



*Tuscola County  
Grassland restoration. Photo by  
MV.*

In FY 2006, Shiawassee NWR restored 165 acres of grasslands in 8 counties in the Saginaw Bay Watershed. These restorations were accomplished under the Service's Partners for Fish and Wildlife (PFW) Program in partnership with Ducks Unlimited Inc.- Great Lakes/Atlantic Region, Pheasants Forever, Saginaw Bay WIN, NAWCA, USDA-WHIP, and the Gladwin-Clare, Huron, Isabella, Lapeer, Midland, Saginaw, and Tuscola Conservation Districts.

The PFW program partnered with the USDA – Wildlife Habitat Incentive Program (WHIP) and Pheasants Forever in Isabella County to restore 36 acres of native



grasses adjacent to an existing 40 acres in the Wetland Reserve Program. Site preparation for this field included burning, mowing and herbicide application in order to prepare the soil for the new native grass and wildflower seed. This site was featured at the local annual meeting for Pheasants Forever and was a highlighted project for Michigan's PFW program report to Congress.



*Photo by Bob Andrews.*

In a partnership with Ducks Unlimited, Inc. and Saginaw Bay WIN, the PFW program restored 22 acres of native grasses and wildflowers at the Chippewa Nature Center in Midland County. This site is located between two existing wetland areas and will be used by the center as an educational area. There will also be trails for public viewing.



*Pheasants Forever tractor and Great Plains no-till drill at work planting at Chippewa Nature Center. Photo by MV.*



## **TECHNICAL ASSISTANCE PROGRAMS**

Approximately 25 private land sites in the Shiawassee PLWMD received technical assistance from the refuge concerning potential wetland development, fishpond development, game species management, and other wildlife habitat program and management information.

SwampBuster actions are non-existent with the Natural Resource Conservation Service (NRCS). One Debt for Nature request was received in 2006 to protect 80 acres of tillable and non-tillable farmland with a 50 year easement. The PFW program restored 4 wetlands and 28.5 acres of native grasses and wildflowers at this site.

The Shiawassee NWR-PLWMD assisted the NRCS, Saginaw Bay Wetland Reserve Program (WRP) teams in determining wetland eligibility and ranking requirements for 504.5 acres signed up for the 2006 Wetland Reserve Program across southeast Michigan. The WRP team consists of an NRCS soil scientist, engineer and district conservationist, a Department of Environmental Quality (DEQ) biologist and a Service or State biologist. Assistance was also given on several Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP) potential easements.

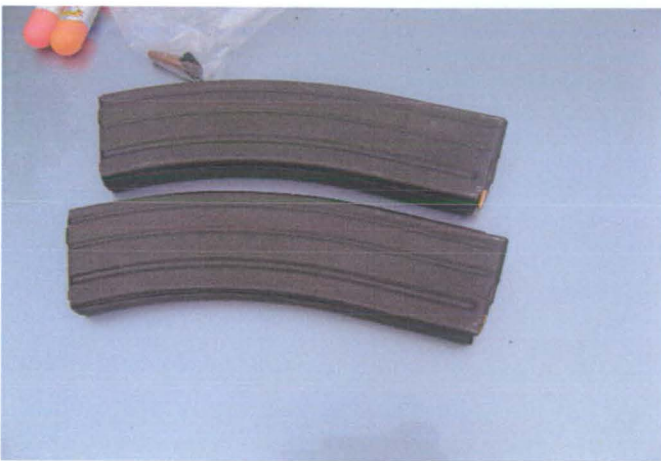
## 6. RESOURCE PROTECTION

### A. LAW ENFORCEMENT

Throughout the year, Jonathan Priday, a full-time law enforcement officer (LEO), was the only commissioned refuge officer (RO) at Shiawassee NWR. Zone Law Enforcement Officer (ZLEO) Kevin Shinn continued to be housed at the refuge and provided a much-needed additional law enforcement presence. ZLEO Shinn also repeatedly made himself available as back-up to RO Priday during several dangerous/high profile law enforcement encounters. Special Agent James Fuller, stationed in Bay City, MI, also provided valuable law enforcement assistance in the field, in interviewing suspects, and in dealing with the U.S. Attorney's Office in Bay City, MI. As in past years, Michigan State Conservation Officer (CO) Dan Lee continued to assist refuge LEOs with cross jurisdictional case work and provided valuable law enforcement coverage for the refuge's river systems.

FY 2006 turned out to be an extremely busy period for refuge law enforcement. In total, the refuge recorded over 740 law enforcement incidents. Given that most violations go undetected and RO Priday rarely worked evenings or nights, the actual number of incidents occurring on the refuge is likely two to three times higher. The reasons for the dramatic increase in number of recorded violations are likely three-fold.

The primary reason for the increase in law enforcement incidents is that 2006 was the first full year the refuge has had a full-time LEO in the field. Having an LEO available to witness and record violations was significant. Second, RO Priday made inroads with refuge hunters, staff, volunteers, visitors and neighbors in getting them to recognize violations and to report them. Refuge hunters, volunteers, neighbors and staff provided hundreds of tips that led to the detection of many of the refuge's most egregious violations. Lastly, as Mid-Michigan's economy and tax base continues to deteriorate, crime rates have skyrocketed while the numbers of police officers has plummeted. Areas of the refuge adjoining the more urban areas in/near Saginaw are suffering increased damage as a result. Areas of the refuge within/adjacent to Saginaw are seeing exponential increases in gang activity, drug activity, vandalism, poaching, and prostitution.



*In this case, RO Priday encountered the four individuals above planting a large number of marijuana plants within the refuge's Green Point Environmental Learning Center property. Suspects had prior drug, weapon and endangered species arrests. Searches of their persons and vehicle revealed assault weapons, knives, hundreds of rounds of ammunition, and illegal drugs/paraphernalia. Photos by JP.*

Given the large number of law enforcement incidents recorded on the refuge in FY 06 only two cases will be described below. The two cases are representative of the increased community policing that occurred in FY 06 that, in turn, leads to the tremendous growth in number of reportable law enforcement incidents.

On April 19, 2006, while responding to a visitor's complaint of trespassing and illegal excavating within the refuge's Bridgeport Tract, RO Priday observed two people digging worms deep inside a refuge area closed to public access in violation of 50 CFR 26.21(a) (Trespass on a NWR) and 50 CFR 27.51 (Disturb, injure, damage animals on NWR). After observing the couple for several minutes, Priday stepped out into the open, identified himself and began nonchalantly conversing with the couple about their worm digging activities. They readily explained that they had been very successful at collecting worms that day and that they sell their worms to a distributor who resells them as fishing bait. They elaborated that they had been coming out to the refuge to dig for worms for years and that they receive lump sum payments at the end of the summer for the worms



they harvest. Priday asked if he could take a look through their buckets at the worms they had collected that day and they agreed. He conservatively estimated that they had harvested approximately 2,000 red earth worms (several pounds). Several acres of ground around him showed the scars of hundreds of holes and pock marks from their digging. Leaf litter, an important invertebrate habitat in that particular flooded forest unit, was strewn about.

Upon verifying the amount of worms collected, Priday asked the couple if their buyer was aware that he was buying worms they collected from the refuge. They responded that their buyer was aware and that he actually directs his suppliers to the refuge as a good spot to dig. Priday then asked them for the identity of their buyer but they immediately became suspicious of his intentions and would not answer. Priday asked the question again and the female suspect laughingly responded that she did not know. Both then claimed that they did not know the name of their buyer, the buyer's location, or the buyer's phone number. When Priday disclosed the collateral fines applicable to their violations, they would only reveal that they sell the worms to someone in Detroit, MI.

Seeing that they were not going to cooperate, Priday collected the couple's driver's licenses and personal information. He subsequently ran their information through Michigan DNR Dispatch which revealed that the man had two prior resource violations in Michigan. One involved deer hunting illegally with a Chinese SKS assault rifle (30 round magazine) and the second involved possession of an untagged deer. Given the man's history of resource violations and the couple's unwillingness to honestly answer his questions, Priday issued the appropriate citation for disturbing, injuring, and damaging animals on a national wildlife refuge. The couple's worm buckets and digging implements were seized and tagged as evidence.

It is important to note that Shiawassee NWR has a history of newly arrived Laotian and Chinese immigrants trespassing into this particular closed area to commercially harvest invertebrates and turtles. Perpetrators of this activity go about it very covertly, entering the refuge from private property and often operating at night. This has made catching them in the act very difficult. In the past year RO Priday has received three tips from the public concerning Asian immigrants commercially harvesting animals from this particular area of the refuge (including Blanding's turtles: protected by Michigan law as a species of special concern).

On July 10, 2006, Spaulding Township Police Chief Jay Bruns called RO Priday and reported that he had received a report from a concerned citizen of illegal refuse dumping at the refuge's M-13 Boat Launch (violation of 50 CFR 27.94 - Simple littering on a NWR). The citizen had recorded the date/time the incident occurred (July 5 @ 10:30 am) and took down the suspect's vehicle description and tag number. Chief Bruns ran the vehicle's tag number through Michigan State Police Dispatch and identified the vehicle's owner and owner's address.

With this information in hand, Priday drove to the suspect's residence and

conducted interviews with him and his wife. When asked separately about their whereabouts on July 5, 2006, they both claimed they spent the day together, but their stories didn't match. The suspect's truck perfectly matched the description related to Priday by Chief Bruns. The suspect's truck bed was also coated with spruce needles that matched the tree limbs dumped at the M-13 Boat Launch (no spruce trees were located where suspect parked his vehicles at home). Despite the evidence against the suspect he repeatedly denied any involvement in the dumping incident at the M-13 Boat Launch.



*Illegal brush dumping incident and suspect vehicle. Photos by JP.*

When Priday was about to leave the suspect's residence, he informed him that despite his claim of innocence he was going to be issuing him a citation through the mail. Upon seeing that he was not going to be able to continue lying, the suspect finally confessed to dumping at the M-13 Boat Launch. Priday thanked the suspect for his honesty and issued him a citation for dumping refuse on a NWR. Priday then mandated that the suspect remove all the debris and trash he dumped on refuge property.

Due to increased law enforcement coverage provided to the refuge by RO Priday,

ZLEO Shinn and SA Fuller in FY 06, LEOs managed to spend approximately 1,430 hours in the field, visit 13 conservation easements, issue a total of 30 Notices of Violation (NOVs) and bring 1 felony charge (numbers do not include refuge cases brought by CO Lee). Notices of Violation were issued for offenses including hunting, marijuana cultivation, motor vehicle violations, dumping, and vandalism. Patrol hours in FY 06 represent a 476% increase over patrol time in FY 05.

## B. PERMITS AND ECONOMIC USE MANAGEMENT

A total of 25 Special Use Permits were issued this year for activities which included archaeological research, contaminant assessments, wildlife research, trapping, and wildlife photography within closed areas.

## C. CONTAMINANT INVESTIGATION

In October, 2001, the state of Michigan released reports detailing dioxin contamination in soil along the Tittabawassee River, including the Green Point ELC and surrounding environs. Soil in this area was found to have dioxin levels 80 times higher than the state's standards for safe human contact. The soil samples had initially been collected in 2000 by the Michigan Department of Environmental Quality (DEQ) as part of a wetland mitigation project. Due to public health concerns regarding this carcinogen, additional samples were taken in 2001 and 2002 and a second report was generated. A series of public meetings ensued following the report's release to the media, including a meeting with local residents hosted by then Lieutenant Governor Granholm at the Green Point ELC. Residents of the affected areas have been advised to avoid unprotected contact with the soils in those areas, and the DEQ posted area boat landings with public health risk advisory signs.

In 2003, the State of Michigan issued a report commissioned through Galbraith Environmental Sciences which detailed the risks associated with sediments in the Tittabawassee River. The report, entitled "Tittabawassee River Aquatic Ecological Risk Assessment Report" stated that dioxin and furan contaminated sediments in the Tittabawassee River downstream of the City of Midland pose significant reproductive, embryo, and early life-stage mortality risk to fish-eating birds and mammals. In addition, the DEQ sampled residential properties along the Tittabawassee floodplain throughout 2003, and found dioxin levels as high as 5,660 parts per trillion (ppt) of dioxin toxic equivalence. The DEQ has currently established that dioxin concentrations below 90 ppt in soil are acceptable for direct human contact on residential property. Subsequent to this, the DEQ sent out a warning to school districts to advise them against using township and county parks along the Tittabawassee River for field trips and events, in order to avoid exposure to high levels of dioxin. This warning has had a direct effect on the numbers of visitors the refuge receives on nature trails along the Tittabawassee River. Green Point ELC has seen a marked decline in visitation due to this warning. Approximately 11,000 residential homes along the river may also face DEQ designation as hazardous waste facilities.



Based on a wild game study performed in 2003, the Michigan Department of Community Health (DCH) issued a health advisory for consuming wild game from the Tittabawassee River Floodplain. The advisory stated that eating deer, turkey, or squirrel from this area could result in adverse health effects. Subsequently, Shiawassee NWR posted this advisory at refuge parking areas near the Tittabawassee River, and letters regarding this advisory are sent annually to refuge deer hunters who have been issued permits to hunt in that area.

Currently, there is a fish consumption advisory for consuming fish from the Tittabawassee River, Saginaw River, and Saginaw Bay. In the late 1970's, the U. S. Environmental Protection Agency (EPA) identified Dow Chemical as the primary contributor to dioxin contamination in the Tittabawassee and Saginaw Rivers, as well as Saginaw Bay. Studies in 1983 determined that dioxin contamination in fish from these waters posed a risk to fish consumers. In July, 2004 the EPA again produced a statement which determined that dioxins in Tittabawassee River fish present unacceptable risks to public health. Based on recent studies by Dow and the Michigan DEQ, the EPA called for another complete and comprehensive look at the dioxin issue, using a multimedia approach and risk analysis of the dioxin problem. A public health consultation released in July, 2005 by the U. S. Department of Public Health and Human Services' Public Health Service, assessed the health risk of eating walleye, bass, catfish, and carp from the Tittabawassee River. The consultation recommended that people should continue to follow fish consumption advisories previously issued.

In 2004, the Department of Community Health drew blood from 25 residents of the Tittabawassee floodplain to determine levels of dioxin. The blood sampling was conducted at Green Point ELC as part of a \$40,000 study. Dust samples were also taken from the residents' yards. Dow Chemical also sponsored a \$15 million study through the University of Michigan to take blood samples from 695 people along and near the Tittabawassee River, as well as from 251 residents of Jackson and Calhoun counties for comparison purposes. Dust and soil samples were taken from their residences, and a questionnaire for 1,300 people was completed. Results from this study (made available in 2006) revealed that older age is by far the most important factor related to higher levels of dioxins in people's blood. It also found that eating fish from the Tittabawassee River, Saginaw River, and Saginaw Bay leads to higher levels of dioxins in blood, while living in areas with contaminated soil contributes only a small amount to the levels of dioxins in people's blood.

In another study, Limno-Tech, a consulting firm hired by Dow, has placed clad pads in various areas along the Tittabawassee River, including the refuge, in order to measure solids accumulation. Chemical characterization will be performed on the accumulated solids.

In a third study, launched in May, 2005, the Michigan State University Aquatic Toxicology Lab initiated a 4-year project to evaluate the effects of contaminants on passerine birds, great blue heron, kingfisher, great horned owl, bald eagle, and mink along the Tittabawassee River. This \$5 million study (funded by a grant from The Dow

Chemical Co.) includes dietary analysis, tissue analysis, nesting productivity assessment, and egg sampling. As far as the bird species, the actual work involves climbing trees to retrieve eggs and young birds, and trapping adult birds. Adult and nestling birds are banded, and a few of the nestlings received radio transmitters for telemetry work. Four adult great blue herons were also trapped and fitted with radio transmitters and leg bands.



*MSU researchers with two great horned owlets. Photo by SK.*

Research results thus far haven't found any adverse reproductive effects on the wildlife sampled, however the researchers have found elevated levels of furans in the wildlife studied, and high levels of dioxin in the food base (insects, crayfish, earthworms, etc.) of the animals and their young.

In 2005, the East Lansing Ecological Field Office began the initial steps in pursuing a Natural Resource Damage Assessment (NRDA) evaluation for dioxin and furan (PCDD/F) releases to the Tittabawassee River. The trustees for natural resources for the Tittabawassee River NRDA are the State of Michigan, acting through the Director of the Michigan Department of Environmental Quality, the Director of the Michigan Department of Natural Resources and the Attorney General of the State of Michigan; the United States Department of the Interior, acting through its representatives, the U.S. Fish and Wildlife Service and the Bureau of Indian Affairs; and the Saginaw Chippewa Indian Tribe of Michigan. At this point, NRDA trustees are working with MDEQ, the U. S. Environmental Protection Agency, and Dow Chemical Co., to organize a common database. They are providing input into study designs (e.g. remedial investigation work plan, ecological risk assessment), they are participating in facilitated discussions, and the trustees are organizing existing data to officially document intent to perform a NRDA.

As a cooperative effort with the Detroit River International Wildlife Refuge (IWR), pre-acquisition Level I contaminant surveys were conducted by ROS De Vries in four locations within the identified acquisition boundaries of the refuge south of Detroit. These tracts included Gard Island near Erie, Michigan, and the Six Point Tract in Gibraltar, MI, which were surveyed in October, 2005, and the Bay Creek Hunt Club property near Erie, MI, and some tracts within the Lake Erie Metropark, Brownstown



Twp., MI, which were surveyed in June, 2006. If approved, these tracts will be incorporated within the Detroit River IWR.

In another cooperative effort, two Level 1 surveys were also conducted by refuge staff for the Michigan Wetland Management District's (WMD) East Lansing Private Lands office. These surveys were conducted on two separate tracts; one in Waterloo Township, Jackson County, MI, and the other near Hastings, MI, in Barry County. If acquired, these two tracts will be managed as Waterfowl Production Areas under the Michigan WMD.

## D. CONTAMINANT CLEANUP

In response to an environmental audit conducted in 2003, it was determined that floor drains located in the Zone LEO office/garage building and in the Bridgeport Barn required removal. The contract to perform this work was let out at the end of FY 2005, and initiated on October 25, 2005. The work involved cutting out 8 foot x 8 foot slabs of concrete floor and drain from each building, and then having the soil tested for contaminants. The results of the soil testing at the drain outfalls were forwarded to the Michigan Department of Environmental Quality (MDEQ). The MDEQ determined that metal concentrations found in the soil were consistent with the regional soils background for the area, so no further testing was necessary. New concrete was poured in both buildings to replace the slabs removed. The work was completed on December 15, 2005, at a total cost of \$10,325.85.



*Floor drains removed from two buildings to eliminate potential for contaminant run-off. Photo by ED.*

## E. WATER RIGHTS MANAGEMENT

Nothing to Report



## F. CULTURAL RESOURCE MANAGEMENT

The lower Saginaw Valley has been a central place for human habitation in the Saginaw Bay area for the past 6,000 years. As such, significant cultural resources are present on the refuge and recent research continues to document the richness of this area from the standpoint of historic resources.

Due to low river levels and the potential for loss of archeological information as sites are exposed through erosion, an Archaeological Resources Protection Act permit (2002-MI/3-2) was issued by the Region 3 Regional Director to the Historical Society of Saginaw County to monitor and collect surface artifacts from exposed sites, and document additional sites.

Since 1998, Jeffrey D. Sommer of the Saginaw Archaeological Commission has documented 28 sites within the refuge boundaries, 16 of which hadn't been previously recorded. In an effort to determine more precise boundaries, fifty-four shovel test pits (STP 66 – STP 120) were excavated at site 20SA1276. These shovel tests yielded 569 catalogued objects. Twelve square meters were excavated at 20SA722 during the 2006 field season. These excavations yielded 11,697 catalogued objects. In addition, 49 samples, containing a total of 400.75 liters of sediment, were saved for flotation. Excavated material from site 20SA722 dates primarily to the Late Prehistoric period (ca. A.D.1200-1600). A portion of the excavated area was stratified with early Late Woodland material below the Late Prehistoric component. Surface collections, totaling 82 objects, were made from four of the eight sites that were monitored during the 2006 field season. Other sites yielded material from Middle and early Late Woodland occupations (ca. A.D. 1 - 1000). A few Late Archaic through Early Woodland period (ca. 1000-100 B.C.) artifacts were also present. Historical artifacts date primarily from the mid-19<sup>th</sup> century through the 20<sup>th</sup> century. This project continues to demonstrate that significant archaeological resources are present within the boundaries of the Shiawassee NWR. All cultural items collected, as well as information and field notes are stored and secured at the Saginaw Archeological Commission repository. The survey will continue in 2007.



*A sample of the artifacts collected from the refuge in 2006. Photo by Jeff Sommer.*

## G. LAND ACQUISITION SUPPORT

The refuge continued efforts to develop a partnership with The Conservation Fund (TCF) and Detroit Edison (DTE) which would yield acquisition of lands for the refuge. TCF and DTE seek to address climate change through a carbon sequestration program. Via Memorandum of Agreement, DTE would purchase land, plant a diverse mix of native trees, and donate the property to the Service with TCF serving as broker. Additionally, the Service would permit DTE to plant tree seedlings on existing refuge lands that are designated in the refuge's Comprehensive Conservation Plan to be restored to forest. DTE would be responsible for all tree planting, care, and monitoring. The refuge would also receive funds from DTE to manage newly acquired property and existing acres planted to trees.

## 7. PUBLIC EDUCATION AND RECREATION

### A. PROVIDE VISITOR SERVICES

The refuge recorded 55,539 visits in FY 2005. During the year, 28 special events were held.



*A local river guide, Wil Hufton III of Johnny Panther Quest Tours, provides many refuge visitors with an opportunity to see the area by boat. Photo by ED.*

#### ***ECO Intern***

Nathan Northup of LaCrosse, Wisconsin, worked 12 weeks at the refuge, beginning on May 22, 2006. His position was made possible through an internship through Environmental Careers Organization (ECO). Nate worked primarily with Park Ranger Becky Goche at Green Point with the refuge's Visitor Services and Outreach program. He also helped with a Michigan Islands NWR bird survey and private lands survey work. Nate is a student at the University of Wisconsin—LaCrosse working towards his Bachelor of Arts in Music Education.





Nate Northup poses with one of the many children's groups he worked with over the summer. Photo by BG.

### *Special Events*

The *Nurturing Nature Wednesday Series*, sponsored by the refuge and Friends of Shiawassee NWR, continued into its second year. Ten programs (none were held in December and January) drew 195 people. The highest attended (36 people) was a program featuring a first person interpretation of Bela Hubbard, a Michigan explorer of the late 1800's. Kyle Bagnall of Chippewa Nature Center in Midland based his program upon Hubbard's books and journals. The *Nurturing Nature Wednesday Series* is geared to expose people to the refuge, educate them, recruit new Friends members, and raise money for the group. Admission for each program was \$2 per person, \$5 for a family and free for members of the Friends group. Janet Martineau, Activities Coordinator for the Friends, and Park Ranger Becky Goche organized the series. The Friends provided a \$50 stipend for each presenter.

Saginaw Valley Audubon Society members, refuge volunteers and refuge staff led two guided night hikes, four guided bird tours, and one guided horseback tour during the year for 112 people. One of the bird tours and the guided horseback tour were done for International Migratory Bird Day.

In the first year of coordinating the Junior Duck Stamp Program, 378 entries were received from students in grades K-12. Entries came from all parts of the state and included students from public schools, private schools, Scout Troops, and home schools. In 2005, before the refuge coordinated the program, there were 264 entries. On March 30, 2006, five judges picked 100 winners (36 first through third place and 64 honorable mention) from the four age categories. Samuel Dantuma's acrylic "Northern Shoveler by the Lake," was awarded Best of Show. His piece placed in the Top 10 at the national competition held in Washington, D.C. Judges were Russ Terry of Ducks Unlimited, Faye McNew of Michigan DNR Wildlife Division, Valerie Blaschka of Saginaw Bay State Recreation Area, Dean Adkins of the Ella Sharp Museum, and Lucetia Manwaring of Congressman Dale Kildee's Office. All first through third place winners and Michigan's Best of Show were honored at an awards ceremony on May 6, 2006. Twenty-four of the 36 winners plus their teachers and families from all across the state attended the event. Altogether 87 people packed themselves into Green Point; it was standing room only! The Friends of Shiawassee NWR provided a decorated sheet cake and beverages for the attendees.



*Ann Werth, Standish-Sterling High School Art Teacher, Samuel Dantuma, 2006 Best of Show Winner, Mrs. Dantuma, and Park Ranger Becky Goche at the Junior Duck Stamp Awards Ceremony. Photo by Steve Gasser, Refuge Volunteer.*

The self-guided auto tour held each year during the Refuge Open House Weekend was cancelled. Flooding in March, 2006 destroyed a portion of the tour route along the Spaulding Drain. Hundreds of visitors, especially deer hunters, still used the refuge on September 9 and 10, 2006 since the whole area was open to hiking, bicycling and deer scouting. Other activities over the weekend included two guided bird tours, a photography workshop, and judging of the refuge photo contest. Ten photos were entered into the contest by 6 people. Winners in the Wildlife and Plantlife Category were: First place – Kim LeBlanc, St. Charles; Second place – Mike Sonnenberg, Saginaw; and Third Place – Steve Gasser, Saginaw. Winners in the Habitat Category were: First place – Steve Gasser, Saginaw; Second place – David M. Blanford, Alma; and Third place – Kim LeBlanc, St. Charles. There were no entries in the People or Young Nature Photographer categories. David M. Blanford won the "Refuge Manager's Choice" with his entry entitled "A Hiding Place" featuring a well-camouflaged frog. Winners were recognized at the *Nurturing Nature Wednesday Series* program in October.



### ***Environmental Education***

Environmental education accounted for 1,108 visits both on-site (785 students) and off-site (323 students), down from FY 2005 (1,351 visits – 1,141 on-site and 210 off-site).

The refuge held its first Junior Girl Scout Badge Day at Green Point on June 17, 2006. Seventeen scouts and their leaders learned about the ecology of the refuge with natural resource professionals to meet the six requirements for the “Earth Connections” badge. Instructors for the program were Gay Lynn Kinter, a Soil Scientist with the Natural Resource Conservation Service, Michelle Vander Haar, Private Lands Biologist, Park Ranger Becky Goche, and Nate Northup, ECO intern. Many of these same girls returned for a Green Point clean-up day held in recognition of National Public Lands Day on September 23.



*Jr. Girl Scouts record temperature readings taken in a grassland at Green Point with Park Ranger Becky Goche. Photo by Joy Clark, Refuge Volunteer.*

### ***Hunting and Trapping***

The refuge offered goose hunting, deer hunting and trapping. Steve Kent with Mid-Michigan Computer Consultants (MMCC) in Bay City, MI, continued to modify and fine tune the software program he developed in FY2003 to select deer hunters using a priority point system. The online application was available to hunters from June 15 through August 1, which marked the deadline for receiving applications. Hunters accessed MMCC's application site from a link on the refuge's website.





*A total of 29 hunters participated in the non-ambulatory hunt. Photo by ED.*

A summary of deer hunting, goose hunting and trapping can be found in the following tables.

**Table 1: Summary of Deer Hunting for FY2006, FY2005, FY2004 and FY2003**

	<b>FY06 Hunters</b>	<b>FY05 Hunters</b>	<b>FY04 Hunters</b>	<b>FY03 Hunters</b>	<b>FY06 Visits</b>	<b>FY05 Visits</b>	<b>FY04 Visits</b>	<b>FY03 Visits</b>
<b>October</b>	71	147	NA	NA	172	455	NA	NA
<b>November</b>	179	297	249	230	414	792	739	699
<b>December</b>	474	639	568	272	1189	1670	1494	457
<b>Total</b>	724	1083	817	502	1775	2917	2233	1156

**Table 2: Summary of Goose Hunting and Trapping for FY2006, FY2005, FY 2004 and FY 2003.**

	<b>FY06 Visits</b>	<b>FY05 Visits</b>	<b>FY04 Visits</b>	<b>FY03 Visits</b>
<b>Goose Hunting</b>	509	644	572	727
<b>Trapping</b>	57	92	80	82



*Anglers relaxing on the Shiawassee River. Photo by ED.*

## *Volunteers*

In FY2006, 115 volunteers donated 4,335 hours. A Volunteer and Friends Recognition Dinner was held on May 17, 2006. Thirty-two volunteers and Friends enjoyed a catered meal. Each volunteer received a travel mug. Thirteen individuals were recognized for donating 40 or more hours during the year. Volunteer Kim LeBlanc was awarded the "Region 3 Chief Award" for reaching 500 hours. Carolyn Szaroletta was awarded the "Region 3 Director Award" for reaching 1,000 hours. Dan Patillo was given a "Special Service Award" for his efforts in working with and bringing students from Buena Vista High School to the refuge throughout the school year. Ken Coaster was awarded the "2005 Volunteer of the Year Award." Refuge staff voted to give Ken this award because of his work with the non-ambulatory deer hunt each year since 1992.



*Park Ranger Becky Goche presents Ken Coaster with the 2005 Volunteer of the Year Award. Photo by MV.*

## **B. OUTREACH**

Refuge staff had two displays at the Waterfowl Clinic held August 5 and 6, 2006, at Bay City State Recreation Area. Park Ranger Becky Goche and ECO intern Nate Northup promoted the Junior Duck Stamp program. Private Lands Biologist Michelle Vander Haar had a display for the Partners for Fish and Wildlife Program. Thousands of people attend this annual event.

The refuge and many other partners sponsored the Kids' Free Fishing Day on June 10, 2006, for 276 children between the ages of three and fifteen. The contest ran from 8:00 a.m. to 10:00 a.m., with registration beginning at 7:30 a.m. Sponsors included the City of Saginaw, Dow Chemical Michigan Division Fishing Club, Meijer Stores, The Saginaw News, Sons of Italy, 7-Eleven stores, McDonalds, Children's Zoo at Celebration Square, and the Saginaw County Sheriff's Posse. Meijer Stores donated nearly 90 prizes, including 9 bicycles. The Sons of Italy provided lots of free food for the kids and their families. The Saginaw News provided free advertising. The Sheriff's Posse and Children's Zoo provided distractions for the children when they grew tired of fishing and were waiting for the prizes to be handed out. Thirty-nine volunteers donated 169.5 hours



helping out on the day of the event. Five refuge staff also worked the day of the event.



*A young boy shows off his stringer of fish that he caught during the Kids' Free Fishing Day. Photo by BG.*



## 8. PLANNING AND ADMINISTRATION

### A. COMPREHENSIVE MANAGEMENT PLANNING

The final Comprehensive Conservation Plan (CCP) and Environmental Assessment for Shiawassee NWR were approved by the Regional Director on September 19, 2001, and the draft for the Michigan Islands NWR was completed.

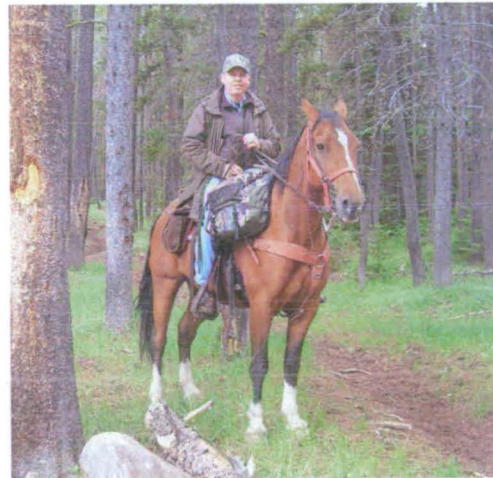
### B. GENERAL ADMINISTRATION

The following is a list of employees who were members of the Shiawassee NWR staff in Fiscal Year 2006:

1. Dastyck, James J. - Wildlife Biologist, GS-11, EOD 11/04/90, PFT
2. De Vries, Edward P. - Wildlife Refuge Specialist, GS-12, EOD 02/09/92, PFT
3. Gillette, Mary Ann - Administrative Officer, GS-09, EOD 11/30/03, PFT
4. Goche, Rebecca S. - Park Ranger, GS-11, EOD 08/22/93, PFT
5. Kahl, Steven F. - Refuge Manager, GS-13, EOD 02/06/06, PFT
6. Nowosatko, Marion L. - Engineering Equipment Operator, WG-09, EOD 06/29/78, PFT
7. Peters, David J. - Tractor Operator, WG-07, EOD 02/01/98, PFT
8. Priday, Jonathan A. - Park Ranger (LE), GS-09, EOD 01/23/05, PFT
9. Vander Haar, Michelle A. - Fish and Wildlife Biologist, GS-11, EOD 06/29/03, PFT



Jim Dastyck



Ed De Vries



Mary Ann Gillette



Becky Goche



Steve Kahl



"Butch" Nowosatko



David Peters



Jonathan Priday





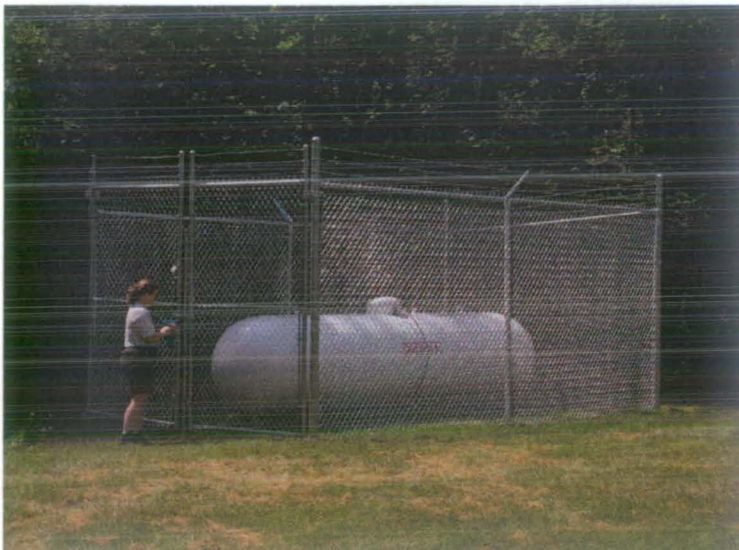
Michelle Vander Haar

## FACILITIES AND EQUIPMENT

### FUNDING - FY 2006

1121.....	\$ 174,749.00
1261.....	316,878.00
1262.....	271,897.00
1263.....	142,850.00
1264.....	90,505.00
9263.....	2,500.00
Total .....	\$ 999,379.00

The old oil burning furnace at Green Point ELC was replaced with a propane furnace at a cost of \$6,800. The 1,000 gallon propane tank is secured within a 10 foot by 24 foot, 8 foot tall chain-link security fence.



Security fence for propane tank.  
Photo by ED



The Flint Dike Board and Wilcox Engineering met with refuge staff a number of times during the year to discuss rehabilitation of the Flint River Flood Control Dike, a portion of which extends south along the Spaulding Drain and then east through the refuge. A total of 53,000 linear feet of dike will be elevated and re-sloped. The work began on September 19, 2006, and is funded by the Flint Dike Board.

A portion of the ½ mile long Pool 1A/Grege Pool crossdike was improved through force account work during the year. Sapling willows were removed and a total of 900 tons of 8"x 12" rip rap (\$22/ton) were used on the project to armor the entire length of the north slope. This work was needed to repair flood damage from the past several years. The work to similarly fortify the south slope, and bring the top back to plan elevation, will continue in 2008.



*Pool 1A/Grege Pool crossdike during rehabilitation. Photo by SK*

Accessibility along the top of the ½ mile long dike separating Farm Unit 2 and the large switchgrass field was restored early in the spring of 2006. Trees were cut or trimmed and willows were removed first. Then, fill was trucked in and two sections that had sustained erosion two decades ago were restored.

A total of 1,300 tons of gravel were truck-spread on refuge roads.

The gates at two secondary refuge access points along Hart Road in James Township were replaced with standard type gates. The nearby gate at the end of Willing Road, which had been replaced previously, was brought back into specifications as well.

The 1979 GMC dump truck was replaced with a 2007 Mack truck. The new truck is a Mack Model CV713, 6x4 dump truck, with a 10-yard capacity dump box.



*Old GMC dump truck.  
Photo by ED.*



*New Mack dump truck.  
Photo by ED.*

# WILDERNESS AND SPECIAL AREAS

## MICHIGAN ISLANDS NWR

The Michigan Islands National Wildlife Refuge was established by Executive Order in 1943 as a refuge and breeding ground for migratory birds and other wildlife. Shoe (2 acres) and Pismire (3 acres) Islands in Lake Michigan, and Scarecrow Island in Lake Huron, were the first islands acquired. Thunder Bay Island in Lake Huron was added in 1965, by a U.S. Coast Guard/FWS agreement under a revocable permit with five-year renewal periods, for secondary FWS jurisdiction on 121 of the island's 168 acres. The U.S. Coast Guard ceded Lake Michigan's Gull Island (230 acres) to the FWS in 1969. Gull Island is the westernmost island of the Michigan Islands NWR. In 1970, PL 91-504, Stat. 1104, designated Shoe, Pismire, and Scarecrow Islands as Wilderness Areas. A sixth island was added to the refuge in 1995, when the Nature Conservancy transferred Hat Island to the Service. Ten acres in size, it is located in Lake Michigan, to the north of Shoe Island. Big and Little Charity Islands (250 acres and 5.4 acres respectively) were added to Michigan Islands NWR in 1999.

Due to the geographic location of the eight islands, the management of Michigan Islands NWR is split between Seney NWR and Shiawassee NWR. Shiawassee NWR administers Thunder Bay and Scarecrow islands, located in northern Lake Huron, and "the Charities" in Saginaw Bay. Gull, Shoe, Pismire, and Hat islands in the Beaver Island group in northern Lake Michigan, are administered by Seney NWR.

Both Scarecrow and Thunder Bay Islands lie within the waters of the Thunder Bay National Marine Sanctuary and Underwater Preserve. The National Oceanic and Atmospheric Administration gave this designation to the area in 2000. The designation gives federal protection to over 100 well-preserved shipwrecks that litter the bottom of Thunder Bay, located near Alpena, MI. Once part of a major shipping channel, this 448 square-mile sanctuary is the first national marine sanctuary in fresh water, and is located in an area which was known as "Shipwreck Alley" in the 1800's.

Scarecrow Island is a nine-acre, limestone bedrock island covered with boulders and gravel, with a minimal soil layer supporting shrubs, scattered forbs, and a few snags. A June 14 nesting census by refuge staff revealed 1,370 double-crested cormorant nests, 234 ring-billed gull nests, 162 herring gull nests, 80 Caspian tern nests, and 1 black-crowned night heron nest.

The presence of breeding cormorants on Scarecrow Island and other islands in Thunder Bay has yielded great concern among local fishermen and the Michigan DNR over cormorant impacts to the fishery. Consequently, the Service received a request from USDA-Wildlife Services for access to Scarecrow Island to kill approximately 33% of the nesting adult cormorants and to oil all of the cormorant eggs. This control would be implemented under authority of the Michigan Public Resources Depredation Order. However, the Service did not give permission for this access in 2006 because insufficient



scientific justification was provided linking cormorants to declining fish abundance in Thunder Bay. Further, Wildlife Services did not adequately describe how impacts to co-nesting colonial waterbirds would be minimized or what the long-term population goal for cormorant control would be. The Service maintained that it would participate in the Interagency Cormorant Coordination Group and would consider access for control in subsequent years. This issue was very contentious and the Service received letters expressing dissatisfaction from local citizens, Alpena Mayor John F. Gilmet, U.S. Representative Bart Stupak, and U.S. Senator Debbie Stabenow. Also, the Alpena City Council and the Alpena County Board of Commissioners passed separate resolutions urging the refuge to permit access for cormorant control. To this point, the refuge has denied access for cormorant control efforts.



Nesting birds on  
Scarecrow Island.  
Photo by Steve  
Gasser.

The U.S. Fish and Wildlife Service manages Thunder Bay Island under a Cooperative Agreement with the Bureau of Land Management (BLM). Region 3 Realty is currently working with BLM to acquire the north 2/3 of the island in fee title. Thunder Bay Island is made up of limestone bedrock, with a substantial layer of soil. This soil supports a dense interior forest of American yew, white cedar, spruce, fir, and birch. The island shoreline includes cobble beach, a limestone pavement alvar, and freshwater, coastal wetlands. Alvars are naturally open landscapes formed of a thin layer of soil over limestone, and are found only in the Great Lakes region, the Baltic, and in Northern Ireland. Dwarf lake iris *Iris lacustris* (federal-threatened) is also found on the island as well as 180 other plant species. Typically, this island provides nesting for 10,000-12,000 ring-billed gulls as well as over 100 herring gulls. However, since 1998, ground-nesting success has been reduced to zero by the presence of a coyote or other large carnivore. It appears the ring-billed gulls have abandoned Thunder Bay Island for other locations, including Scarecrow Island.

The Thunder Bay Island Preservation Society (TBIPS) is interested in the historic preservation of the Thunder Bay Island Lighthouse (1857), and has been in negotiations with the Service and Alpena Township to gain management of the buildings on the

southern portion of the island, where the lighthouse is located. Their intent is to protect, document, and uncover historic artifacts, but also to restore the lighthouse for visitation within the next five years. A section line boundary has been agreed upon and following contaminants cleanup by the US Coast Guard, the next step will be for the BLM to transfer ownership of the south part of the island to Alpena Township and the north portion to the FWS. The Management Agreement states that Alpena Township will have ownership of all the buildings except for the boathouse, while the FWS will maintain management rights over the wildlife and habitat.

Through a legal settlement with General Motors Corporation under a Natural Resources Damage Assessment, most of Big Charity and all of Little Charity Island were transferred to the Service on December 16, 1999. These islands are both located near the mouth of Saginaw Bay, approximately seven miles from the mainland. Big Charity is 250 acres in size and is heavily wooded, with an 11-acre lake in the center. Bald eagles nest on the island, and Pitcher's thistle, *Cirsium pitcheri* (federal & state threatened) are found there. Where an old, dilapidated U.S. Coast Guard lighthouse from the 1880's once stood on the southwest portion of the island, there is now a privately owned house. The house stands adjacent to the Big Charity light lower. The owner, Robert Wiltse, who once owned the entire island, ferries visitors out to the island for visits and lodging. A riprapped harbor of refuge was constructed by Wiltse in 1992, followed by the installation of boat slips and a picnic shelter. The channel entry to this harbor is protected by a breakwall; however the entry area behind the breakwall is becoming more restrictive due to siltation. Hiking paths crisscross the island, while picnic tables, barbecue grills, and benches are located in several locations. Ten small, narrow tracts on the island are in private ownership. Six belong to The Nature Conservancy (including the light tower) while four belong to private individuals. It is hoped that eventually the Nature Conservancy (TNC) tracts will be transferred to the FWS in the near future. A pre-acquisition contaminant survey on the TNC-owned tract near the light tower was performed in September, preparatory to a future TNC donation which has yet to be approved. If the FWS were to receive this land, it would include the point of land west of the light tower, but wouldn't include the light tower

Little Charity Island is an undeveloped 5.4-acre island approximately two miles from Big Charity. The island is wooded along a slight ridge through the middle of the island, while the remainder of the island is shrubby growth such as willows and forbs such as nettles. The shoreline is cobblestone, sand, and pavement. Colonial water birds such as cormorants, herons, and gulls nest throughout the island. A nesting survey of the island on June 13 found 2,278 double crested cormorant nests, 963 herring gull nests, 35 great egret nests, 21 great blue heron nests, 2 mallard nests, and 1 Canada goose nest. A flock of 18 mute swans were observed just off shore of the island. Another interesting find was the presence of *Galerucella sp.* beetles on a small group of purple loosestrife vegetation.

The Service goal for the Michigan Islands NWR is to restore and protect endangered and threatened wildlife and plant species, as well as species of concern which use these islands; to protect island cultural resources, provide education to the public, and

acquire additional Lake Huron islands for further habitat and resource protection.



*Big Charity Lighthouse.  
Archive photo.*



# CREDITS

Personnel responsible for narrative sections are as follows:

- James D. Dastyck: *Climate Data, Sections 3 and 4*
- Edward P. De Vries (ED): *Introduction, Highlights, Sections 5A, 5B, 6B-6D, 8, Wilderness and Special Areas, Credits, Appendix, Information Packet, editing, layout, narrative coordination, and compilation*
- Rebecca S. Goche (BG): *Cover page, Table of Contents, Section 7, editing, final layout and production*
- Steven F. Kahl (SK): *Section 6G*
- David J. Peters (DP): *Section 1*
- Jonathan A. Priday (JP): *Section 6A*
- Michelle A. Vander Haar (MV): *Sections 2 and 5C*



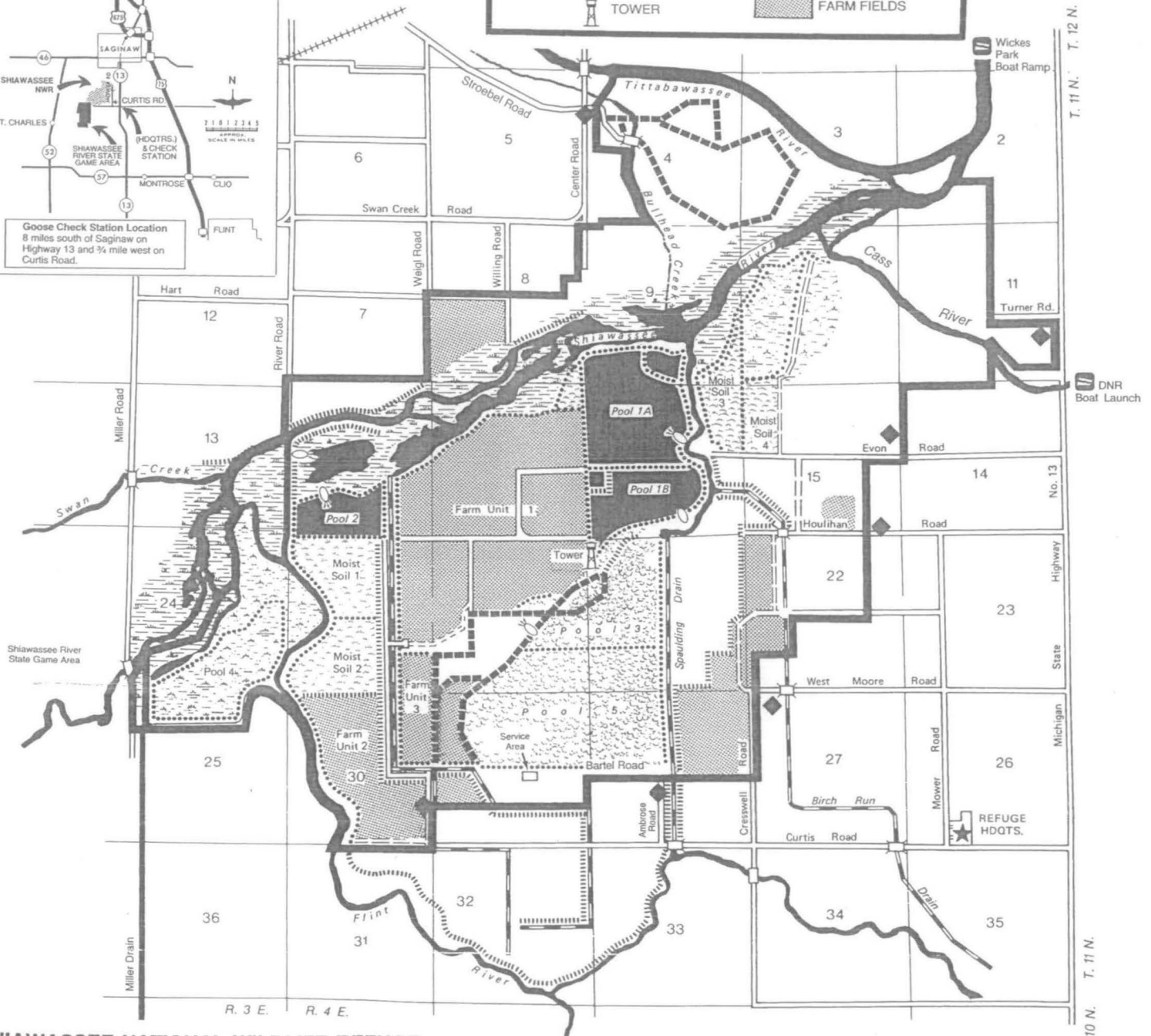
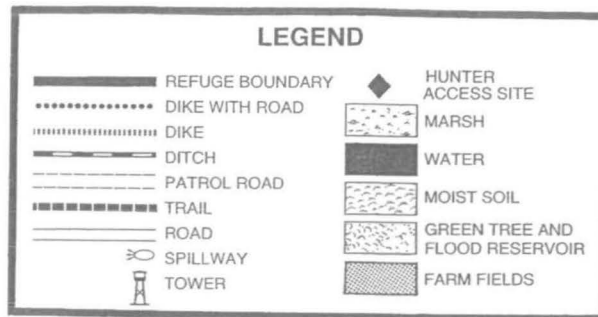
*Photo by Kim LeBlanc, 2006 Photo Contest, Third Place Habitat*

Public Use is restricted to the nature trails.

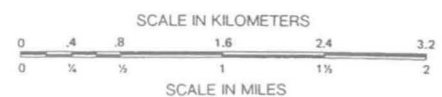
# SHIAWASSEE NATIONAL WILDLIFE REFUGE

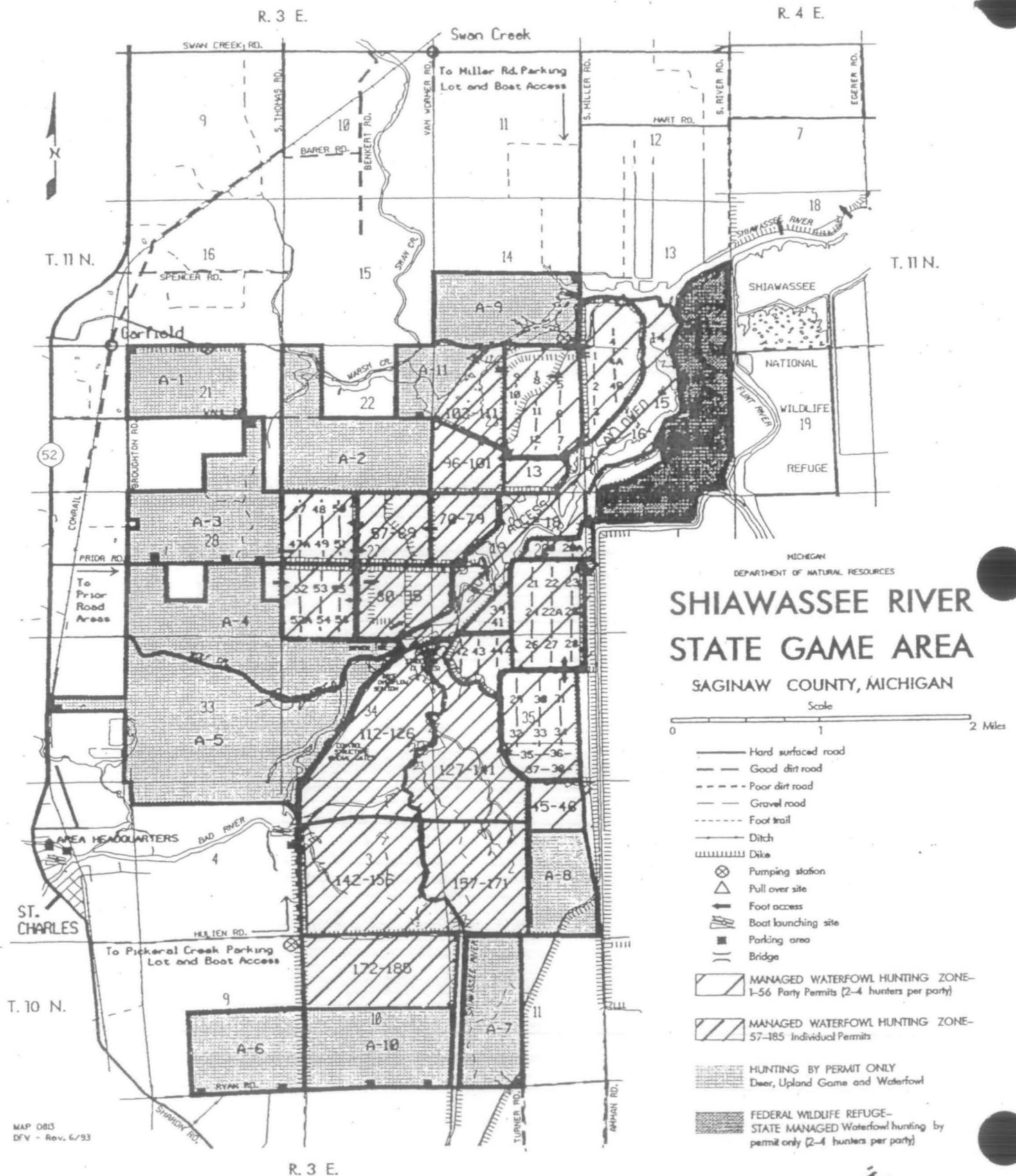
DEPARTMENT OF THE INTERIOR  
U.S. FISH AND WILDLIFE SERVICE

## Refuge Location



SHIAWASSEE NATIONAL WILDLIFE REFUGE  
6975 MOWER ROAD, RR #1  
SAGINAW, MICHIGAN 48601  
PHONE: (517-777-5930)





Hunter Monies Made This Area Possible **DNR**



# Refuge Reporter

Volume 9, Issue 1

Winter 2005/2006

## A Place to Float Your Bobbers and Boats

By David Peters, Tractor Operator

The first half decade of the new millennium has been period of significant investment in visitor facilities at Shiawassee NWR. In 2002, an increase in the amount of hiking opportunities available was realized with the opening of a new trail and visitor parking lot at the Cass River Unit, adjacent to the Bridgeport / I-75 interchange. The same year, restroom facilities were installed for users of the long established Ferguson Bayou and Woodland trails. The following year, a new parking lot was established at the corner of Moore and Creswell Roads. Previously, hunters accessing at this location had to park along the shoulder of the road. The hunter access lots at Houlihan Road and Ambrose Road were upgraded in 2003 as well. Now in 2005, the refuge has broadened its ability to meet the needs of the public with the completion of its first boat launch and fishing site on the banks of the Cass River at M-13.

The project began in 2002 when the Fish and Wildlife Service, through an exchange with the State of Michigan, acquired the tract of land on the northeast side of the M-13 Bridge over the Cass River just south the City of Saginaw. It was an established DNR Access Site at the time, so not only did the acquisition fit nicely with the surrounding public land already managed by the Service, it provided a point from which to start offering increased angling opportunities. Though it was just an open area along the river with an access road and turn around, with some effort it could easily become a very nice, well maintained facility for visitor use.

The first task was some major spring cleaning, undertaken in 2003. Over 30 cubic yards of trash and debris that had been illegally dumped were removed. Unfortunately, like many unattended public lands with vehicular access, the area had been frequented for dumping and other prohibited activities. But

(Continued on page 2)

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## A Year of Successes and Setbacks

By Steve Kahl, Refuge Manager

December is a time of assessment for refuge managers. Looking back at the year, I am proud of the many accomplishments the refuge and its partners achieved in 2005. However, to capture a credible picture of what the year was like, these accomplishments must be placed in perspective with the setbacks of

the year. This 360° view illuminates how difficult it is for the refuge to make gains. Further, it brings a realization that the successes are even sweeter. Moreover, a holistic review places us in better position to face the challenges ahead.

One of the most important achievements of  
(continued on page 5)

### Special Point:

- Winter is a great time to get out and enjoy the refuge on skis or snowshoes, assuming there's enough snow! We do not groom any of our trails. The Woodland Trail at Stroebel Road and Green Point are good places to go, especially if you're a beginning cross-country skier.



## A Place to Float Your Bobbers and Boats Continued

(continued from page 1)

experience had shown that though it does not completely eliminate such problems, maintaining a presence and cleaning-up such debris promptly does reduce the frequency of occurrence. Another major shortcoming of the site was the lack of clearly defined boundaries between areas for people and areas for vehicles. This was addressed in autumn of that year by setting large solid concrete blocks in place to define a parking area and prevent vehicular access to the riverbank and the surrounding woods. The use of lumber posts and rails for this purpose, as done in other refuge public parking lots, was not feasible. The site has a history of extensive use, and the solid remnants of this underlie much of the area, making it difficult to drive a sign post into the ground, let alone auger over two dozen ten inch diameter holes in exact alignment. With the site "secured", 2004 was spent planning for the installation of a boat launch ramp and improvements for bank anglers.

As it was, fishing was feasible from the riverbank, but with some difficulty due to the near-vertical eroded slope and numerous line entangling obstacles. The use of limestone riprap, as is used for bank stabilization elsewhere on the refuge, was not allowable due to the difficult and hazardous situation visitors would encounter walking up and down it to the waters edge. The far better alternative was the use of interwoven mats of concrete blocks. These would not only provide erosion protection for the shoreline, but also a safe, even surface for visitors to fish from. The open cell design of the blocks would provide a perforated surface which would fill with soil, and thus allow a certain degree of natural vegetation to establish itself on the bank as well.

After considering several options, the same material used for the bank was selected for the surface of the sixteen foot wide by sixty-four foot long launch ramp. The upper half would be the same open cell type as the bank, but is filled with crushed limestone rather than soil. The blocks on the lower, partially submerged half, would be solid, so as to provide a surface that will optimally withstand the forces of water and boat launching activities.

Site preparation and the placement of the launch and bank materials was completed in late summer/ early fall 2005. Following the completion of these two major steps, the large open use area was graded and seeded. Then, as the last task, the parking area was graded and a new gravel surface was applied. The lot can accommodate up to fourteen vehicles with trailers. Soil excavated from the launch ramp area was used to form a directional "island" in the lot to help visitors efficiently launch/retrieve their boats and park while fishing.

Even with the low river levels experienced this fall, water at the end of the ramp is nearly three feet deep, enough to

launch boats of a size suitable to ply the Cass and other rivers within the refuge. Of course, the ramp also lends itself to launching canoes and kayaks as well, which are even better craft for exploring the navigable rivers that quietly flow through the refuge. Recognizing not everyone who fishes owns a boat, fishing from along the 180 feet of accessible shoreline should be a much more enjoyable experience, (though it can't be claimed that the improvements will encourage the fish to bite).

Valuable funding assistance for the establishment of the Cass River boat launch and bank fishing area was provided by the Friends of Shiawassee NWR. They received and administered a major grant for the project from the Saginaw Bay Watershed Initiative Network (WIN), as well as funding from a Fish and Wildlife Service Challenge Cost Share Agreement. These funds allowed several local businesses to receive contracts to provide materials and labor for the project. The collective efforts of all involved have helped Shiawassee NWR's ongoing efforts to provide compatible wildlife dependent recreational opportunities to a broad range of people from throughout the community.



Area after concrete barricades were installed. Note steep, vegetated bank and no area to launch a boat. Photo by David Peters.



A refuge deer hunter launches his boat at the newly completed boat launch area on October 31, 2005. Photo by David Peters.



# Michigan's Federal Junior Duck Stamp Program—Will It Land in Your School?

By Becky Goche, Michigan Junior Duck Stamp Coordinator



"This is the best thing in my whole life," stated Nick Stone, age 6 from North Dakota. Nick is just one of the thousands of students nationwide who participates in the Federal Junior Duck Stamp program and art contest each year. Last year over 300 students in grades K through 12 participated in Michigan alone! Public schools,

private schools and students from home schools were represented. Every year students, teachers and parents from across the country learn about wetland habitat and waterfowl conservation through this program. As an added benefit, each year there is a national art contest where students, teachers and schools compete for scholarships and other prizes. All of the national winners first must win their individual state's competition.

The Junior Duck Stamp Program is based on the Federal Migratory Bird Hunting and Conservation Stamp, commonly known as the "Duck Stamp." Federal Duck Stamps are pictorial revenue stamps and although called "stamp," they are not valid for postage. Created in 1934 as the Federal migratory waterfowl hunting license and as a way to purchase and conserve our Nation's wetlands, Federal Duck Stamps also serve as an entrance pass to national wildlife refuges that have an entrance fee. Since it started, the sales of Federal Duck Stamps have generated more than \$670 million, which has been used to help purchase or lease more than 5.2 million acres of waterfowl habitat in the U.S. These lands are managed by the refuges just like Shiawassee NWR. Proceeds from the Junior Duck Stamp support conservation education and provide awards and scholarships for the students, teachers and schools that participate in the program. You can purchase Federal Duck Stamps (\$15) and soon Junior Duck Stamps (\$5) at the refuge.

The Junior Duck Stamp Program uses art and science to teach students the value of wetlands. A curriculum guide is available online or from me for teachers to use. A new curriculum guide is now being developed which will include Federal Science benchmarks for each activity. This new guide should be available by 2007. Using scientific and wildlife observation skills, the program helps students communicate visually what they have learned by creating an entry to the Junior Duck Stamp art contest. A prime location to help students visualize and artistically represent waterfowl in its habitat is the Shiawassee NWR! Jaye Boswell, a teacher in

Sanibel, FL, stated, "As the Art Teacher, I loved being able to introduce the various aspects of the natural environment emphasizing the importance of saving wetlands, preserving natural vegetation, and maintaining safe habitats for our magnificent ducks, swans, and geese."

The Junior Duck Stamp art contest begins each spring when students submit their artwork to the refuge by March 15. Students at the state level are judged in four groups according to grade level: Group I: K-3, Group II: 4-6, Group III: 7-9, and Group IV: 10-12. Three first, second, and third place winners are selected for each group. In addition, 16 honorable mention winners are picked in each group. Judges select the "Best of Show" from the 12 first place winners, which is then submitted to the national Junior Duck Stamp Contest. The first place design from the national contest is used to create the Junior Duck Stamp for the following year.

All entries will receive certificates of participation and winners will receive special ribbons and hopefully, if I find enough partner organizations to help, prizes, too. All artwork will be returned to the students or schools. The Best of Show entry is included in a national traveling display. In addition, the top winning artwork in Michigan will travel around the state for up to one year following the contest.

To learn more about the Jr. Duck Stamp (JDS) Program, download curriculum or get the entry form and rules, visit the website: [www.fws.gov/duckstamps](http://www.fws.gov/duckstamps) and click on the JDS link. I also can mail the 2006 informational brochure to you – either call me at (989) 759-1669 or email me at [Becky\\_Goche@fws.gov](mailto:Becky_Goche@fws.gov).

## Quick Requirements for Design and Submission\*

\*This list is not complete, please see official rules for more information.

- Artwork must be 9" x 12", in horizontal format.
- Images must be a live portrayal of a Native North American duck, swan or goose (42 species are eligible).
- Entries should not be matted nor have a border.
- Entry may be multi-color, black-and-white, or a single color; rendered in ink, paint, pastel, crayon, or pencil.
- No lettering, words, signatures or initials may appear on the front of the design.
- Design entries must be contestant's original, hand-drawn creation and may not be traced or copied from published photographs or other artists' works.
- Deadline for submission is March 15, 2006.



## 2005 Refuge Amateur Photo Contest Winners Announced

By Becky Goche, Park Ranger

Seventeen photos by 10 people were entered into this year's Refuge Amateur Photo Contest sponsored by the refuge and the Friends of Shiawassee NWR. The contest ran from September 1, 2004 to August 31, 2005. During the Refuge Open House Weekend on September 10, over 100 visitors voted for their favorite photos in each category.

Winners in the "Wildlife and Plantlife Category" were: First place – Benjamin Martinez, Saginaw; Second place – Kim LeBlanc, St. Charles; and Third Place – Steve Gasser, Saginaw. Winners in the "Habitat Category" were: First place – Kim LeBlanc, St. Charles; Second place – Doug Thornhill, Saginaw; and Third place – Ronald Cauvin, Wayne. Winners in the "People Category" were: First place – Steve Gasser, Saginaw; and Second place – Kim LeBlanc,

St. Charles. Doug Thornhill won the "Refuge Manager's Choice" and Benjamin Martinez won the "Friends of Shiawassee NWR Choice." Winners were recognized and awarded their prizes at the *Nurturing Nature First Wednesday* program on October 5, 2005. Thank you to all the photographers who entered this year's contest: Ronald Cauvin, Steve Gasser, Leanne Goodrich, Jim Goodrich, Kim LeBlanc, Benjamin Martinez, David Peters, Doug Thornhill, Todd Ware and Tracy Ware. We hope that you will submit photos for next year's contest, too!



Cedar waxwing

## Friends' Member Spotlights: Chuck Hoover and Janet Martineau

By Charles Hoover, Friends' President and Janet Martineau, Activities Chair

### Chuck Hoover

For me, my second year as president is like returning to my roots. I was born in Manitowoc, WI (40 miles from Green Bay and loyal Packers fan!), but was raised in Saginaw. Developing a love for the outdoors, I took a job operating a D-8 Caterpillar bulldozer and helped build the Shiawassee River State Game Area next to our refuge. I worked my way through college in this way, but fell in love with history and Michigan archaeology. Graduating from Ferris State University as a technical engineer, I thought I would make my living in that field. However, my organizational skills took me as a professional with the Boy Scouts of America, on the staff of the Chamber of Commerce, and eventually into my love of history as I opened the Castle Museum of Saginaw County History and served as the Director for 25 years. Now retired, I have returned to the "Shiawassee Flats" and enjoy working with the our Friends group.

### Janet Martineau

I am an avid bird watcher, gardener, and love all animals, except mosquitoes! For nearly 40 years, I have worked as the arts/entertainment editor of The Saginaw News. In my free time, I serve on the Chippewa Nature Center board, participate in the Saginaw Valley Master Gardeners Association as an advanced master gardener and historian, write the

Saginaw Habitat for Humanity newsletter and perform with the Golden Guild troupe sponsored by the Midland Theatre Guild. As a member of the Friends' Board of Directors, I oversee the "Nurturing Nature First Wednesday Series," workshops, and am currently working on developing the mobile Trailhead Store.



Janet Martineau and Chuck Hoover serve on the Friends of Shiawassee NWR Board of Directors and are both active in the group's many activities. Photo by Becky Goche.



## Successes and Setbacks continued

(continued from page 1)

2005 was the completion of the Cass River Boat Launch rehabilitation project. Tractor Operator David Peters and Engineering Equipment Operator Butch Nowosatko worked tirelessly to stabilize the riverbank, overhaul the boat ramp, and renovate the parking lot from August through October. This project would not have been possible without the assistance of the Friends of SNWR and the Saginaw Bay Watershed Initiative Network (WIN). Special recognition also goes to David Peters for seeing the project through. Although it was a true team effort, David was at the point for the project's coordination and implementation on the ground.

Another big win for the refuge in 2005 occurred when Park Ranger Becky Goche stepped up to become Michigan's coordinator for the federal Junior Duck Stamp program and art contest. Becky's efforts will improve the state's participation in this important national program which involves youth and schools in wildlife conservation through the arts. Additionally, it is an opportunity to shine a light on Shiawassee NWR since all of the media releases and correspondence with schools and citizens throughout the state will carry our name. Moreover, we look forward to an event publicizing selection of the contest winners in 2006.

The refuge had several other successes in 2005. Refuge staff assisted the Alpena Fishery Resources Office with surveys of the Cass, Tittabawassee, Shiawassee, and Saginaw Rivers for spawning lake sturgeon. The refuge created a new online application for our deer hunt which makes it easier for hunters to apply while reducing the staff's administrative burden. In fact, the number of applications for this popular program increased from 4,000 to 4,700 this year. The refuge was able to replace its 1970 flat bed truck with a new 5-yard dump truck. We added 815 tons of gravel and stone mix to the access road which leads to our new Bremer pump and 1300 tons of stone mix to Ferguson Bayou Nature Trail. We continued to make strides in removing the invasive glossy buckthorn from refuge woodlands. Also, we began efforts to monitor and assess the refuge's Blanding's turtle population to facilitate conservation efforts for this declining species.

Unfortunately, 2005 also had its share of losses. The budget for the National Wildlife Refuge System has been basically flat since our 2003 Centennial. However, our costs continue to increase. The net result for FY2005 was a 12.5% decrease in Shiawassee NWR's budget for fixed costs such as utilities and salaries. Additionally, we suffered a 2% cut in our annual maintenance budget. Although all refuge staff picked up to do more with less, it is virtually impossible to lose such a large percentage of funds without affecting the overall quality of refuge programs and facilities.

The most dramatic effect of the decrease in our base funding

in FY2005 was our inability to replace our Biological Science Technician Rick McAvinchey when he departed the Fish and Wildlife Service in April. Consequently, we were unable to continue the forest inventory project that we initiated in 2004. This inventory is a critical first step to assess our forest resources so that we can manage them better for wildlife. The biotech vacancy also reduced our ability to monitor the 118 FmHA conservation easements the refuge is responsible to protect. In fact, the refuge is required to visit these easements annually. However, we monitored less than 20% in 2005. Thus, it will be even harder to enforce regulations on these easements in 2006. This vacancy was also a critical factor in our inability to partner with the Michigan DNR to band waterfowl at the refuge for the first time in decades. Similarly, it contributed to our inability to use prescribed fire to maintain and enhance refuge grasslands and wetlands.

Another important setback for the refuge was the continued lack of funding for land acquisition. The refuge was authorized in 1996 to add approximately 7,500 acres within an approved acquisition boundary. In the past year, the refuge was contacted by willing sellers of nine tracts totaling over 700 acres within this boundary. However, we currently have no funding to purchase any of these tracts and some tracts have already been sold. In fact, the refuge has lost out on well over a thousand acres in recent years.

Low water levels in the Great Lakes continued to impair our ability to provide the best habitat for wildlife in 2005. Adjusting water levels in our 17 wetland impoundments is one of our most important wildlife management tasks because it directly yields the best food and cover plants for migratory birds. Unfortunately, the drought that has affected our area since July has left most of our impoundments below targeted levels. In fact, many of our units are almost dry. Unluckily, this was a particularly good year for food plant production in these pools.

As we look ahead to 2006, I anticipate many successes. The refuge will benefit from a North American Wetlands Conservation Act grant administered by Ducks Unlimited. This grant will enable us to begin a 153-acre wetland and grassland restoration project on M-13. Further, we hope to develop this project into a quality wildlife observation opportunity for the public, perhaps with a parking area and observation platform. We also plan to work with the Friends of Shiawassee NWR, Saginaw Valley Audubon Society and other groups to expand birding opportunities at the refuge by increasing the number of auto tours and walks. Simultaneously, I expect budget challenges to continue. Hurricane Katrina introduced heightened uncertainty over flat or declining appropriations while the recent dramatic increase in fuel prices will surely increase our costs. Still, I am hopeful that with the help of its partners, the refuge will continue to make gains in 2006.



# About That Blue...Whom Will You Tell, Whom? - Vladimir Nabokov

By David Peters, Tractor Operator

Aside from the sky, blue is not a predominant color in the natural world. There are no blue mammals I can think of, and though there are blue birds and blue flowers, they are a minority, as are blue reptiles, amphibians, and fish. The same holds true for insects, but as one would expect from this diverse group of animals, when an insect is the color blue, it is blue at its bluest and most vivid. At Shiawassee National Wildlife Refuge, dragonflies and damselflies are typically the most obvious insects in possession of blue. But this past year, it's was an exquisite little blue butterfly - *Everes comyntas*, the eastern tailed-blue, that was most notable, flying in the moist meadows northwest of the observation tower in unusually large numbers.

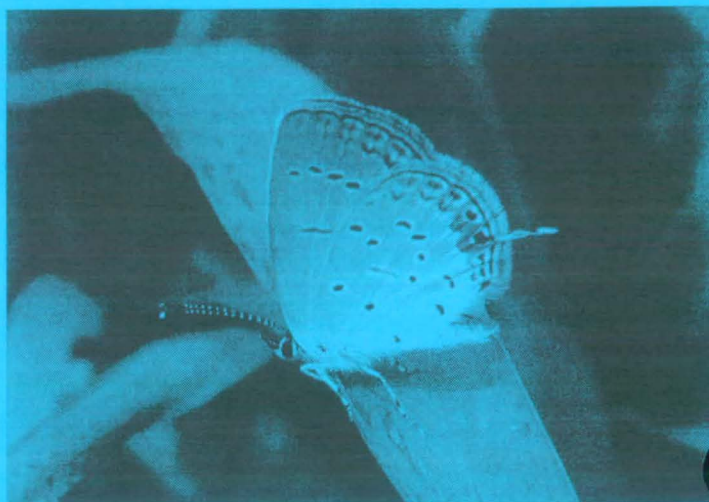
The eastern tailed-blue are part of a group of butterflies known as blues, that are in turn part of a family of butterflies known as Lycaenids, which also includes the harvesters, hairstreaks, elfins, and coppers. Like most of the butterflies in this family, it is by most standards a small butterfly, its open wingspan only about 25 mm. With wings held closed, it could hide behind a dime. It occurs in open, sunny fields throughout the eastern half of the United States and the adjoining portions of southern Canada.

As its common name suggests, the upper side of the male's wings are blue, a dazzling cerulean blue. Spring flying females are also this color, while summer flying females are dark brown on top. The underside of both males and females is gray with black and white markings, highlighted by 1-3 small orange spots on the lower outer margin of the hind wing. These are directly adjacent to the diminutive "tail" that extends 1-1.5mm from the margin. When the butterfly is at rest with wings closed, the tails and bright spots are thought to give a false impression of being the head, (spots as the eyes and tails as the antennae), thus tricking a predator into attacking the wrong end of the insect, allowing the butterfly to escape with it's life at the cost of only a little wing damage. Eastern tailed-blues and other Lycaenids elaborate on this ruse even more by "rubbing" their hind wings together, moving the left and right slowly forward and back in opposite directions, in a further attempt to draw predator's attention to this area.

The eggs of the eastern-tailed blue are light green with white ridges, laid singly on plants of the legume (pea) family. The caterpillars are typically dark green with a brown stripe. They feed on the flowers of their host plants, and spend the winter hibernating at this stage of life, often within the seed pods of these plants. The species they favor, such as clover and trefoil, are all rather short, and indeed this is a butterfly that seldom ventures above the meadow vegetation. The adults sip nectar from flowers blooming within a few inches

of the ground, sip moisture from wet soil, and the males locate mates by flying low, patrolling in the vicinity of their preferred food plants.

Due to their ground hugging lifestyle and small size, and despite their bright coloring, the eastern-tailed blue, is rather inconspicuous and can easily be overlooked. Look for them in late summer near the observation tower at the far point of the Ferguson Bayou hiking trail, and while you're at it, take time to observe more of the multitude of splendid little insects that also dwell within the protective boundaries of the Refuge, in the world below your knees.



A female eastern tailed-blue—what male could resist her striped antennae? Photo by David Peters.

## Storm Recovery Kit from Arbor Day

A "Storm Recovery Kit" is available for free downloading at [arborday.org/storm](http://arborday.org/storm). The kit contains information about how individual homeowners or entire communities can save damaged trees after storms. There are illustrations that detail how to inspect trees and assess damage, guidelines to help homeowners find qualified tree specialists, a guide on how to perform "tree first aid," and more.

The kit comes with high resolution illustrations suitable for print media. The kit is recommended for news reporters, community and civic groups, tree boards, neighborhood associations, and any group responsible for the care of trees.



# FRIENDS OF SHIAWASSEE NWR MEMBERSHIP PAGE

## Friends of Shiawassee NWR Membership

☐ Renewal      ☐ New membership

☐ General Membership

\$10 – Individual (1) vote.

\$25 – Family (2) votes. (Member, spouse and children under age 18)

- Each membership receives quarterly newsletter - "Refuge Reporter."
- Each membership includes voting rights and opportunity to hold office.

☐ Supporting Levels (includes 1 year individual membership): "Goose" \$50, "Blue Heron" \$75, "Owl" \$100, "Bald Eagle" \$125 & over

☐ No membership at this time, but please accept my contribution.

\*Membership is for calendar year. Dues paid after October 1 include remainder of current year plus the following year.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Make checks payable to "Friends of Shiawassee NWR", PO Box 20129, Saginaw, MI, 48602.

Contributions to the Friends of Shiawassee NWR, a 501 (c) (3) non-profit organization, are tax deductible according to IRS guidelines.

### Friends' Volunteer Opportunities

### Do you have any of these skills?

- \_\_\_\_\_ Staffing Trailhead Store
- \_\_\_\_\_ Leading walking tours
- \_\_\_\_\_ Helping with workshops
- \_\_\_\_\_ Assisting with refuge auto tours
- \_\_\_\_\_ Doing outreach events, i.e. fairs
- \_\_\_\_\_ Assisting with First Wednesday
- \_\_\_\_\_ Writing newsletter articles
- \_\_\_\_\_ Writing/developing grants
- \_\_\_\_\_ Serving as Committee member
- \_\_\_\_\_ Leading children's activities
- \_\_\_\_\_ Developing trails

- \_\_\_\_\_ Computer skills
- \_\_\_\_\_ Photography
- \_\_\_\_\_ Carpentry skills
- \_\_\_\_\_ Business organizational skills
- \_\_\_\_\_ Research
- \_\_\_\_\_ Artistic skills
- \_\_\_\_\_ Fund raising
- \_\_\_\_\_ Grant writing
- \_\_\_\_\_ Researching/Ordering merchandise
- \_\_\_\_\_ Other – please list:

Board meetings held on the second Wednesday of each month at 7:00 p.m. at the Green Point Environmental Learning Center, 3010 Maple Street in Saginaw. General meetings with special programs are held at various times throughout the year. Friends Board of Directors Officers are:

President – Charles Hoover

Vice President 1 – Dick Von Berg

Vice President 2 – Vacant

Treasurer – Richard Hodge

Secretary – Barb Werle



# Friends Group Sets Activities for Upcoming Year—Your Help is Needed

By Charles Hoover, Friends' President

The Friends of Shiawassee NWR has an exciting and informative series of activities going on for the refuge this year. The projects are supportive and very helpful to our refuge. Members of our Friends group will be the key volunteers, but everyone is welcome to join with us to get the job done. Listed below are the projects we are involved in now. If you can help, please let us know. Contact me at (989) 790-3836 or Susan Scott at (989) 791-9270 or send an email to Shiawassee@fws.org.

## Mobile Trailhead Store

We have obtained a RV trailer to set up as a traveling store. We will take it to refuge events to sell refreshments, educational materials and other nature-related items. We need help to staff the store and help in merchandising and marketing.

## Refuge Tours

We will have a series of walking tours and workshops at our refuge and will support the auto tour during the Refuge Open House Weekend in the fall. We also are setting up a bus or tram tour schedule to take visitors into the refuge. We need tour coordinators, tour guides (we will train you), and people for marketing and safety.

## Outreach Events

The Friends obtain, set up and staff information booths for our refuge at several expositions, fairs and festivals. It is a time for us to promote our refuge to our communities. We need help designing good booths and will need staffers at the booths to give out information.

## Nurturing Nature First Wednesday Series

We will continue to host these programs at Green Point on the first Wednesday of the month. We need program coordinators, marketing and welcome volunteers.

## Projects

We have three current projects where we could use your help:

- Developing, publishing and distributing this newsletter
- Grant writing and fundraising to support projects, the refuge and the Friends group
- Continuation of the development of the educational hiking trail at the Cass River Unit in Bridgeport

## Refuge Trail Closures for Deer Hunting

### Woodland Trail at Stroebe Road

December 9 – 14, 2005

### Ferguson Bayou Trail at Curtis Road

December 1 – 5, 2005

December 9 – 14, 2005

December 19 – 23, 2005

December 27 – 31, 2005

### Cass River Unit in Bridgeport Township

December 1 – 5, 2005

December 19 – 23, 2005

December 27 – 31, 2005

Green Point's trails remain open everyday, during daylight hours. Bicycles and pets are not allowed.

## REFUGE REPORTER

Published quarterly by Shiawassee National Wildlife Refuge with funding from the Friends of Shiawassee NWR.

Volume 9, Issue 1

Editor: Becky Goche

### Shiawassee National Wildlife Refuge

Established in October, 1953 and administered by the U.S. Fish and Wildlife Service, Shiawassee NWR provides resting, nesting and feeding habitat for waterfowl and other birds. Its mission is to preserve or manage an undeveloped expanse of floodplain forest, marshes, rivers, and associated habitat within an agricultural and urban landscape through habitat management, encouraging public stewardship, educational programs, and private lands activities.

Refuge Manager—Steve Kahl

Assistant Refuge Manager—Ed DeVries

Biologist—Jim Dastyck

Private Lands Biologist—Michelle Vander Haar

Biological Science Technician—Vacant

Park Ranger/Volunteer Coordinator—Becky Goche

Administrative Technician—Mary Ann Gillette

Maintenance Staff—Marion "Butch" Nowosatko and David Peters

Law Enforcement Officer—Jonathan Priday and Kevin Shinn

### Friends of Shiawassee National Wildlife Refuge

A nonprofit 501 (c)(3) organization established in 1999 to promote the preservation of the natural and historical resources of the Refuge, foster its use and enjoyment by the public consistent with the protection and preservation of its environment, and engage in such educational, scientific and civic activities as will assist the management of the Refuge in carrying out its mandates.

Refuge Website: <http://www.fws.gov/midwest/shiawassee>



Shiawassee NWR  
6975 Mower Rd.  
Saginaw, MI 48601  
Phone: 989-777-5930  
Fax: 989-777-9200  
Hours: M - F, 7:30 a.m. to 4:00 p.m.

**We're on the web!**

[Http://www.fws.gov/midwest/shiawassee](http://www.fws.gov/midwest/shiawassee)



*New Friends Group Projects and Junior Duck Stamp Program Information Inside*



## Upcoming Winter Programs

### Winter Night Hike

**January 27, 2006, 6:00 p.m.**

**Meet at parking lot at west end of Curtis Road**

Volunteer Steve Gasser will lead cold weather lovers on a 5-mile hike on refuge trails. This hike is not recommended for children or the faint of heart. Dress for the weather, bring a flashlight, and be prepared to walk on snow packed/icy roads.

There are no "Nurturing Nature First Wednesday Series" programs in December or January. March program—TBA

### The Lake Sturgeon: Past & Present

**February 1, 2006, 7:00 p.m.**

#### Green Point ELC

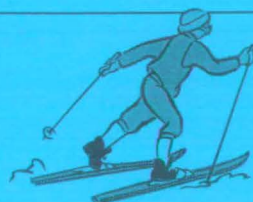
Jim Boase, Fishery Biologist at the FWS's Alpena Fishery Resource Office will discuss his work with sturgeon in the Great Lakes, including research that was done in the refuge and on surrounding rivers. Admission is \$2 per person, \$5 per family and FREE for Friends members.

### Cross-country Ski Tour

**February 4, 2006, 10:00 a.m.**

#### Green Point ELC

See wildlife from your skis! Park Ranger Becky Goche will take you on a guided tour of Green Point's winding, flat trails. You must provide your own equipment. Reservations are required because space is limited. Call (989) 759-1669 for your spot. If snow conditions are poor, it will be a walking tour.



For more information call (989) 759-1669



# Refuge Reporter

Volume 9, Issue 2

Spring 2006

## Junior Duck Stamp Design Contest Deadline is March 15

By Becky Goche, Park Ranger



Entries for the 2005-2006 Michigan Federal Junior Duck Stamp Design Contest are due by March 15, 2006. All entries must be sent to Shiawassee National Wildlife Refuge, 6975 Mower Road, Saginaw, MI 48602. The Junior Duck Stamp Program uses art and science to teach students the value of wetlands and the waterfowl that use them. This program is available to school children in grades K-12 and to home schoolers. It is modeled after the Federal Duck Stamp Program and gives students an opportunity to create a design for a stamp. The artwork must be of a North American duck, goose or swan.

Last year, over 300 Michigan students participated in the program. The Junior Duck

Stamp Program is run annually in each state – approximately 30,000 students participate throughout the country. At the state level, students are judged in four groups according to grade level. Each participant receives a certificate. In addition, prizes will be awarded to first, second, and third place and honorable mention winners in each group. Judges select the "Best of Show" from the 12 first place winners, which is then submitted to the national Junior Duck Stamp Competition. The first place winner from the national contest is used to create the Junior Duck Stamp for the following year.

To learn more about the Junior Duck Stamp Program, download curriculum, or get the entry form and rules, visit the refuge's website at <http://www.fws.gov/midwest/shiawassee> and click the "Jr. Duck Stamp" button. You can also contact me at (989) 759-1669.

## Live Theater Comes to Green Point on March 8

By Janet Martineau, Friends Board Member

Step back in time on Wednesday, March 8, when a Midland nature historian/actor recreates the startling images of the Saginaw Valley in the fall of 1837. "An Evening with Hela Hubbard," finds Chippewa Nature Center historian Kyle Bagnall portraying the real life, 23-year-old surveyor who kept a

descriptive diary detailing his month-long wilderness journey, on foot and by canoe, from Detroit to Midland and back, with a memorable stop in Saginaw and other mid-Michigan sites. Bagnall's performance is fully costumed and travels with a campfire set. It is part of the Nurturing Nature Series and begins at 7:00 p.m. at Green Point. The Castle Museum of Saginaw County History is co-sponsoring the program.

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### Special Points:

- Be sure to check out the 2006 "Nurturing Nature Wednesday Series" flyer inside—offering a glimpse of a pioneer trip into the mid-Michigan wilderness, bird calling, a look at Great Lakes creatures and nature poetry
- Friends group is planning photography workshops, birding tours, stargazing, wildflower hikes, soap making and more. If you have any suggestions, contact Janet Martineau at [jmartineau@thesaginawnews.com](mailto:jmartineau@thesaginawnews.com)



# Replacing Corn Borer Moths with Pistachio Emerald Moths

By David Peters, Tractor Operator

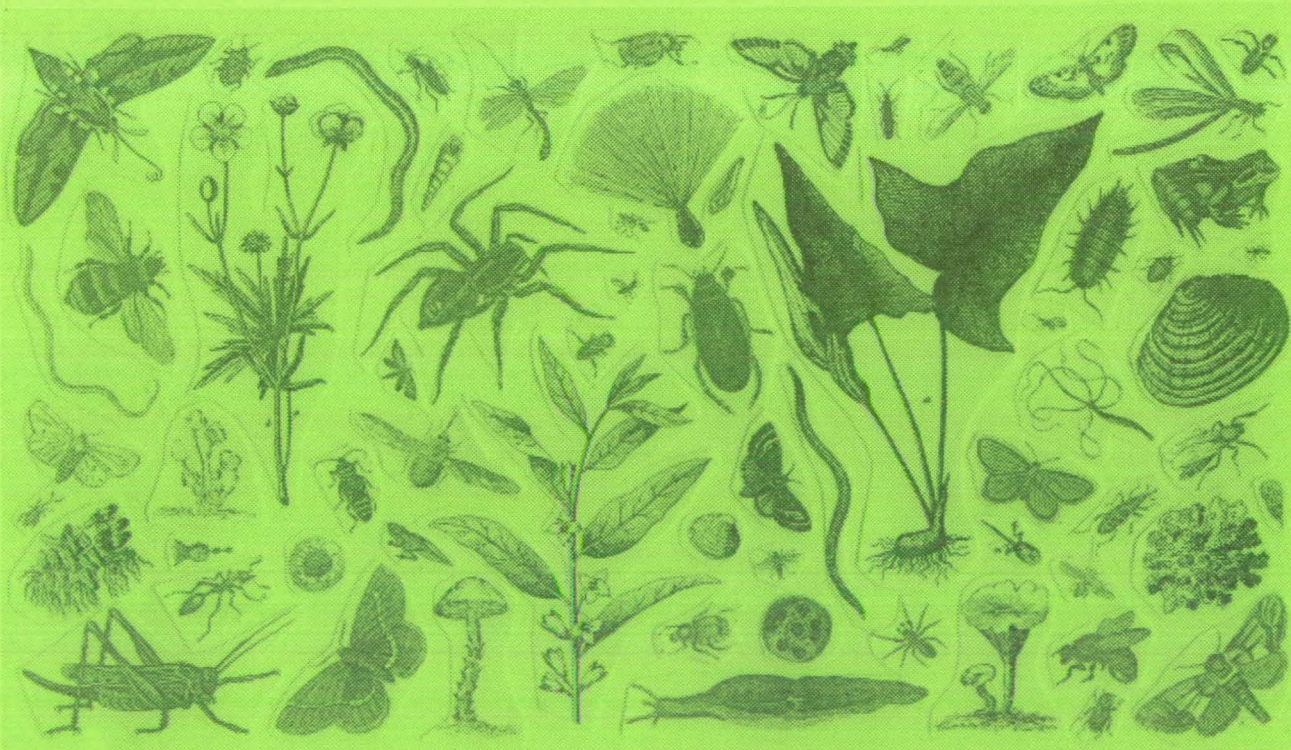
One of the habitat goals of Shiawassee NWR's Comprehensive Conservation Plan (CCP), which sets guidelines for refuge management through the year 2016, is the reduction of cropland acreage. In the years ahead, existing refuge cropland and any cropland that is acquired will be converted to natural wetland, grassland, and forests; with a long term goal of eliminating cropland from the refuge land use pattern. However, the section of the CCP that describes this objective goes further to rationalize refuge croplands than it does to explain biological imperative for reducing them. The reader is provided only minimal insight as to why croplands are not in the best interest of conservation at Shiawassee NWR.

Shiawassee NWR was authorized under the Migratory Bird Conservation Act, and meeting the needs of migratory birds remains the top priority of management activities. In the early days of waterfowl management at the refuge, croplands were chosen as a method to provide food resources for migrating waterfowl, Canada geese in particular. But unlike humans, waterfowl have not become dependent upon agriculture for their food. Like their ancestors that filled the skies in pre-settlement America, today's ducks, geese, and swans

prosper on a diet of the natural foods found in the marshes, ponds, and shallowly flooded fields they flock to. Lack of these seasonal and permanent wetland habitats has a far greater negative impact on waterfowl populations than does a shortage of short-term supplemental food resources.

While waterfowl comprise the largest group of the birds at the refuge in terms of total numbers, they constitute only around 15% of the 200 or so migratory bird species that visit the refuge annually. Of the wading birds, raptors, shorebirds, songbirds and others constitute the remaining 85%, all thrive either exclusively, or at least far better, in natural habitats. Though some incidental use of refuge cropland by a few of these birds does occur, the same could be said of nearly any land use, including industrial. With only limited acreage to achieve it's goals, the refuge needs to maximize its potential for effectively contributing to the conservation of the variety of migratory bird species that breed and migrate through its boundaries each year.

Meeting the needs of birdlife is only the beginning of the conservation gains that will result from reducing refuge cropland. Natural habitats are home to a diversity of flora and fauna – grasses and flowering plants, bees and katydids, snails and frogs, mosses and algae,



A tiny sample of refuge inhabitants. Collage by David Peters.



## 2006 Nurturing Nature Wednesday Series

- All programs begin at 7:00 p.m. at the Green Point Environmental Learning Center, 3010 Maple Street in Saginaw.
- Admission: \$2 for individuals or \$5 for a family and FREE for Friends members.
- Sponsored by Shiawassee National Wildlife Refuge (NWR) and Friends of the Shiawassee NWR

### **The Lake Sturgeon: Past and Present** February 1

Jim Boase, a fishery biologist at the U.S. Fish and Wildlife Service resource office in Alpena, will discuss his work last summer with sturgeon in the Great Lakes, including research done on the Shiawassee National Wildlife Refuge and its surrounding rivers.

### **An Evening with Bela Hubbard** March 8

In September 1837, 23-year-old surveyor Bela Hubbard kept a diary detailing his month-long wilderness journey, on foot and by canoe, from Detroit to Midland and back — with a memorable stop in Saginaw and other mid-Michigan sites. Kyle Bagnall, Chippewa Nature Center's manager of history programs, assumes the guise of Hubbard in dress, speech and campfire set to relive that journey. (Program is co-sponsored with the Castle Museum of Saginaw County History and will also be presented at noon, March 7, at the Museum, 500 Federal in Saginaw.)

### **Emerald Ash Borer: Introduction and History** April 5

Dan Keane, the Emerald Ash Borer education coordinator for the Saginaw branch of the Michigan State University Extension Office, will examine the imported insect that is threatening the state's ash trees and what can be done to keep trees healthy as well as provide the most current information about the infestation.

### **Introduction to Wildlife Calls and Calling** May 3

Whether you are hunting, taking photographs, learning behavior or just want to get closer to wildlife for viewing, knowing the calls of animals and how to call them is helpful and fun. Chippewa Nature Center naturalist Tom Lenon offers helpful hints on how to call animals into closer range and become aware of how each species communicates.

### **Underwater Creatures in the Great Lakes** June 7

Videographer and diver Ric Mixer has been exploring beneath the surface of the Great Lakes for more than 15 years. Come see images of some of the strange creatures he encounters — from the giant sturgeon to the eel-like burbot.

### **Archaeological Findings on the Shiawassee National Wildlife Refuge** July 12

Jeffrey Sommer is the curator of archeology at the Castle Museum of Saginaw County History and an active "digger" on the rich refuge. He'll show slides of his expeditions and some of the artifacts found.

### **Fungi and More** August 2

Chippewa Nature Center senior naturalist Janea Little has attended two courses on fungi at the University of Michigan's Biological Station. She will share pictures of the many mushrooms she encountered

there, as well as other scenes from the station and fungi from the Upper Peninsula and mid-Michigan.

### **Michigan's Junior Duck Stamp Program** September 6

Michigan's Federal Junior Duck Stamp contest came to Saginaw to roost this year as Shiawassee National Wildlife Refuge Park Ranger Becky Goche was named its coordinator. Her presentation will offer an overview of the program, images of this year's winners and hopefully comments from some of the mid-Michigan entrants.

### **Deer Management at the Shiawassee National Wildlife Refuge** October 4

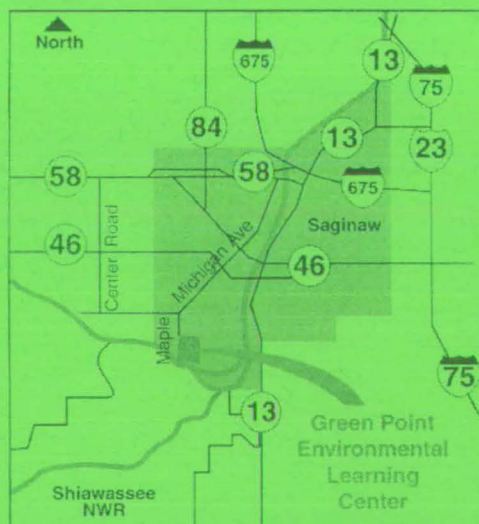
Jim Dastyck, biologist at the Shiawassee National Wildlife Refuge, will discuss how the refuge manages its deer herd and review the refuge's hunting policies.

### **A Winter Resort for the Birds** November 1

Chippewa Nature Center senior naturalist Janea Little will detail the variety of food, sleeping quarters, windbreaks and secured acres that will attract a diversity of wintering birds to your back yard.

### **Poems and Pictures from the Natural World** December 6

Members of the River Junction Poets and a nature photographer will explore the natural world in words and imagery. Free cocoa and cookies.



For more information call Green Point Environmental Learning Center, (989) 759-1669 or visit the refuge's website at [www.fws.gov/midwest/shiawassee](http://www.fws.gov/midwest/shiawassee)





## Replacing Corn Borer Moths... Continued

the list goes on and on. Together they form biological communities that function through an untold number of complex interactions. Comparatively, life in an intensively cropped field is impoverished. Typically consisting of a large solid block of one genetically identical plants and a few non-native invasive weeds that have escaped herbicide applications, croplands lack floral diversity and hence a drastically reduced number and variety of other creatures as well. An opportunity to conserve not only birds, but an abundance of other wonderful and equally significant plants and animals is overlooked when refuge land is used to grow crops.

Conserving the soil itself provides significant biological incentive for eliminating agriculture on the refuge. The soils of the refuge naturally sustain plentiful populations of creatures such as ground beetles, millipedes, ants, worms, nematodes. They live off the ever available supply of dead plant and animal materials, processing it into a layer of rich organic material. Also present within the soil are mycorrhizal fungus. They thrive on compounds exuded by plant roots, and in doing so, transfer, or "fix" the carbon energy produced by the plants back to the soil. In return, these fungi assist the plant's roots in obtaining nutrients and water. 90% of plant species benefit from these fungi.

Only a small portion of this soil life exists in refuge croplands. The layer of nutrient rich organic material that once enriched these soils is gone. Other than the crop itself, the ground is more or less bare year round, with only a minimal of debris. Without a sufficient layer of decomposing material for soil dwelling invertebrates to live in and feed on, they perish. More changes take place down in the soil. Corn and wheat crops have been bred to secure most of their carbon in the harvested grain, rather than their roots where Mycorrhizal fungus can absorb it and return this important energy source to the soil. As a result, carbon levels and mycorrhizal fungus populations decline, and are replaced by unnaturally high levels of nitrogen and bacteria.

On occasion, the public and media incorrectly refer to Shiawassee NWR as the "game reserve". If this was really the case, and simply raising an abundance of game was the refuge's goal, then row crops might very well be a wise use of refuge land. But the mission of the U.S. Fish & Wildlife Service is to conserve and enhance fish and wildlife and their habitats for the benefit of the American people. Managing natural habitats and pre-

serving the rich diversity of life that they support; in the skies and the waters, on the land and in the land; is of the greatest benefit to all citizens. Replacing refuge croplands with wet meadows, cattail marshes, brushy fields, and hardwood forests will allow Shiawassee NWR to advance further towards achieving its habitat objectives, and provide the public an even more pleasant place to experience it.

### Don't miss it—A Spring Night Hike!

Meet Volunteer Steve Gasser at the Ferguson Bayou Trail parking lot at west end of Curtis Road on April 28 at 7:00 p.m. He will lead the group on a 5-mile hike on refuge trails. Dress for the weather and bring a flashlight.

#### REFUGE REPORTER

Published quarterly by Shiawassee National Wildlife Refuge with funding from the Friends of Shiawassee NWR.

Volume 9, Issue 2

Editor: Becky Goche

#### Shiawassee National Wildlife Refuge

Established in October, 1953 and administered by the U.S. Fish and Wildlife Service, Shiawassee NWR provides resting, nesting and feeding habitat for waterfowl and other birds. Its mission is to preserve or manage an undeveloped expanse of floodplain forest, marshes, rivers, and associated habitat within an agricultural and urban landscape through habitat management, encouraging public stewardship, educational programs, and private lands activities.

Refuge Manager—Steve Kahl

Assistant Refuge Manager—Ed DeVries

Biologist—Jim Dastyck

Private Lands Biologist—Michelle Vander Haar

Biological Science Technician—Vacant

Park Ranger/Volunteer Coordinator—Becky Goche

Administrative Technician—Mary Ann Gillette

Maintenance Staff—Marion "Butch" Nowosatko and David Peters

Law Enforcement Officer—Jonathan Priday and Kevin Shinn

#### Friends of Shiawassee National Wildlife Refuge

A nonprofit 501 (c)(3) organization established in 1999 to promote the preservation of the natural and historical resources of the Refuge, foster its use and enjoyment by the public consistent with the protection and preservation of its environment, and engage in such educational, scientific and civic activities as will assist the management of the Refuge in carrying out its mandates.

Refuge Website: <http://www.fws.gov/midwest/shiawassee>



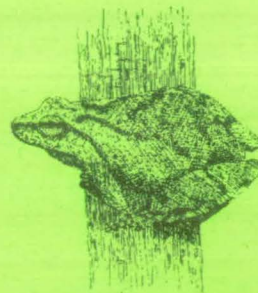
Shiawassee NWR  
6975 Mower Rd.  
Saginaw, MI 48601  
Phone: 989-777-5930  
Fax: 989-777-9200  
Hours: M - F, 7:30 a.m. to 4:00 p.m.

**We're on the web!**

[Http://www.fws.gov/midwest/shiawassee](http://www.fws.gov/midwest/shiawassee)



*Live Theater is Coming to the Green Point in March*



## Schedule a Spring Field Trip to Green Point Today

*By Becky Goche, Park Ranger*

Spring is just around the corner and that's a perfect time to bring your students to Green Point for a field trip! Green Point offers many different programs for you and your students to come and explore the outdoors. We have programs for all ages—you can pick a program appropriate for your class or we can suggest one based upon the grade level you teach.

We also offer programs for in your classroom—we come to you! How cool would it be for a real, live Park Ranger to visit your classroom? We always bring lots of interesting stuff for your students to see and touch.

Green Point has many educational trunks covering a variety of natural resources-related topics that you can

borrow for a two-week period. Each trunk contains a variety of items to enhance your curriculum including books, videos, posters, puppets, skulls, and more. All you need to do is contact Green Point to pick one up.

The refuge's environmental education programs are FREE! You can view a listing of these programs on our website (<http://www.fws.gov/midwest/shiawassee>) or you can call Green Point at (989) 759-1669 to request a copy be sent to you in the mail.





# Refuge Reporter

Volume 9, Issue 3

Summer 2006

## Michigan's 2006 Junior Duck Stamp Winners

By Becky Goche, State Junior Duck Stamp Coordinator

Samuel Dantuma's acrylic "Northern Shoveler by the Lake," was awarded Michigan's Best of Show in the Junior Duck Stamp contest held on March 30, 2006, at the Green Point Environmental Learning Center in Saginaw. Dantuma, son of Daniel and Jennifer Dantuma of Pinconning, is a junior at Standish-Sterling Central High School in Standish. Dantuma has been drawing since the second grade and won his first national art competition sponsored by the Winter Olympic Committee when he was in the seventh grade. His high school art teacher Ann Werth said, "He's a very creative young man and I can see him doing great things in the future." Dantuma's artwork garnered a "Top Ten" finish in the national competition

held in Washington, D.C. on April 20. Rebekah Nastav of Amoret, Missouri, was this year's national first place winner. Her artwork of a Redhead duck will become the 2006-2007 Federal Junior Duck Stamp to be released on June 1, 2006, at a special ceremony in Washington, D.C.

More than 34,000 students nationwide competed in this year's contest. In Michigan, 378 students in grades K-12 entered. Entries came from all parts of the state and included students from public schools, private schools, Scout Troops, and home schools. Russ Terry, regional biologist for Ducks Unlimited, and one of the five judges who selected winning artwork said, "Ducks Unlimited is proud to be a partner in this year's

(Continued on page 2)



*"Northern Shoveler by the Lake" by Samuel Dantuma, Michigan's 2006 Best of Show Junior Duck Stamp winner and Top Ten winner in the national competition*

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Friends Group Preparing to Go on the Road	5

### Special Points:

- There will be no auto tour during the Open House Weekend on September 9 due to damaged roads caused by flooding in March. The refuge will remain open for hiking, bicycling and deer scouting during daylight hours only throughout the weekend.
- Deer applications are due August 1, 2006. Visit the refuge website for more information and to learn how to apply online.



## Junior Duck Stamp Winners continued

Junior Duck Stamp Contest. It is so important to foster an appreciation for habitat conservation in our youth, and the Junior Duck Stamp Program is a great way to do it. Plus, the proceeds from the sale of the stamp support conservation education."

Twenty-five winners were selected in each of the four age groups; first, second, third and honorable mention (HM). All first through third place winners, the Best of Show winner, and 12 teachers were honored at an awards ceremony on May 6, 2006, held at Green Point.

Group I (Grades K-3) winners: Artemis Eyster, Chelsea – 1<sup>st</sup>, Madisyn Halligan, Rockford – 1<sup>st</sup>, Madison Helsel, Clio – 1<sup>st</sup>, Lacey Storms, Birch Run – 2<sup>nd</sup>, Amariah Wright, Birch Run – 2<sup>nd</sup>, Kyle White, Horton – 2<sup>nd</sup>, Jenna Butzin, Saginaw – 3<sup>rd</sup>, Evan Reiersen, Rockford – 3<sup>rd</sup>, Jeff Ayling, Birch Run – 3<sup>rd</sup>, Kimberly Kenyon, Bangor – HM, Emily Malone, Rockford – HM, Joseph Jarbou, Birch Run – HM, Cheyenne Enderle, Birch Run – HM, Bryan Hood, Grand Rapids – HM, Jared Eichorn, Sturgis – HM, Alexandra Mauger, Hudsonville – HM, Morgan Ford, Saginaw – HM, Bailey Fairchild, Rockford – HM, Sydney Macomber, Scotts – HM, John Worm, Grand Rapids – HM, Jacob Cornett, Colon – HM, Jackie Friel, Mendon – HM, Payton Jakiemiec, Rockford – HM, Samantha Cuneo, Rockford – HM, and Maddie Russo, Rockford – HM.

Group II (Grades 4-6) winners: Laura Meekhof, Grand Rapids – 1<sup>st</sup>, Paul Lou, Plymouth – 1<sup>st</sup>,

Rachel Biafore, Ada – 1<sup>st</sup>, Leoni Schmidt, Grand Rapids – 2<sup>nd</sup>, Deanna Scheid, Grand Rapids – 2<sup>nd</sup>, Alexandra Harris, Grand Rapids – 2<sup>nd</sup>, Brooke Bearden, Bloomfield Hills – 3<sup>rd</sup>, Celia Hart, Ada – 3<sup>rd</sup>, Evan Thomas, Grand Rapids – 3<sup>rd</sup>, Mercedes Gonzales, Ada – HM, Maddie LeVasseur, Grand Rapids – HM, Elly Vredevoogd, Ada – HM, Claudia Aleman, Detroit – HM, Jake Vroon, Grand Rapids – HM, Craig Lou, Plymouth – HM, Anna Mondrusov, Farmington Hills – HM, David Solon, Grand Rapids – HM, Ellie Miller, Bloomfield – HM, Heidi Schwartz, Sturgis – HM, Kaisa Erickson, Carney – HM, Jillian Hamersma, Ada – HM, Erik Johnson, Manistee – HM, Brennon Dick, Kentwood – HM, Ariana Rostamzadeh, Farmington – HM, and Amelia Richards, Ada – HM.

Group III (Grades 7-9) winners: Danielle Shen, Ann Arbor – 1<sup>st</sup>, Olga Pablo, Grand Rapids – 1<sup>st</sup>, Carly

Miller, Colon – 1<sup>st</sup>, Esther King, Sturgis – 2<sup>nd</sup>, Rachel Russell, Metamora – 2<sup>nd</sup>, Harold Eyster, Chelsea – 2<sup>nd</sup>, Rachel Kurecka, Saginaw – 3<sup>rd</sup>, Michael Tighe, Saginaw – 3<sup>rd</sup>, Emily Kangas, Ishpeming – 3<sup>rd</sup>, Adam Petersen, Beverly Hills – HM, Michael Frazier, Farmington Hills – HM, Nebiat Mengsteab, Grand Rapids – HM, Katie Klein, Walker – HM, Jennifer Kretz, Saginaw – HM, Katie Raber, Saginaw – HM, Caleb Miller, Sturgis – HM, Billy Giorgio, Redford – HM, Samantha Kohl, Farmington Hills – HM, Travis Vander Haar, Saginaw – HM, Rachel Nizinski, Saginaw – HM, Anne Gembrowski, Freeland – HM, Wesley Niemisto, Farmington Hills – HM, Jordan Shelton, Portage – HM, Aaron Handley, Saginaw – HM, and David Schmidt, Ishpeming – HM.

Group IV (Grades 10-12) winners: Samuel Dantuma, Pinconning – 1<sup>st</sup> and Best of Show, Zachary Miller, Centreville – 1<sup>st</sup>, Allise Noble, Midland – 1<sup>st</sup>, Maria Minard, Ishpeming – 2<sup>nd</sup>, Stefanie Klohe, Ishpeming – 2<sup>nd</sup>, Katherine Lou, Plymouth – 2<sup>nd</sup>, Kateland Harris, Big Rapids – 3<sup>rd</sup>, Ashley Nehls, Harrison Township – 3<sup>rd</sup>, Alec Zielinski, Hartland – 3<sup>rd</sup>, Lacey Peacock, Almont – HM, Leeanna Peter, Spring Lake – HM, Tennyson DeWitt, Rockford – HM, Derek Tormanen, Linden – HM, Nika George, Pinckney – HM, Nicole Clement, Watervliet – HM, Justin Perkins, Detroit – HM, Rebekah Wilson, Midland – HM, Jessica Mann, Midland – HM, Ian MacInnes, Midland – HM, Theodore Eyster, Chelsea – HM, Jillian Granz, Canton – HM, Marlena Freeman, Troy – HM, Jacqueline Kenyon, Bangor – HM, Kelli Waun, Bad Axe – HM, and Vincent Stefano, Midland – HM.

The Federal Junior Duck Stamp Program is sponsored by the U.S. Fish and Wildlife Service. In Michigan, the program is coordinated by the Shiawassee National Wildlife Refuge. This year's program partners are the Friends of Shiawassee National Wildlife Refuge, Ducks Unlimited, Congressman Dale Kildee's Saginaw Office, Michigan Department of Natural Resources Wildlife Division, Bay City State Recreation Area, U.S. Postal Service, U.S. Fish and Wildlife Service Migratory Bird Office, and U.S. Fish and Wildlife Service Challenge Cost Share.

To view first place winners' artwork visit the refuge's website at <http://www.fws.gov/midwest/shiawassee> and click the "Jr. Duck Stamp" button.



## Free Fishing Contest and a Discovery Camp Just for Kids

*By Becky Goche, Park Ranger*

### Take Your Child Fishing on June 10

Take your child fishing during Michigan's Free Fishing Weekend on June 10 and 11, 2006. During this weekend only, you do not need a license to fish. Each year the refuge and its partners sponsor a Kids Free Fishing Contest to coincide with this weekend. This year's contest will be held on Saturday, June 10, 2006, at Ojibway Island in Saginaw. Registration begins at 7:30 a.m. and the contest runs from 8:00 a.m. to 10:00 a.m. Children between the ages of 3 and 15 have a chance to win one of the over 90 prizes, including bicycles, donated by Meijer Stores. Prizes will be awarded around 10:45 a.m. following a program by the Saginaw Children's Zoo. Children must provide their own fishing poles, tackle and bait. A limited supply of free bait will be available.

The Sons of Italy will serve refreshments including free goodies such as popcorn, snow cones, cookies and McDonald's orange drink. They will also have hot dogs available for a small charge.

All children must fill out a Fishing Day registration

form and have it signed by a parent or guardian to participate. Registration forms will be available the day of the event or may be picked up in advance at the Green Point Environmental Learning Center, the Shiawassee National Wildlife Refuge, The Saginaw News, and Saginaw Meijer stores at the customer service counter.

Sponsors assisting the refuge this year include The City of Saginaw, The Saginaw News, Meijer Stores, the Sons of Italy, Michigan Division Fishing Club of Midland, Saginaw Children's Zoo, and the Pioneer Club.

### Summer Discovery Camp for Kids on June 22

This camp is geared for children aged 4 to 6 years. Children will discover who lives at Green Point as they explore forest, grassland and pond communities. Lots of fun activities, crafts, stories and games are planned.

Class size is limited and registration is required by calling (989) 759-1669 before June 20. Children need to bring a sack lunch. Parents are welcome to either drop off their children or spend the day with them. Cost for the camp is \$2.

## Green Point Gets ECO Intern for the Summer

*By Becky Goche, Park Ranger*

Nathan Northup of LaCrosse, Wisconsin, started his 12-week Environmental Careers Organization (ECO) internship at the Shiawassee National Wildlife Refuge on May 22. He will work primarily with Park Ranger Becky Goche at Green Point with the refuge's Visitor Services and Outreach program. Nate is currently a student at the University of Wisconsin—LaCrosse working towards his Bachelor of Arts in Music Education.

ECO is a national, non-profit organization dedicated to the development of environmental careers. ECO's mission is to protect and enhance the environment through

the development of diverse leaders, the promotion of careers, and the inspiration of individual action. The U.S. Fish and Wildlife Service participates in the Conservation Careers Diversity Program. This program recruits underrepresented college undergraduates for exposure and training in a 12-week internship in various USFWS settings.

Nate is one of 14 ECO interns working at various field stations in Region 3 (includes Michigan, Ohio, Indiana, Illinois, Wisconsin, Missouri, Iowa and Minnesota) this summer. We're fortunate to have him here! Be sure to stop by and welcome him.



# To Save or Not to Save

By Susan Scott, Friends Board of Directors



That's a question asked as people happen upon what appears to be an injured or orphaned animal.

A baby squirrel with no visible injuries found at the bottom of a tree probably lost his balance and fell from the nest. Given time and space, mom will come down and take him back up to the nest.

A baby bird, with all his feathers, is called a fledgling. When birds first leave the nest they cannot fly. They spend one to two weeks on the ground and in low bushes strengthening their muscles and testing out their flight skills. This is the time they are most likely to be picked up by a well-meaning person who is afraid they will be eaten by a cat! Place the bird on a branch or in a bush, mom will find it. Should you find a nest blown out of a tree with birds that do not have developed feathers, you can take a small plastic container with holes punched in the bottom, or a small tomato container, fill it with grass clippings or the fallen nest and nail it back up in the tree as high as you are able to place it. Contrary to what you've been told you, birds have a very poor sense of smell and touching a baby bird will NOT keep its mother from taking it back. Birds look for their babies for up to two days.

Rabbits dig a nest hole in the middle of an open area, line it with grass and hair and have their babies. Check your lawn before mowing and if you find a nest just put a box over it while you mow. Mother rabbit only feeds the babies at dawn and dusk – baby rabbits are on their own at approximately three weeks of age. A bunny the size of a tennis ball, with its ears up and the white spot on its forehead almost gone is capable of taking care of itself. If you wish to move a bunny that size just put him in or near a brush pile where he can take shelter. Do not handle needlessly, baby bunnies can be "scared to death" by too much human interaction.

A new-born fawn is left for 8 or more hours on his own. After the birth, the doe cleans and feeds the fawn and spends a day or so bonding with the baby. She then separates her twins or triplets in order to keep the fawns safe. She DOES NOT stay with them because that would give their location away to a predator but she is usually in the

*"You will never see a doe standing guard over her fawn..."*

vicinity. Fawns have no odor and cannot be detected by a predator by smell. A dog or a coyote would have to trip over the fawn to find it. Keep your dogs on a leash during fawning season (average is mid-May to mid-June). You will never see a doe standing guard over her fawn, but she and possibly other does in the area will come to the cries of a fawn you may be picking up. Fawns need intervention only if they are found lying next to a dead doe, if they are covered in diarrhea or maggots, if they are lying on their side in obvious distress, if their body temperature is extremely low or if they are severely dehydrated. Please call a licensed rehabilitator in your area before picking up a fawn. A good rehabber can assess the situation, give you advice and hopefully help reunite the fawn with its mom.

Remember, each baby animal requires a different formula to grow and thrive. Baby birds, rabbits or squirrels cannot eat infant cereal, white bread, or cow's milk. Their moms are not shopping at the local grocery store for their food. Human food will cause great distress and even death to most baby animals. The Department of Natural Resources allows you 48 hours to get an animal to a licensed rehabilitator before you are subject to stiff fines – check the Michigan DNR web site ([www.michigandnr.com/dlr](http://www.michigandnr.com/dlr)) for a list of people in your area that can help when you find an injured or orphaned animal that truly NEEDS your help.

*This information was provided by Diane Solecki of the Howell Nature Center in Howell, Michigan.*



## **Nurturing Nature Wednesday Series**

- All programs begin at 7:00 p.m. and last 60 – 90 minutes.
- Held at the Green Point Environmental Learning Center, 3010 Maple Street, Saginaw, unless otherwise noted.
- Admission: \$2 for individuals or \$5 for a family. FREE for members of the Friends of the Shiawassee NWR.

### **Underwater Creatures of the Great Lakes**

**June 7, 2006**

Videographer and diver Ric Mixer has been exploring beneath the surface of the Great Lakes for more than 15 years. Come see the images of some of the strange creatures he encounters – from the giant sturgeon to the eel-like burbot.

### **Archeological Findings on the Shiawassee National Wildlife Refuge**

**July 12, 2006**

Jeffrey Sommer is the curator of archeology at the Castle Museum of Saginaw County History and an active "digger" on the rich refuge. He'll show slides of his expeditions and some of the artifacts found.

### **Fungi and More**

**August 2, 2006**

Chippewa Nature Center senior naturalist Janea Little has attended two courses on fungi at the University of Michigan's Biological Station. She will share pictures of the many mushrooms she encountered there, as well as other scenes from the station and fungi from the Upper Peninsula and mid-Michigan.

## **Summer Discovery Camp**

**June 22, 2006, 10:00 a.m. to 1:00 p.m.**

**Green Point Environmental Learning Center**

Find out who lives at Green Point. Children will explore forest, grassland and pond communities. Lots of fun activities, crafts, stories and games are planned. For ages 4 to 6 years. Class size is limited and registration is required by calling (989) 759-1669 before June 20. Bring your own sack lunch. Fee is \$2 per child.

# **Calendar of Events**

## **Kids' Free Fishing Day Contest**

**June 10, 2006, 8:00 a.m. to 10:00 a.m.**

**Ojibway Island in Saginaw**

A free fishing contest for children aged 3 to 15 years. Registration begins at 7:30 a.m. More than 90 prizes will be given away. Free and low cost refreshments provided. Bring your own pole and bait.

## **Junior Girl Scout Badge Day**

**June 17, 2006, 10:00 a.m. to 12:00 noon**

**Green Point Environmental Learning Center**

Refuge staff and other natural resource professionals will lead six activities to meet the requirements for the "Earth Connections" badge. Space is limited and girls must register by calling (989) 759-1669 by June 14. This program is FREE!

## **Looking Ahead in 2006**

Deer Application Deadline –

August 1

Waterfowl Festival at Bay City  
State Recreation Area – August  
5 & 6

Photo Contest Judging –  
September 9

Owl Hike – October 6

There will be no auto tours in 2006 due to roads/dikes damaged by flooding in March. We hope to have it repaired in time for tours in 2007.

## **Summer Stroll**

**July 14, 2006, 7:00 p.m.**

**Meet at parking lot at west  
end of Curtis Road**

Volunteer Steve Gasser will lead the group on a 5-mile hike along the Ferguson Bayou Trail. Be prepared for mosquitoes. In the event of severe weather, the hike will be canceled.

For more  
information, contact  
Green Point ELC at  
(989) 759-1669.



# FRIENDS OF SHIAWASSEE NWR MEMBERSHIP PAGE

## Friends of Shiawassee NWR Membership

☐ Renewal      ☐ New membership

☐ General Membership

\$10 – Individual (1) vote.

\$25 – Family (2) votes. (Member, spouse and children under age 18)

- Each membership receives quarterly newsletter - "Refuge Reporter."
- Each membership includes voting rights and opportunity to hold office.

☐ Supporting Levels (includes 1 year individual membership): "Goose" \$50, "Blue Heron" \$75, "Owl" \$100, "Bald Eagle" \$125 & over

☐ No membership at this time, but please accept my contribution.

\*Membership is for calendar year. Dues paid after October 1 include remainder of current year plus the following year.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Make checks payable to "Friends of Shiawassee NWR", PO Box 20129, Saginaw, MI, 48602.

Contributions to the Friends of Shiawassee NWR, a 501 (c) (3) non-profit organization, are tax deductible according to IRS guidelines.

### Friends' Volunteer Opportunities

### Do you have any of these skills?

- \_\_\_\_\_ Staffing Trailhead Store
- \_\_\_\_\_ Leading walking tours
- \_\_\_\_\_ Helping with workshops
- \_\_\_\_\_ Assisting with refuge auto tours
- \_\_\_\_\_ Doing outreach events, i.e. fairs
- \_\_\_\_\_ Assisting with First Wednesday
- \_\_\_\_\_ Writing newsletter articles
- \_\_\_\_\_ Writing/developing grants
- \_\_\_\_\_ Serving as Committee member
- \_\_\_\_\_ Leading children's activities
- \_\_\_\_\_ Developing trails

- \_\_\_\_\_ Computer skills
- \_\_\_\_\_ Photography
- \_\_\_\_\_ Carpentry skills
- \_\_\_\_\_ Business organizational skills
- \_\_\_\_\_ Research
- \_\_\_\_\_ Artistic skills
- \_\_\_\_\_ Fund raising
- \_\_\_\_\_ Grant writing
- \_\_\_\_\_ Researching/Ordering merchandise
- \_\_\_\_\_ Other – please list:

Board meetings held on the second Wednesday of each month at 7:00 p.m. at the Green Point Environmental Learning Center, 3010 Maple Street in Saginaw. General meetings with special programs are held at various times throughout the year. Friends Board of Directors Officers are:

President – Charles Hoover

Vice President 1 – Dick Von Berg

Vice President 2 – Susan Scott

Treasurer – Wil Hufton II

Secretary – Barb Werle



# Friends Group Is Preparing to Go on the Road with Traveling Bookstore

By Janet Martineau, Bookstore Committee Chair

Finally ..... the Friends of the Shiawassee NWF traveling bookstore/concession stand is becoming a reality. Board members and a community volunteer have transformed its interior into shelving and hangers and the bookstore committee will start ordering merchandise with the \$5,000 grant we received from the U.S. Fish and Wildlife Foundation. What we will need in the weeks ahead is lots more volunteer help:

- People willing to work its physical side when we're on the move (hooking up the propane and the generator and running the generator, installing and removing the stabilizing jacks, setting up and taking down the portable steps, etc.)
- People willing to work on sales (we plan to set up a table outside as well, so each stop will need at least two people to handle sales, a third when we sell food).
- People willing to work on the ordering of items to sell and keeping an inventory.
- A bookkeeper who likes to work with all things money and the tax forms that follow.
- Maintenance folks to keep it tidy and clean and make small repairs or upgrades.
- People willing to hunt for and secure places we can take our store and set it up (festivals, special events, etc.)
- Someone willing to work through the food permit issues (getting a license, making sure we pass inspection, detailing the rules and regulations).

We have no dates to tell you at this point, but what we do need to do is find people willing to work when we get them. Please, we need you. Call bookstore committee chair Janet Martineau at 790-7341, or e-mail her a [jmartineau@thesaginawnews.com](mailto:jmartineau@thesaginawnews.com)

## Celebrating Nature Through Art Contest

As a part of its 40th anniversary celebration, Midland's Chippewa Nature Center is sponsoring a "Celebrating Nature Through Art" contest. Saginaw Valley artists

and photographers are urged to venture out and enjoy the natural world and then create from it.

There are two categories—drawing/painting on paper and photography. Entries must feature the Saginaw Valley region's plant life, critters of all kinds and scenery drawn, painted or photographed between January 1, 2006 and November 10, 2006.

The refuge, your back yard or other natural areas are eligible. There are three age categories: middle school, high school and adult. There is no entry fee and prizes will be awarded. Rules and regulations may be obtained on Chippewa Nature Center's website at [www.chippewanaturecenter.org](http://www.chippewanaturecenter.org) or by calling (989) 631-0830.

## REFUGE REPORTER

Published quarterly by Shiawassee National Wildlife Refuge with funding from the Friends of Shiawassee NWR.

Volume 9, Issue 3

Editor: Becky Goche

### Shiawassee National Wildlife Refuge

Established in October, 1953 and administered by the U.S. Fish and Wildlife Service, Shiawassee NWR provides resting, nesting and feeding habitat for waterfowl and other birds. Its mission is to preserve or manage an undeveloped expanse of floodplain forest, marshes, rivers, and associated habitat within an agricultural and urban landscape through habitat management, encouraging public stewardship, educational programs, and private lands activities.

Refuge Manager—Steve Kahl

Assistant Refuge Manager—Ed DeVries

Biologist—Jim Dastyck

Private Lands Biologist—Michelle Vander Haar

Biological Science Technician—Vacant

Park Ranger/Volunteer Coordinator—Becky Goche

Administrative Technician—Mary Ann Gillette

Maintenance Staff—Marion "Butch" Nowosatko and David Peters

Law Enforcement Officer—Jonathan Friday

### Friends of Shiawassee National Wildlife Refuge

A nonprofit 501 (c)(3) organization established in 1999 to promote the preservation of the natural and historical resources of the Refuge, foster its use and enjoyment by the public consistent with the protection and preservation of its environment, and engage in such educational, scientific and civic activities as will assist the management of the Refuge in carrying out its mandates.

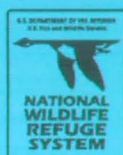
Refuge Website: <http://www.fws.gov/midwest/shiawassee>



Shiawassee NWR  
6975 Mower Rd.  
Saginaw, MI 48601  
Phone: 989-777-5930  
Fax: 989-777-9200  
Hours: M - F, 7:30 a.m. to 4:00 p.m.

We're on the web!

[Http://www.fws.gov/midwest/shiawassee](http://www.fws.gov/midwest/shiawassee)



*Free Fishing Contest and Summer Discover Camp for Kids in June*

## Junior Girl Scout Badge Day Scheduled for June 17 at Green Point

*By Becky Goche, Park Ranger*

Women (and maybe a man or two) natural resource professionals are teaming up to help Junior Girl Scouts earn the **"Earth Connections" badge** on Saturday, June 17 at the Green Point Environmental Learning Center from 10:00 a.m. to 12:00 noon. The team of professionals will lead the girls in six ecology activities (Numbers 1, 3, 4, 6, 7, 8) listed in the Junior Girl Scout Badge Book. Lots of hands-on, digging in the dirt, fun activities are planned! Instructors for the program are Gay Lynn Kinter, Soil Scientist with the Natural Resources Conservation Service in Flint, Michelle Vander Haar, Private Lands Biologist for the refuge, and Becky Goche, Park Ranger for the refuge.

Girls will study the plants, animals and soil found at Green Point and the refuge from women who do this

everyday as a part of their job! Best of all, this program is free!

Space is limited to 30 girls and you must register by June 14. Call Green Point at (989) 759-1669 to sign up or for more information.

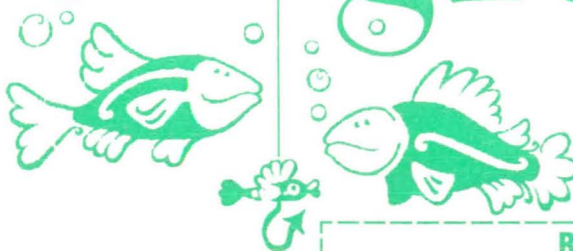




## Great Saginaw River Free

# Kids Fishing Fun Day!

**Saturday,  
June 10, 2006  
8-10 a.m.,  
Ojibway Island**



### TO REGISTER —

To participate in the contest, each child ages 3-15 must have their parent or guardian fill out the registration form at right. This signed form and an adult (18 years of age or older) must accompany each child when registering for the contest on Ojibway Island on June 10. **Registration is 7:30-9:30 a.m.** Kids Fishing Fun Day promotes the catch and release concept.

Each child will receive a treat coupon from 7-Eleven.

### AGE GROUPS —

3-6 years old • 7-10 years old • 11-15 years old

### REFRESHMENTS —

*The Son's of Italy* will again sponsor the refreshment stand. They will offer **FREE** popcorn, snow cones, cookies and McDonald's orange drink. There will be a small charge for hot dogs.

### EQUIPMENT —

Bring your own fishing pole and bait. (A limited amount of **FREE** bait will be available.)

### PRIZES —

More than 90 great prizes will be given away. Half of the tickets drawn will be from the registration tickets. So join in the fun, you can win a prize just by attending!

### RULES AND REGULATIONS

#### NO PURCHASE NECESSARY

To participate in the 26th annual Great Saginaw River Free Fishing Fun Day all participants must agree to abide by and follow all Michigan State Fishing Regulations. Those registering a fish must be willing to have their parent or legal guardian make a sworn statement that their fish was caught within the rules of the contest. All fish must be caught from Ojibway Island on Saturday, June 10, 2006 from 8 a.m. - 10 a.m. Entrants must personally catch any fish to be entered in this contest. Enter as many fish as you like, this will increase your chance at winning a prize. Odds of winning a prize depends on the number of registrations received and the number of fish caught. Multiple prizes may be awarded. A ticket will be issued when each child registers. (One registration per entrant; mechanically reproduced registration forms or tickets are not permitted.) Another ticket is given for each fish caught and turned into the fish return tent located on the west side of the island. A random prize drawing will be conducted on June 10, 2006 at approximately 10:45 a.m. from all tickets. 30 prizes (valued at \$3 - \$5) and one grand prize valued at (\$50) will be awarded in each age category. Age groups - 3 - 6 years, 7-10 years, 11-15 years old. You must be present to win. If you do not redeem your ticket within one minute of being declared a potential winner you forfeit all rights to the prize and an alternate winner may be selected.

All fish may be registered only once and may be marked at the fish return station. It is our goal to preserve the fish resource and return all fish to the water alive, so transport your fish to the fish return area in water as often as necessary. Participation is open to legal residents of Michigan who are at least 3 to but no older than 15 years of age as of the date of entry. Participation is open to amateur status fishing enthusiasts only. Sponsors are not responsible for registration forms or tickets that are lost, late, damaged, illegible, incomplete, incorrect, or misdirected, or for errors in the administration, or fulfillment of this contest, including without limitation, mechanical, human, printing, distribution, or production errors and may modify or cancel this promotion based on such error at its sole discretion without liability. This contest is subject to all federal, and Michigan state and local laws and regulations. Void outside of Michigan and where otherwise prohibited. All decisions of the contest officials are final. Violation of any rules may lead to immediate disqualification, as determined in the contest officials' sole discretion. Income and other taxes, if any, are the sole responsibility of the winners. The parent or legal or guardian of winners may be required to sign an affidavit of eligibility upon accepting the prizes or an alternate winner may be chosen. No substitutions for prizes except by sponsors in which case a prize of equal or greater value will be substituted.

For a list of prize winners, send a self-addressed stamped envelope to: Great Saginaw River Free Fishing Fun Day Winners, The Saginaw News, 203 S. Washington, Saginaw, MI 48607 after June 10, 2006 but before December 10, 2006.

This fun-filled event is sponsored by

**The Saginaw News**  
Helping You

Higher Standards

**meijer**  
Lower Prices

CITY OF  
**Saginaw**  
**DOW CHEMICAL**  
Michigan Division  
Fishing Club



U.S. FISH & WILDLIFE SERVICE  
Shiawassee National Wildlife Refuge

LV812

### REGISTRATION FORM NO PURCHASE NECESSARY

Participant

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Check appropriate age category:

☐ 3-6

☐ 7-10

☐ 11-15

I have read and agree with the General Release below.

Parent/Guardian

Signature \_\_\_\_\_

Date \_\_\_\_\_

## 26th Annual FREE Fishing, Fun and Fantastic Prizes!

### GENERAL RELEASE.

By signing your name above and in consideration of your participation or the participation of your child or legal ward, in the Great Saginaw River Free Fishing Fun Day held on Saturday, June 10, 2006 (The "Event") organized by The Saginaw News, City of Saginaw, Meijer, U.S. Fish and Wildlife Service and The Dow Chemical Michigan Division Fishing Club ("Sponsors"), the abovesigned hereby releases Sponsors and any related or affiliated companies and their respective officers, directors, agents, employees, licensees, subsidiaries, consultants and independent contractors (collectively, the "Releasees") of and from any and all liability, claims, demands, actions, and causes of action whatsoever, arising out of or related to any loss, damage, or injury, including death, that may be sustained by the abovesigned, his/her child or legal ward, or any property of such individuals, arising from or in connection with the Event, or any prizes awarded, including claims that are known and unknown, foreseen and unforeseen, future or contingent, or that arise out of the negligence of Sponsors.

The abovesigned, being fully aware of the risks inherent in participating in the Event, hereby elects voluntarily to engage in such activity, and/or allow his/her child or legal ward to do so. The abovesigned hereby voluntarily assumes all risk of loss, damage, or injury, including death, that may be sustained by the abovesigned, his/her child or legal ward, or any property of the such individuals, in connection with such activity.

This release shall be binding upon the distributees, heirs, next of kin, personal representatives, executors, and administrators of the abovesigned.

The abovesigned also acknowledges the fact that Sponsors may publish photographs of the Event and entrants' names, likenesses and photographs, for advertising, editorial or publicity purposes. The abovesigned hereby grants, releases and quit claims to Sponsor the right to use his/her name or likeness, and/or the name(s) and likeness(es) of his/her child or legal ward in the above promotional, advertising and editorial materials and acknowledges that any photographs videotape or film taken may be exhibited and reexhibited without limitation or liability or further compensation.

In signing the foregoing General Release, the abovesigned hereby acknowledges and represents that he/she has read the foregoing release and fully understands it. The abovesigned understands that this is a release of liability which will legally prevent him/her or any other person from filing suit or making any other legal claim against Releasees relating to the causes of actions or claims hereby waived or released by abovesigned. The abovesigned nevertheless enters into this agreement freely and voluntarily and agrees that is binding upon the abovesigned, his/her heirs, assigns and legal representatives.

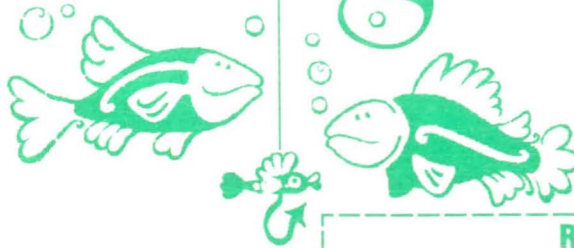
Copies of this form are available at The Saginaw News, Green Point Environmental Learning Center, City of Saginaw Recreation Department, Meijer - Gratiot and Tittabawassee customer service department or call 776-9701 to have one faxed to you.



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Michigan Division  
Fishing Club



U.S. FISH & WILDLIFE SERVICE  
Shiawassee National Wildlife Refuge

LV812

### REGISTRATION FORM NO PURCHASE NECESSARY

Participant

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Check appropriate age category:

☐ 3-6

☐ 7-10

☐ 11-15

I have read and agree with the General Release below.

Parent/Guardian

Signature \_\_\_\_\_

Date \_\_\_\_\_

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Copies of this form are available at The Saginaw News, Green Point Environmental Learning Center, City of Saginaw Recreation Department, Meijer - Gratiot and Tittabawassee customer service department or call 776-9701 to have one faxed to you.



# Refuge Reporter

Volume 9, Issue 4

Fall 2006

## No Auto Tour, But Several Other Activities Planned for Open House

By Becky Goche, Park Ranger

The annual refuge Open House Weekend is set for September 9 and 10, 2006. During this weekend, the entire refuge is open to hiking, bicycling and scouting for deer during daylight hours only. Unfortunately, there will be no auto tour because of flooding earlier this year that damaged part of the route. We hopefully will be funded to make the repairs before next year's open house. In the meantime, several other activities have been planned for this year's event!

### Guided Bird Walks

Join Refuge Manager Steve Kahl and refuge volunteer Steve Gasser on two separate bird tours. On Saturday morning, they will lead a guided tour of the

Ferguson Bayou Nature Trail, off of Curtis Road, beginning at 8:00 a.m. On Sunday morning the birding venue will move to the Evon Road area, west of highway M-13. Birders should meet them in the parking lot at the end of Evon Road. Early September is a good time to see herons, egrets, ducks, geese and warblers. Birders might even have a chance to see Bald eagles along with a variety of other wildlife. Each hike will be about 5 miles long and last 3 to 4 hours. Wear comfortable shoes, dress for the weather, and bring binoculars, water and mosquito spray.

### Photo Contest Judging

Pick your favorite photos in the annual refuge photo contest at the refuge headquarters from 9:00 a.m. to 3:00 p.m. on

(Continued on page 3)

## On Seeing Michigan for the First Time

By Nathan Northup, ECO Associate

It was by a fated series of events that ultimately led me to spend a season of summer's splendor here in the lovely state of Michigan. I was in school; fervently running between classes, rehearsals, and meetings when I overheard a friend talking about a number of summer internships

available through the Environmental Careers Organization. I went online and saw a number of 'public use' opportunities – positions doing a lot with environmental education, as well as other conservation work. Since I'm going into education, I knew that this would be a great opportunity to get some experience working with young people.

(Continued on page 2)

### Inside this issue:

On Seeing Michigan cont.	2
Goose Hunt Changes & Trail Closures	3
Refuge Open House cont.	3

### Special Points:

- The original artwork of Michigan's 2006 Federal Junior Duck Stamp winners will be displayed at the Ella Sharp Museum in Jackson, MI, to celebrate the grand opening of its wildlife gallery featuring one of the largest collections of North American waterfowl in the world
- Hunter packet pick-up dates: October 14, 7:30 a.m. – 1:00 p.m., October 20, 7:30 a.m. – 4:00 p.m., October 21, 7:30 a.m. – 1:00 p.m., and October 26, 7:30 a.m. – 4:00 p.m.



## On Seeing Michigan for the First Time continued

After getting all the necessary paperwork together, I mailed it off. Weeks went by before I heard that the staff at Shiawassee was interested in interviewing me. I'd never had an interview over the phone before. I remember the most random question being asked by Becky, "Why are manhole covers round?" It threw me off guard a bit, but they must have liked my answers because I was offered the position which I immediately accepted.

Upon my arrival to Green Point, I was pleasantly surprised at the setting – such a place of tranquility surrounded by natural beauty and so close to the city! I had to stop and look around and I caught myself thinking, "This is going to be a great summer."

I cannot explain how refreshing it is to me, to be surrounded by, and work with people who care about our environment and make it their life's work to preserve and maintain a balance between humans and nature – it's incredibly inspiring to me. It seems, from my past experiences, that the only people I've known who really care about environmentalism are my generation and old 'hippies' – people who have great attitudes towards enviro-friendly ideas, but don't necessarily *do* anything or even *know* where to begin to help. Even as such, many people my age are becoming increasingly more apathetic towards environmental issues collectively making decisions with a majority of older people who seem to all share in having absolutely *no* regard for the future of this planet and country.

Though it may be somewhat hard to tell by my appearance, I am of Hocak (Ho-Chunk) lineage, a nation that spanned from Lake Michigan to the Mississippi River from the southern half of Wisconsin through Iowa, Illinois, and into Nebraska. I have set off on a journey in my past years to attempt to reconnect with this life in any way that I can. I was not raised in the traditional Hocak way, mostly because I never knew my biological father or his family where my lineage comes from. So I rely on local elders and friends who know many things about the old ways, to teach me. One of the many noble values practiced by the Hocak people is that leaders are expected to make their decisions based on how their choices will affect children six generations in the future. I wish others would take this mindset into consideration, namely our U.S. leaders of all parties.

One of the things I enjoyed most about working here was the ability to work with local youth. It's exciting to be surrounded by their energy, and their seemingly never-ending quest for knowledge. I had the opportunity to

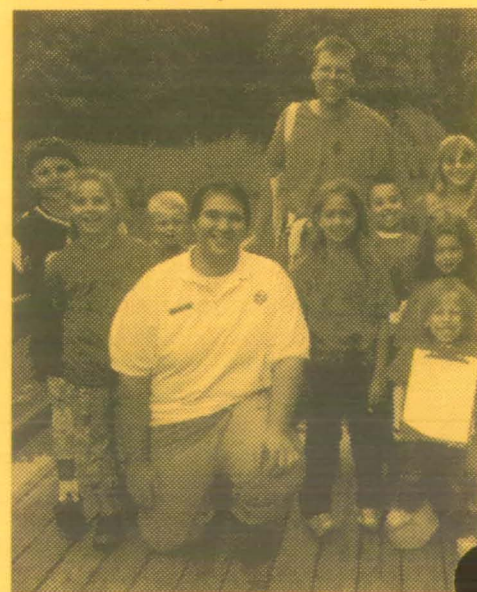
work with many student groups. It's great to see those same children come back out here with their friends and families, sharing what they've learned. They are the future, and if we can get them to care and *keep* them caring about our environment, the brighter our future will be.

Along with working with kids, I did other exciting things, like nest counts on island bird colonies in Lake Huron, assisting our Private Lands Biologist, helping with the Fishing Day, teaching Girl Scouts about edible native plants, re-building a frog pond, maintaining Green Point's trails, capturing snakes and spiders, feeding the animals and birds (and mosquitoes), and organizing a big part of the refuge's deer hunt.

I've enjoyed my time here immensely, and while I look forward to returning to my home, I'm going to miss it here very much. I've had a great time getting to know the staff, learning as much as I can from all of them; it's just been an incredible experience. My bachelor's degree is actually in music-education, but I plan on getting my master's in the biology/science/resources-ish education field. I love kids, I love teaching, I love nature, I love music, and I love to learn. So hopefully I can fuse that all together in my future and have whatever adventures come my way.

I'd like to give my heartfelt thanks to *all* of the staff at Shiawassee NWR for letting me bug them and talk to them and tag along with them all summer – you guys are great! (Ed, you'll have to keep me updated on the iguana...I'll miss that old reptile!) Finally, I'd really like to give my thanks to my "project supervisor," the person with whom I spent most of my time, but who I consider to be more of a friend and mentor, Becky. We had some good times with all those crazy kids, spiders, fox snakes, and nights on the town! Thanks for everything these past couple months and I'm really going to miss you. Oh, and if anybody ever finds themselves in La Crosse, Wisconsin, feel free to look me up!

Nagewah (until later), Nate





## **Nurturing Nature Wednesday Series**

- All programs begin at 7:00 p.m. and last 60 – 90 minutes.
- Held at the Green Point Environmental Learning Center, 3010 Maple Street, Saginaw, unless otherwise noted.
- Admission: \$2 for individuals or \$5 for a family. FREE for members of the Friends of the Shiawassee NWR.

### **Michigan's Junior Duck Stamp Program**

**September 6, 2006**

Michigan's Federal Junior Duck Stamp contest came to Saginaw to roost this year as Shiawassee National Wildlife Refuge Park Ranger Becky Goche was named its coordinator. Her presentation will offer an overview of the program, images of this year's winners and hopefully comments from some of the mid-Michigan entrants.

### **Deer Management at the Shiawassee National Wildlife Refuge**

**October 4, 2006**

Jim Dastyck, biologist at the Shiawassee National Wildlife Refuge, will discuss how the refuge manages its deer herd and review the refuge's hunting policies.

### **A Winter Resort for the Birds**

**November 1, 2006**

Chippewa Nature Center senior naturalist Janea Little will detail the variety of food, sleeping quarters, windbreaks and secured acres that will attract a diversity of wintering birds to your back yard.

### **Owl Night Hike**

**October 6, 2006, 7:00 p.m.**

#### **Green Point Environmental Learning Center**

Help us kick off National Wildlife Refuge Week with a guided hike! Explore the night world at Green Point as we hike along the trails in search of the tiny Screech owl and other nocturnal animals. Wear dark clothing and bring a flashlight. Hike will be canceled in the event of severe weather.

# **Calendar of Events**

## **Refuge Open House**

**September 9 – 10, 2006, during daylight hours**

**Everywhere on the refuge**

Once a year, the refuge is opened up to visitors for hiking, bicycling and deer scouting during daylight hours. Vote for your favorite photos from 9:00 a.m. to 3:00 p.m. or join the Nature Photography Workshop at 11:00 a.m., both at the headquarters.

## **Girl Scout Work Day**

**September 23, 2006, 9:00 a.m. to 12:00 noon**

**Rain Date: September 24, 2006**

Celebrate National Public Lands Day by helping spruce up the refuge! Pick up litter, remove weeds, stain parking lot rails and do other projects. Scout leaders must register the number and ages of girls participating by calling (989) 759-1669 before September 20.

## **Guided Bird Walks**

**September 9, 2006, 8:00 a.m.**

**Ferguson Bayou Trail  
and**

**September 10, 2006, 8:00 a.m.**

**Evon Road parking lot**

Refuge Manager Steve Kahl and volunteer Steve Gasser will lead birders about 5 miles each day. Bring your binoculars, wear sturdy shoes, and dress for the weather.

## **Refuge Horse Tour**

**September 16, 2006, 9:00 a.m.**

**Evon Road parking lot**

Assistant Refuge Manager Ed DeVries will take riders on a guided tour. You provide the horse. Reservations are required. Call Ed at (989) 777-5930, ext. 13 to sign up. Rain date is September 23, 2006.

For more  
information, contact  
Green Point ELC at  
(989) 759-1669.



## FRIENDS OF SHIAWASSEE NWR MEMBERSHIP PAGE

### Friends of Shiawassee NWR Membership

☐ Renewal      ☐ New membership

☐ General Membership

\$10 – Individual (1) vote.

\$25 – Family (2) votes. (Member, spouse and children under age 18)

- Each membership receives quarterly newsletter - "Refuge Reporter."
- Each membership includes voting rights and opportunity to hold office.

☐ Supporting Levels (includes 1 year individual membership): "Goose" \$50, "Blue Heron" \$75, "Owl" \$100, "Bald Eagle" \$125 & over

☐ No membership at this time, but please accept my contribution.

\*Membership is for calendar year. Dues paid after October 1 include remainder of current year plus the following year.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Make checks payable to "Friends of Shiawassee NWR", PO Box 20129, Saginaw, MI, 48602.

Contributions to the Friends of Shiawassee NWR, a 501 (c) (3) non-profit organization, are tax deductible according to IRS guidelines.

#### Friends' Volunteer Opportunities

#### Do you have any of these skills?

- \_\_\_\_\_ Staffing Trailhead Store
- \_\_\_\_\_ Leading walking tours
- \_\_\_\_\_ Helping with workshops
- \_\_\_\_\_ Assisting with refuge auto tours
- \_\_\_\_\_ Doing outreach events, i.e. fairs
- \_\_\_\_\_ Assisting with First Wednesday
- \_\_\_\_\_ Writing newsletter articles
- \_\_\_\_\_ Writing/developing grants
- \_\_\_\_\_ Serving as Committee member
- \_\_\_\_\_ Leading children's activities
- \_\_\_\_\_ Developing trails

- \_\_\_\_\_ Computer skills
- \_\_\_\_\_ Photography
- \_\_\_\_\_ Carpentry skills
- \_\_\_\_\_ Business organizational skills
- \_\_\_\_\_ Research
- \_\_\_\_\_ Artistic skills
- \_\_\_\_\_ Fund raising
- \_\_\_\_\_ Grant writing
- \_\_\_\_\_ Researching/Ordering merchandise
- \_\_\_\_\_ Other – please list: \_\_\_\_\_

Board meetings held on the second Wednesday of each month at 7:00 p.m. at the Green Point Environmental Learning Center, 3010 Maple Street in Saginaw. General meetings with special programs are held at various times throughout the year. Friends Board of Directors Officers are:

President – Charles Hoover

Vice President 1 – Dick Von Berg

Vice President 2 – Susan Scott

Treasurer – Wil Hufton II

Secretary – Barb Werle



# New Days for Goose Hunting and Trail Closures in 2006

By Becky Goche, Park Ranger

There have been changes made to the goose hunting program on the refuge in an effort to provide a better experience for hunters and to free up staff time. This year goose hunting will only be allowed on Tuesdays, Thursday, Saturdays and Sundays. The refuge goose season will start on October 7 and go through October 29. The first two days are reserved hunts, but there may be some open blinds in case other hunters want to wait on the stand-by list. There still will be a one bird per day limit for Canada geese.

A lottery-style drawing is held each morning of the hunt at the refuge headquarters at 5:30 a.m. Doors open at 5:00 a.m. for hunters to sign up and to have their licenses checked. Up to three people may sign up for a blind. Each person in the blind must pay \$4, whether hunting or not. People with Golden Age Passports pay only \$2. There are usually about 30 blinds situated in corn fields overlooking winter wheat strips. Hunting starts one-half hour before sunrise and ends at 12:00 noon. All blind parties must check back in at the refuge headquarters by 1:00 p.m. whether they were successful or not.

The Ferguson Bayou Trail will be closed until 1:00 p.m. each day of the goose hunt. Other trail closures during 2006 due to deer hunting on the refuge are as follow:

## Ferguson Bayou Trail at Curtis Road

October 27—31, November 1—5, November 15—20, November 25—26, December 2—3, December 8—11, December 20—24, and December 27—31.

## Woodland Trail at Stroebel Road

October 27—31, November 1—5, November 19—20, December 2—3, and December 8—11.

## Cass River Unit in Bridgeport Township

October 27—31, November 1—5, December 20—24, and December 27—31.

Trails at Green Point remain open for your use! Keep in mind, no bicycles or pets are allowed on the trails.

## Refuge Open House continued from page 1

Saturday only. Amateur photographers enter their pictures in four different categories—Wildlife & Plantlife, Habitat, People and Young Nature Photographer (must be 16-years-old or younger). Visitors vote in each category to determine the winners.

## Nature Photography Workshop

Refuge volunteer Kim LeBlanc will lead an hour-long workshop beginning at 11:00 a.m. on Saturday at the butterfly garden near the refuge headquarters. He will give some basic photography tips and demonstrate different blind setups. Even though this workshop will be geared towards film photographers, digital photographers will benefit from it, too.

### REFUGE REPORTER

Published quarterly by Shiawassee National Wildlife Refuge with funding from the Friends of Shiawassee NWR.

Volume 9, Issue 4

Editor: Becky Goche

#### Shiawassee National Wildlife Refuge

Established in October, 1953 and administered by the U.S. Fish and Wildlife Service, Shiawassee NWR provides resting, nesting and feeding habitat for waterfowl and other birds. Its mission is to preserve or manage an undeveloped expanse of floodplain forest, marshes, rivers, and associated habitat within an agricultural and urban landscape through habitat management, encouraging public stewardship, educational programs, and private lands activities.

Refuge Manager—Steve Kahl

Assistant Refuge Manager—Ed DeVries

Biologist—Jim Dastyck

Private Lands Biologist—Michelle Vander Haar

Biological Science Technician—Vacant

Park Ranger/Volunteer Coordinator—Becky Goche

Administrative Technician—Mary Ann Gillette

Maintenance Staff—Marion "Butch" Nowosatko and David Peters

Law Enforcement Officer—Jonathan Priday

#### Friends of Shiawassee National Wildlife Refuge

A nonprofit 501 (c)(3) organization established in 1999 to promote the preservation of the natural and historical resources of the Refuge, foster its use and enjoyment by the public consistent with the protection and preservation of its environment, and engage in such educational, scientific and civic activities as will assist the management of the Refuge in carrying out its mandates.

Refuge Website: <http://www.fws.gov/midwest/shiawassee>



Shiawassee NWR  
6975 Mower Rd.  
Saginaw, MI 48601  
Phone: 989-777-5930  
Fax: 989-777-9200  
Hours: M - F, 7:30 a.m. to 4:00 p.m.

**We're on the web!**

**[Http://www.fws.gov/midwest/shiawassee](http://www.fws.gov/midwest/shiawassee)**



***Lots of Activities Planned for this Year's Open House***



## Plan Your School Field Trips Today

*By Becky Goche, Park Ranger*

It's time for school and that means it's time to plan your fall field trips to Green Point! Green Point offers many different programs for you and your students to come and explore the outdoors. You can view a listing of these programs on our website (<http://www.fws.gov/midwest/shiawassee>) or you can call Green Point at (989) 759-1669 to request a copy be sent to you in the mail. We have programs for all ages—you can pick a program appropriate for your class or we can suggest one based upon the grade level you teach. Best of all, the programs are free!

We also offer programs for in your classroom, i.e. we come to you! Typically, we prefer doing these in the winter months when we have fewer visitors and school groups here, but we are flexible. How cool would it be

for a real, live Park Ranger to come visit your classroom? There are also many educational trunks covering a variety of natural resources-related topics that you can borrow for a two-week period. Each trunk contains a variety of items to enhance your curriculum including books, videos, posters, puppets, skulls, and more. All you need to do is call to schedule a time to pick one up from Green Point.

### **Junior Duck Stamp Program**

It's not too early to start thinking about the Federal Junior Duck Stamp Program. Informational brochures for the 2007 contest should be available in late fall. A National team has been working on updating the curriculum; we hope it will be ready soon. If you would like a copy of the 2007 brochure or the curriculum sent to you, please contact me at Green Point.





## Shiawassee National Wildlife Refuge 2006 Deer Hunt Information (Federal Hunts Only)

### Pre-Registered Drawings

**APPLY ON-LINE!** Visit our website at <http://www.fws.gov/midwest/shiawassee> and click on "Hunting" for more information. Applicants may also apply by submitting cards to the Refuge. There is no fee to apply. **Cards must be postmarked by August 1, 2006, to be entered into the drawing and to be eligible for priority points.**

### Instructions for Pre-Registered Hunt Applications

1. Applicants may apply **once** and may choose only **ONE** (1) hunt. Hunt choice code numbers are listed on back.
2. Hunters must mail a card (at least 3" x 5", but not larger than 4" x 6", not a piece of paper) to **Shiawassee NWR Deer Hunt, 6975 Mower Rd., Saginaw, MI 48601** with the following complete information printed or typed on one side of the card:

Name  
Address, including City, State and Zip  
Phone Number  
Driver's License Number or Sportcard Number  
Hunt Choice Code Number

\*Please indicate if any of the above information has changed from past years.

**Cards postmarked after the deadline or filled out incorrectly will not be entered into the drawing and no priority points will be awarded for the hunter.**

3. Hunters may apply with one (1) partner. Please note that one partner may not be entered into the drawing nor receive priority points if his/her card information is incomplete. Partners must apply for the same hunt choice code number. Each hunter must fill out a card and then mail both cards, stapled together, in one envelope. Youth applying for hunts must have one (1) supervising adult listed as their partner. **NO helper permits will be issued.**
4. Hunters who are successful for antlerless permits will be notified with instructions on how to purchase a Deer Management Unit 173 Public Lands Antlerless Deer license using the Retail Licensing system.
5. Only successful applicants will be notified by mail before September 8, 2006. Hunters may also check our website (click on "Hunting") to check if he/she was drawn.
6. Permits cost \$10. All permits must be claimed by October 26, 2006, or negative points will be assigned.

### Priority Deer Drawing System Guidelines

- A priority drawing system was started in 2001.
  - All applicants who apply for an either sex hunt, but are not selected, will receive one (1) priority point towards a higher preference each year he/she is unsuccessful in the drawing.
  - All applicants who apply for an antlerless only hunt will receive two (2) priority points towards a higher preference for an either sex permit and one (1) priority point towards a higher preference for an antlerless only hunt.
  - When an applicant is drawn for a permit, the points that he/she has accumulated to that point will return to zero for that type of permit. Any points for the other type of permit will remain.
  - If an applicant is selected and fails to pick up his/her permit, all points accumulated up to that point for both types of permits will be lost. In addition, the applicant will receive a negative total of two (2) points for both types of permits.
  - There is no penalty for the hunter who cannot make it into the field.
  - Only two (2) people can apply together as partners.
  - Law enforcement data banks will be tied to the program to automatically delete those applicants who are still serving probation periods.
- Probation periods assigned to refuge violations will be served consecutively.  
Please note that your points may not transfer if we are not made aware of changes in your identification number.

**\*You can also apply for a Shiawassee River State Game Area hunt. Call 989/865-6211 for more information.\***



## Shiawassee National Wildlife Refuge Pre-Registered Hunts

Hunt Choice Code #	Dates	Type	Hunt Area	Number Hunters	2005 Applicants	Harvest Permits
201	Oct. 27 – Oct. 31	Archery	1 & 5	110	440	Antlerless Only
202	Nov. 01 – Nov. 05	Archery	1 & 5	110	843	Either Sex
203	Dec. 20 – Dec. 24	Archery	4 & 5	100	39	Either Sex
204	Dec. 27 – Dec. 31	Archery	4 & 5	100	281	Either Sex
205	Nov. 15 – Nov. 16	Shotgun (N-A*)	3	18	23	(N-A Shotgun hunts are 60% antlerless & 40% either sex permits)
206	Nov. 17 – Nov. 18	Shotgun (N-A*)	3	18	20	
208	Nov. 19 – Nov. 20	Shotgun (General)	2	25	520	Either Sex
209	Nov. 19 – Nov. 20	Shotgun (General)	3	75	NEW	Antlerless Only
210	Dec. 02 – Dec. 03	Muzzleloader	3	75	473	Antlerless Only
211	Dec. 02 – Dec. 03	Muzzleloader	2	25	132	Antlerless Only
212	Dec. 08 – Dec. 09	Muzzleloader	3	75	477	Antlerless Only
213	Dec. 08 – Dec. 09	Muzzleloader	2	25	112	Antlerless Only
214	Dec. 10 – Dec. 11	Muzzleloader	3	75	803	Either Sex
215	Dec. 10 – Dec. 11	Muzzleloader	2	25	180	Either Sex

\* N-A shotgun hunts are Non-Ambulatory hunts – you must be confined to a wheelchair. **MUST APPLY BY CARD ONLY.**

**All hunters harvesting a deer must use a valid license to tag the deer.**

**Hunt Areas:** (Maps will be included in the hunter packet if you are selected or you can visit our website to download them.)

- **Area 1** - The entire Refuge.
- **Area 2** - Area bordered by the northern boundary of the Refuge, south to the Shiawassee and Cass Rivers, plus Green Point Island.
- **Area 3** - Entire Refuge except for the area north of the Shiawassee and Cass Rivers, and Green Point Island.
- **Area 4** - Green Point Island and the entire Refuge except trails by Stroebel Road bounded by Bullhead Creek, Shiawassee and Tittabawassee Rivers.
- **Area 5** - Cass River Unit in Bridgeport Township.

**Youth Shotgun:** Contact [www.MYHEC.org](http://www.MYHEC.org) for more information on how to register for the class on August 26 & 27, 2006, at the Capitol City Gun Club in Lansing. Twenty youth hunters will be selected from those attending the training to hunt on the Refuge from November 25 – 26 (Hunt 207) in Hunt Area 3.

**Scouting Dates:** September 9 and 10, 2006, daylight hours only, during our Open House Weekend.

**APPLY ON-LINE:** Visit <http://www.fws.gov/midwest/shiawassee> and click on “Hunting” for more information. **Deadline to apply on-line is 11:59 p.m., August 1, 2006.**

Shiawassee National Wildlife Refuge, 6975 Mower Road, Saginaw, MI 48601. Phone: 989/777-5930, V/TTY Users: 800/649-3777 (Michigan State Relay System).

Available in alternative formats upon request.

Equal opportunity to participate in, and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of physical or mental disability. For information please contact the U.S. Department of Interior, Office for Equal Opportunity, 1849 C Street NW, Washington, DC 20240



## Ways I Can Help

Please check all that apply

I can help with the following:

- ☐ Making phone calls
- ☐ Writing letters
- ☐ Stuffing envelopes
- ☐ Public speaking
- ☐ Staff trailer bookstore
- ☐ Work special events
- ☐ Writing newsletter articles
- ☐ Concession stand
- ☐ Serve on a Committee
- ☐ Children's activities
- ☐ Organize events
- ☐ Refuge Work Day

I have the following skills to share:

- ☐ Computer skills
- ☐ Photography
- ☐ Carpentry skills
- ☐ Business organizational skills
- ☐ Research
- ☐ Artistic skills

P.O. Box 20129  
Saginaw, MI 48602

Friends of Shiawassee National Wildlife Refuge

Friends of Shiawassee  
National Wildlife Refuge

## MEMBERSHIP INFORMATION

*If you love wildlife, join us!*



## Who are the Friends of Shiawassee NWR?

The Friends of Shiawassee National Wildlife Refuge is a 501 (c) (3) nonprofit organization established in 1999 to promote the preservation of the natural and historical resources of the Refuge, foster its use and enjoyment by the public consistent with the protection and preservation of its environment, and engage in such educational, scientific and civic activities as will assist the management of the Refuge in carrying out its mandates. Organizations, families and individuals from around Michigan are members. These members act as the collective voice for the Refuge in a variety of arenas to raise awareness of the Refuge through outreach and environmental efforts.



## WHO SHOULD JOIN?

In a word, YOU! Really, anyone and everyone interested in having a direct impact on the protection of the natural resources in the Saginaw Bay Watershed are ideal candidates for Friends of Shiawassee National Wildlife Refuge. Membership funds collected from individual, family, and corporate contributors go directly into funding the diverse activities offered during the year. Some activities are run solely by the Friends and others are programs put on by the Refuge and supported, in part, by the Friends.

## WHAT ARE THE BENEFITS?

- Subscription to the *Refuge Reporter*, the quarterly newsletter from Shiawassee National Wildlife Refuge including information about Friends events
- FREE admission to monthly *Nurturing Nature Wednesday Series*—programs highlight a different nature-related topic each month
- Knowledge that your dollars are helping fund educational and entertaining programming, community and political awareness efforts, and protection efforts
- Opportunities to volunteer—feel like you are making a difference by writing articles about events, directing traffic, welcoming visitors to events, selling merchandise, obtaining donations, lending your computer skills and much more

## Yes, I Want to be a Friend!

Sign up for membership	Price
<input type="checkbox"/> Individual	\$10.00
<input type="checkbox"/> Family*	\$25.00
<input type="checkbox"/> Goose Supporter	\$50.00
<input type="checkbox"/> Blue Heron Supporter	\$75.00
<input type="checkbox"/> Owl Supporter	\$100.00
<input type="checkbox"/> Bald Eagle Supporter	\$125.00+
<input type="checkbox"/> Contribution	

Total: \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Email \_\_\_\_\_

Phone \_\_\_\_\_

☐ Renewal

☐ New Membership

\*Family includes member, spouse and children under age 18 (2 votes)

All memberships receive quarterly newsletter, *The Refuge Reporter*, free admission to Nurturing Nature Series, voting rights and opportunity to hold office. Membership is for calendar year.

### Friends of Shiawassee National Wildlife Refuge

Contributions to the Friends of Shiawassee NWR, a 501 (c) (3) non-profit organization, are tax deductible according to IRS guidelines.

Make checks payable to "Friends of Shiawassee NWR"  
P.O. Box 20129  
Saginaw, MI 48602

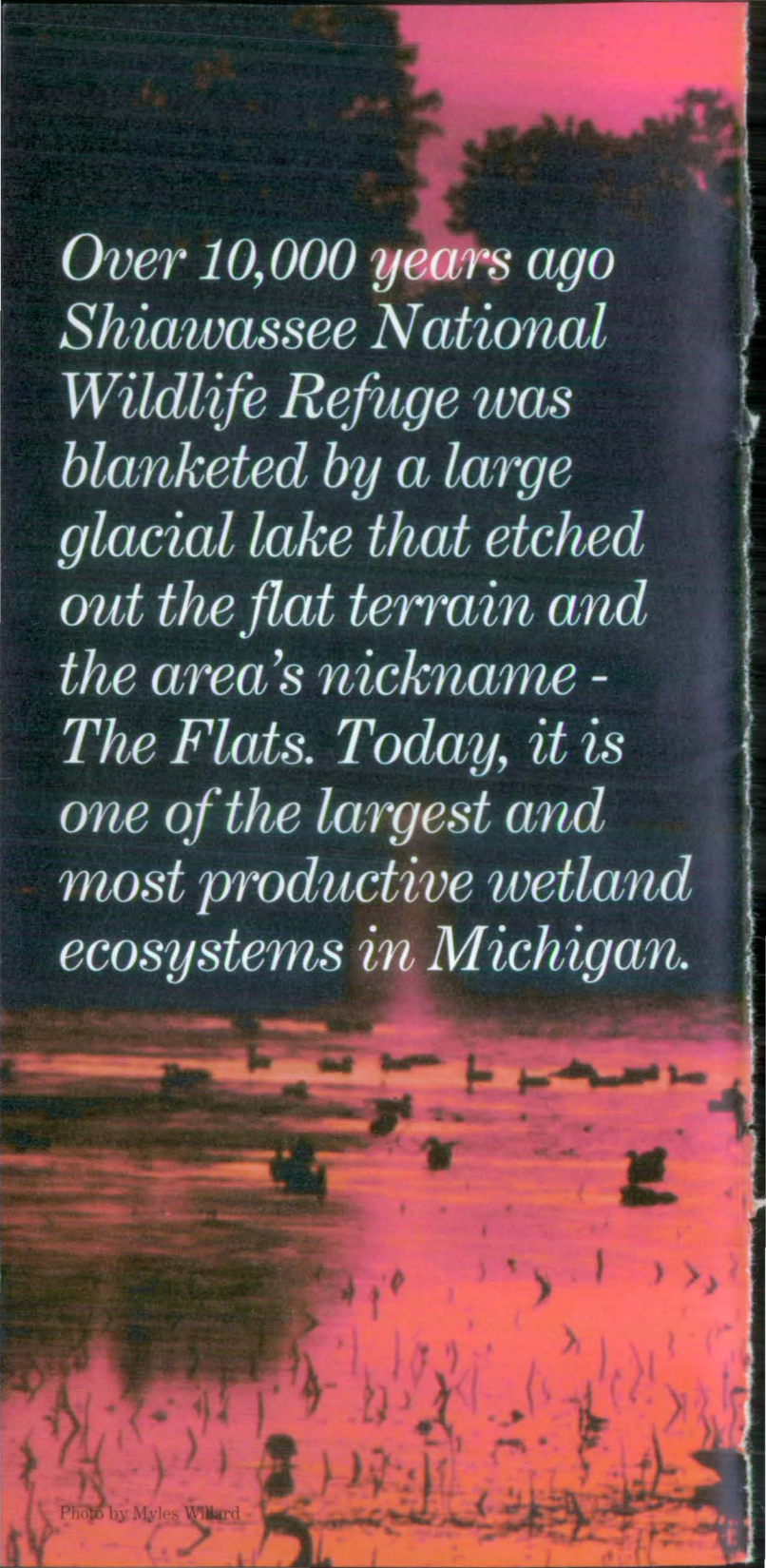


U.S. Fish & Wildlife Service

# Shiawassee

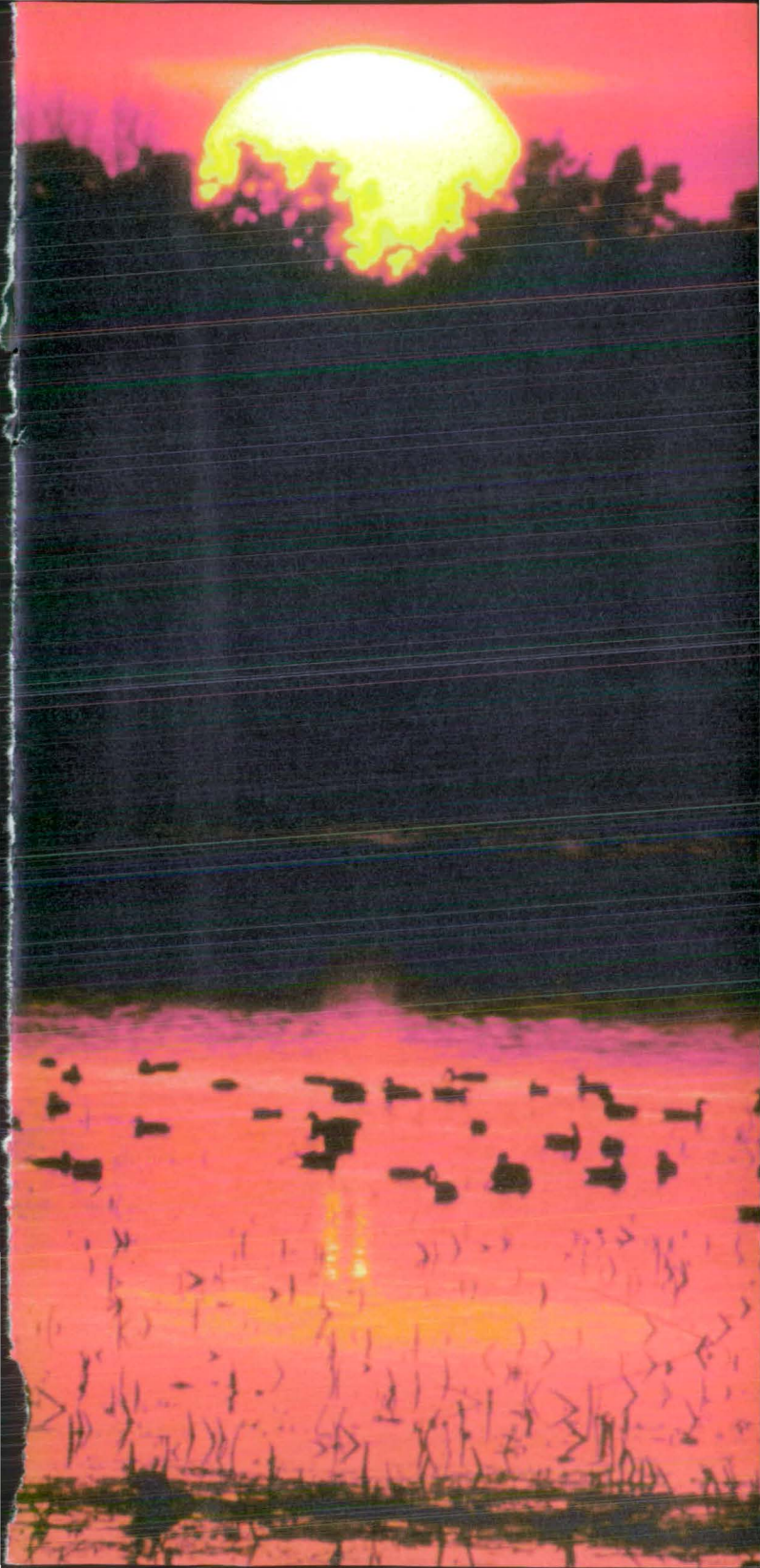
*National Wildlife  
Refuge*





*Over 10,000 years ago  
Shiawassee National  
Wildlife Refuge was  
blanketed by a large  
glacial lake that etched  
out the flat terrain and  
the area's nickname -  
The Flats. Today, it is  
one of the largest and  
most productive wetland  
ecosystems in Michigan.*







*This "Blue Goose,"  
designed by J.N.  
"Ding" Darling,  
has become a  
symbol of the  
National Wildlife  
Refuge System.*

Shiawassee National Wildlife Refuge is one of over 520 refuges in the National Wildlife Refuge system, a network of U.S. lands and waters protected and managed for wildlife, habitat and people by the Department of Interior's U.S. Fish and Wildlife Service.

### **A Look Back at the Flats**

Over 10,000 years ago, much of east-central Michigan, including the present-day Shiawassee National Wildlife Refuge, was covered by a large, glacial lake. You can still see the evidence of this ancient lakebed as you look across the landscape. The terrain is very flat, hence the reason why many people call this area "The Flats."

The first people came here approximately 5,000 years ago. This area was an attractive hunting and gathering area for many early cultures and later Native American tribes, like the Odawa and Ojibwa. Ducks and geese flocked to this vast area of wetlands and rivers. Other animals including otter, fisher, marten, elk, moose, and bear were also found here.

The Flats was thought of as a swampy wilderness area and received little human impact until the late 1800s when the lumber industry expanded into this area. Coal mining began in the early 1900s and lasted until the late 1930s. In 1903 farmers began converting the land for crops and by 1950, a system of pumps, drainage tile, ditches and dikes were in place, making this an extensive agricultural area.

### **Where Waters Meet**

Shiawassee NWR was established in 1953 to restore and enhance this historically significant wetland area for migratory waterfowl. The refuge contains over 9,200 acres of bottomland-hardwood forests, marshes, pools, fields, and croplands. An additional 7,500-acres could be added in the future. Four rivers meet on the refuge - the Tittabawassee, Flint, Cass, and Shiawassee.





White-tail Deer  
J. Mattsson, USFWS



Red Fox  
J & K Hollingsworth



Cottontail  
E. Smith



Muskrat  
J. Mattsson, USFWS

## The Public Is Welcome!

There are a number of activities the public can participate in throughout the year at Shiawassee NWR.

### Hiking



The refuge maintains three public trails that highlight the unique features of the area. These trails are open year round, seven days a week, during daylight hours. Please note that hours and access to the trails may be limited during hunt periods. The Woodland Trail, at the east end of Stroebel Road, offers 4.5 miles of trails through bottomland hardwoods. You can see a large pile of shale left over from the coal mining period of the early 1900's.

### Ferguson Bayou Trail

The Ferguson Bayou Trail, at the west end of Curtis Road, has over 4.5 miles of trails. This trail follows dikes and provides views of croplands, sloughs, forests, fields, wetlands and pools. There are three observation decks along the trail, two equipped with spotting scopes, to offer you a closer look at ducks, geese, deer, and other wildlife.

### Green Point Environmental Learning Center

The Green Point Environmental Learning Center in Saginaw offers 2.5 miles of trails for hiking and cross-country skiing only. Trail use may be limited due to seasonal flooding and wet conditions.

### Bicycling

Both the Woodland and Ferguson Bayou trails are open to bicycles. Use of the Woodland Trail may be limited due to seasonal wet and flooded conditions.

### Cross-Country Skiing

We do not groom our trails, but most can accommodate skiers.

### Fishing



Fishing is available by boat on navigable waterways flowing through the Refuge. Boat access into the marsh and pool units of the refuge is not allowed. Bank fishing is allowed at designated spots along the Tittabawassee River at Green Point Environmental Learning Center and off of the Woodland Trail.

### Hunting

Photos (from top)  
Bicyclist, T&J Reuther,

"Look what I caught!"  
Doug Spencer, USFWS

## Environmental Education



"What kind is it?"  
Becky Goche, USFWS

## Volunteer

Please  
remember!

You and your students can explore the refuge on your own or participate in a guided activity. Our Green Point Environmental Learning Center, located at 3010 Maple Street in Saginaw, provides a variety of environmental education programs for children and adults. Hiking trails, interpretive displays inside an accessible building, vegetation demonstration plots, and a wildlife viewing area provide numerous study sites. Visitors are welcome to stop by, but groups need to schedule their visits in advance by contacting the Green Point ELC at (989) 759-1669.

Share your special talents and skills. You could collect biological data, perform light maintenance, or help out with special events. If you are interested, contact the Refuge Volunteer Coordinator.

## Rules and Regulations

Enjoy your visit, but remember, protecting wildlife, plants, and their habitats is our priority. Regulations exist for the welfare of wildlife, as well as for your safety. Please read and comply with the following list of regulations. The list is not inclusive.

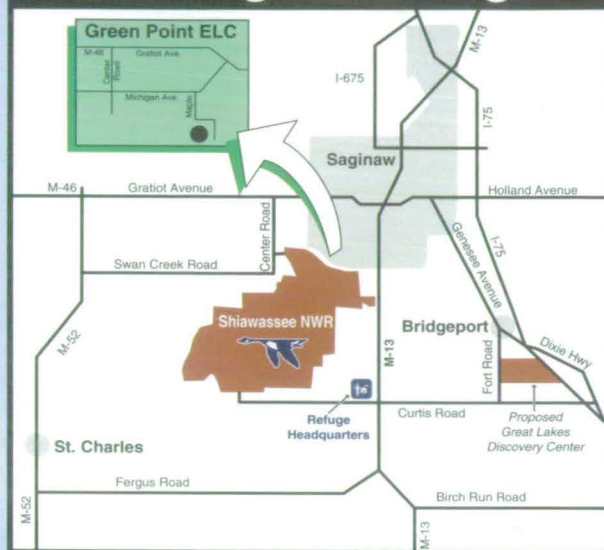
- Obey posted "Closed Area" and "Refuge Boundary" signs
- Stay on established roads and trails
- The following are prohibited!**
- Firearms and other weapons, unless you have a refuge hunting permit and appropriate State- issued license
- Pets
- Collecting, removing, or damaging artifacts, plants or animals, including insects
- Snowmobiles, ATV's, watercraft, and other motorized vehicles within the Refuge boundaries
- Camping
- Open fires
- Spotlighting wildlife
- Littering

## Hours





The refuge headquarters, located on the corners of Curtis and Mower Roads, is open 7:30 a.m. to 4:00 p.m., Monday through Friday throughout the year. Closed on all federal holidays. Refuge visitors are welcome to stop by if they have questions or need assistance.



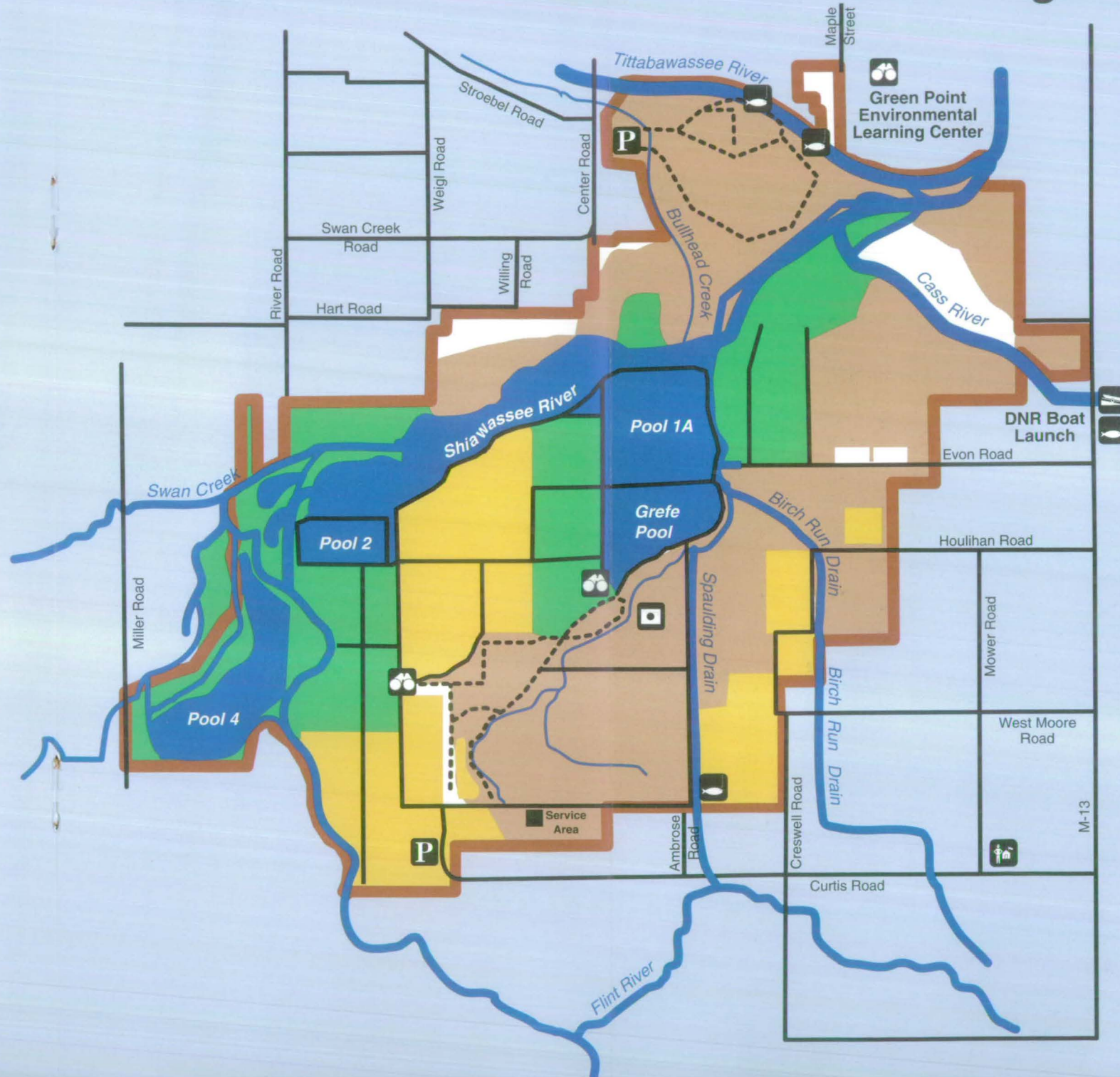
## Finding the Refuge



## Legend

-  Refuge Boundary
-  Trail
-  Road
-  Wildlife Observation Site
-  Photo Blind
-  Refuge Headquarters
-  Parking
-  Fishing
-  Farmland
-  Forest
-  Wetland

# Shiawassee National Wildlife Refuge







*Chickadee, Myles Willard*

## Important Bird Area

The refuge's diverse habitats and land management practices result in a great variety of wildlife species occurring here. Over 200 species of migratory birds, including raptors, shore and wading birds, and more than 100 songbird species visit the refuge annually. Shiawassee NWR is designated as a United States Important Bird Area (IBA) for its global significance to migratory waterfowl. During peak populations in late October, up to 25,000 Canada geese and 40,000 ducks are present. See the refuge's bird brochure for more information.



*Warbler,  
Myles Willard*

Wildlife enthusiasts may see or hear muskrat, beaver, coyote, snapping and painted turtles, white-tailed deer, garter and fox snakes, leopard frogs, and a variety of insects and spiders. Patience and knowing where to look are key to seeing many of these creatures.

## Wetland and Wildlife Management

The large central portion of the refuge is composed of managed wetlands. Controlling the level of water in these areas is the refuge's most important wildlife management objective. Using dikes, pumps and gravity flow structures, the staff floods or drains these wetlands in order to achieve desirable conditions. A variety of wetland types are maintained including marshes, bottomland forests, wet meadows, and seasonally flooded impoundments. Each of these has its own distinct community of birds, plants and other life that depend upon it throughout the year.

Farming is another wildlife management tool you see used on parts of the refuge. Farmers harvest a portion of the crop, leaving the rest in the field for wildlife to use as a food source.



## Partners for Wildlife

Shiawassee NWR administers the "*Partners for Fish and Wildlife Program*" in central lower Michigan. This program helps private landowners protect and restore wetlands, native grasslands, instream fishery and riparian corridor habitat for migratory birds and other fish and wildlife species. For further information contact the refuge or see the web site at <http://partners.fws.gov>.

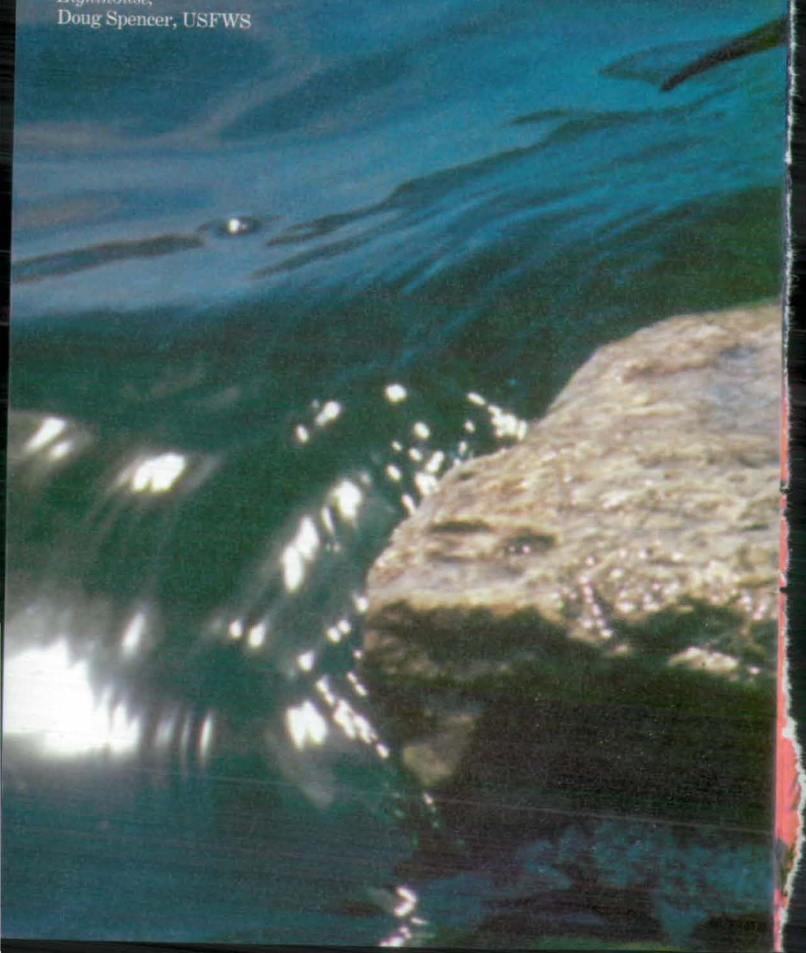
### Satellite Refuges



Lighthouse,  
Doug Spencer, USFWS

Shiawassee NWR also manages two other wildlife refuges in Michigan. Information about the following refuges can be obtained by contacting the Shiawassee NWR.

- Michigan Islands NWR in Lake Huron, including the Charity Islands in Saginaw Bay.
- Wyandotte NWR in the Detroit River.





*Dunlin,*  
Myles Willard



**Shiawassee National Wildlife Refuge**  
**6975 Mower Road**  
**Saginaw, MI 48601**  
**989/777 5930**

**Website address:**

**<http://midwest.fws.gov/shiawassee>**

**U.S. Fish & Wildlife Service**

**1 800/344 WILD**

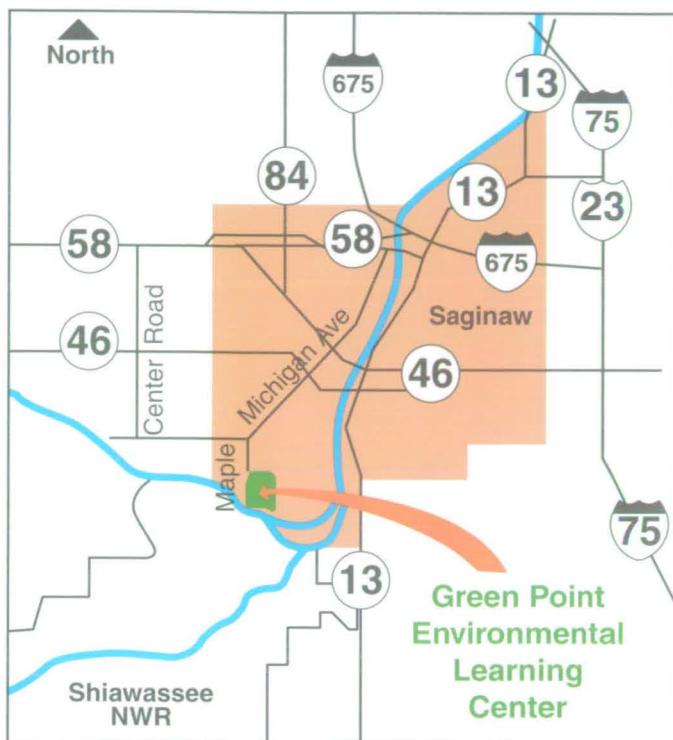
**<http://www.fws.gov>**

**Deaf/hard of hearing individuals may  
reach Shiawassee NWR through the Michigan  
State Relay System at 1 800/649 3777 (V/TTY).**

**Available in alternative formats upon request.**







#### Address

Green Point ELC, 3010 Maple Street  
Saginaw, Michigan 48602

#### Directions to Green Point

Take the I-675 exit. Follow I-675 and take the Michigan/Davenport exit. Head south on Michigan Avenue for about 3-1/2 miles. Turn south (left) onto Maple Street and go 1/2 mile. The Center is located on the right side of the road.

*From M-46/  
Gratiot*

Take M-46/Gratiot to Center Road. Head south on Center for 1 mile. Turn east (left) onto Michigan Avenue and go 1-1/2 miles. Turn south (right) onto Maple Street and go 1/2 mile. The Center is located on the right side of the road.

*For more information or to schedule a program contact the Green Point Environmental Learning Center at (989) 759-1669. TTY users may reach us through the Michigan State Relay Center at 1-800-649-3777.*

Shiawassee National Wildlife Refuge  
Green Point Environmental Learning Center  
3010 Maple Street  
Saginaw, Michigan 48602

<http://midwest.fws.gov/shiawassee>

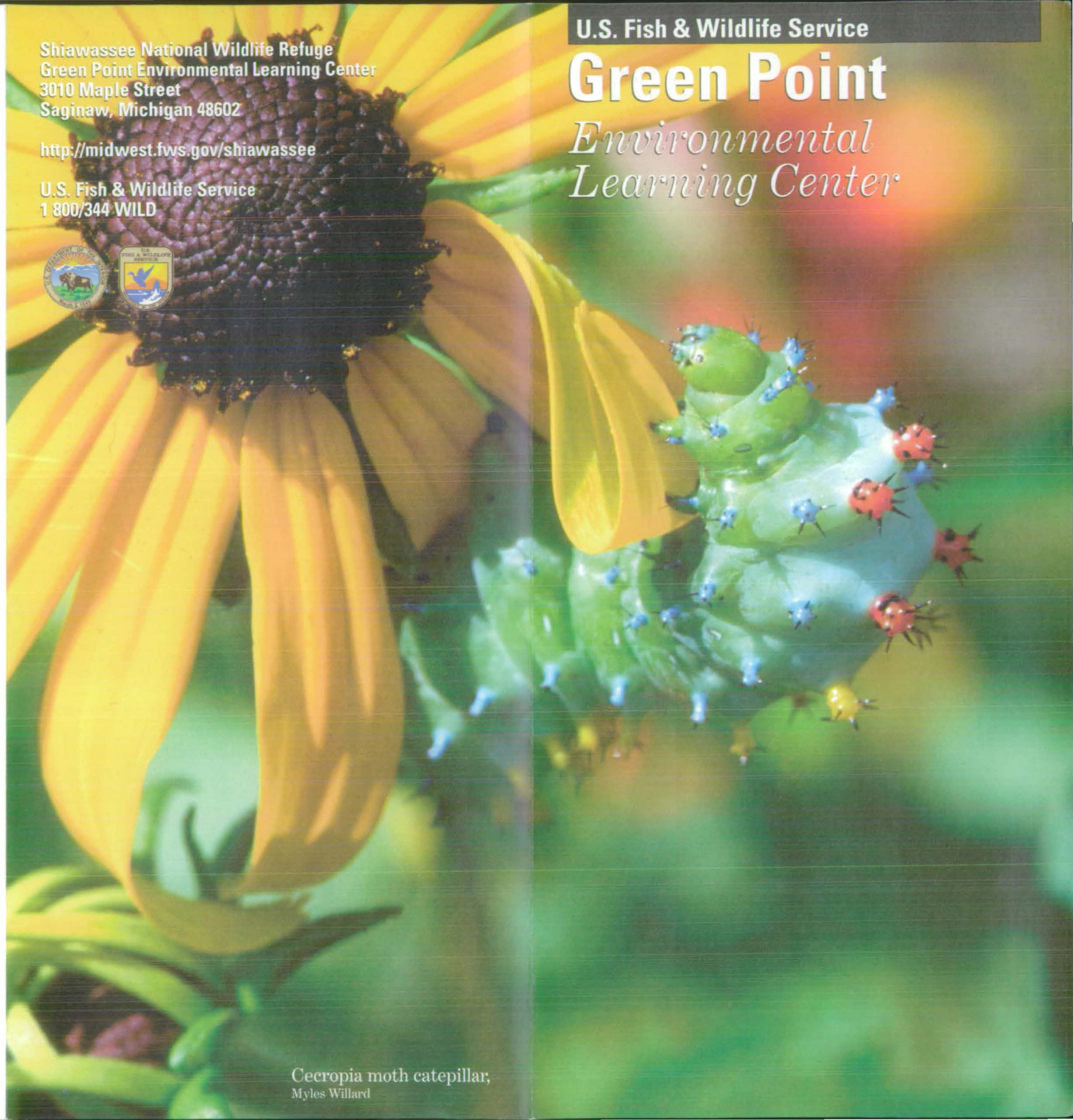
U.S. Fish & Wildlife Service  
1 800/344 WILD



U.S. Fish & Wildlife Service

# Green Point

## Environmental Learning Center



Cecropia moth caterpillar,  
Myles Willard



### Rivers of Time

To the French it was Les Fourchettes, "The Forks" -- so named for the rare merging of the Tittabawassee, the Shiawassee, and the Cass Rivers. To earlier inhabitants it was Shows-kon and O-zhaw-wash-quah, "Green Point." The rivers provided abundant game for hunting, as well as a transportation route for traders. Many years later, these same rivers attracted lumbermen, miners, and farmers to the area.

### Green Point's History

In 1977, the Goetz Grove Nature Center began providing environmental education for the Saginaw area. A year later, the city of Saginaw built the interpretive building and renamed it the *Green Point Nature Center*. For ten years, thousands of people learned about nature before the center closed in 1988. In 1993, the U.S. Fish and Wildlife Service and the City formed a partnership to reopen Green Point. Today, staff from the Shiawassee National Wildlife Refuge operate the center.

### Water, Wildlife and You!

Our mission is to provide environmental education opportunities for the children and adults of the Saginaw Valley. Green Point's programs revolve around our theme "Water, Wildlife, and You!" In addition, we are dedicated to the protection and management of our various habitats and committed to extending access to the largest possible user population for educational and recreational purposes.

### Diversity is the Key

Habitat diversity is essential to a successful environmental education facility. Located just north of the Shiawassee NWR, Green Point has 76 acres of diverse habitats that range from bottomland hardwoods to wetlands, to ponds and fields, even rivers and grassy lawns. Each of these habitats supports hundreds of life forms. It is a great place to learn about nature!



Park Ranger with kids,  
Becky Goche, USFWS



Black-capped chickadee,  
Myles Willard

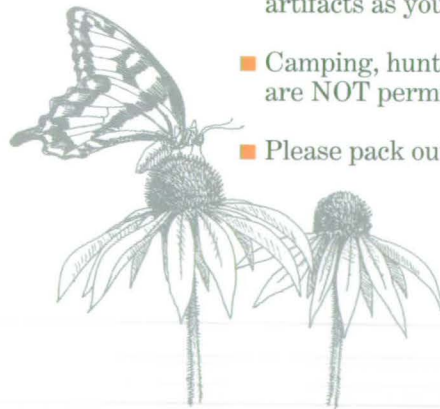


Green frog,  
Myles Willard

### Rules and Regulations

*Protect Green Point's fragile plants and wildlife, and make your visit safe and enjoyable by following these rules and regulations.*

- Stay on marked trails.
- Bicycles are not allowed on the trails.
- Dogs and other pets are not allowed.
- Leave all plants, animals, and artifacts as you found them.
- Camping, hunting and building fires are NOT permitted.
- Please pack out your litter.



### Programs

#### Hiking

### Things to Do at Green Point

We provide a variety of environmental programs throughout the year for school groups, scout groups, educators, families, and others. Contact the Center for an *Educator's Guide* which lists our educational programs.

Trails are open daily during daylight hours only. Trail maps are available in the building. Explore diverse habitats on over 2.5 miles of nature trails.

#### Visit the Interpretive Building

See displays and aquariums with native fish species. Visit our Wildlife Discovery Room. Both the building and restrooms are accessible. Hours are Monday through Friday, 7:30 am to 4:00 pm. Closed on federal holidays.

#### Volunteer

Do trail work, help out with school groups and more.

#### Cross-Country Skiing

We do not groom trails, but most can accommodate skiers.

#### Fishing

Allowed only on the bank of the Tittabawassee River. No fishing in the ponds.



# Shiawassee

## *National Wildlife Refuge Bird List*



## Shiawassee National Wildlife Refuge Bird Checklist

Welcome to Shiawassee National Wildlife Refuge. Over 9,400 acres of marsh, bottomland hardwood, grassland and agricultural lands are protected here. Four rivers cross the refuge to form Michigan's largest tributary, the Saginaw River. Frequent flooding and diverse habitat make this an excellent spot for viewing waterfowl, shorebirds, wading birds, songbirds and raptors. Bird activity on the refuge is highlighted by large waterfowl concentrations during the spring and fall migrations.

You will find 277 species of birds listed. The bird list follows the 45<sup>th</sup> American Ornithologists' Union Checklist.

Visiting birders are encouraged to share their sightings with refuge staff.

### Bird Legend

Symbols used are as follow:

- \* ..... indicates nesting on the refuge has recently occurred
- ! ..... State endangered species
- # ..... State threatened species

Sp... March – May

S.... June – August

F .... September – November

W ... December – February

- a ..... abundant: a common species which is very numerous
- c ..... common: certain to be seen or heard in suitable habitat, not in large numbers
- u ..... uncommon: present but not always seen
- o ..... occasional: seen only a few times during the season
- r ..... rare: seen every 2 to 5 years
- i ..... incidental: seen only once OR seen every 5 years or more



Common Name	Sp	S	F	W
<b>Swans, Geese, and Ducks</b>				
Greater White-fronted Goose	o	i	o	-
Snow Goose	u	-	u	r
Ross's Goose	r	-	r	r
Cackling Goose	o	-	o	r
Canada Goose*	a	c	a	c
Mute Swan	o	r	o	o
Trumpeter Swan	r	r	r	r
Tundra Swan	c	r	c	o
Wood Duck*	c	c	c	r
Gadwall	c	o	c	-
American Wigeon	c	o	c	r
American Black Duck	c	r	c	u
Mallard*	a	c	a	c
Blue-winged Teal*	c	c	c	-
Northern Shoveler*	c	o	c	r
Northern Pintail	c	r	c	r
Green-winged Teal	c	o	c	r
Canvasback	u	r	u	-
Redhead*	u	o	u	-
Ring-necked Duck	c	r	c	-
Greater Scaup	o	-	o	-
Lesser Scaup	c	r	c	-
Surf Scoter	i	-	-	-
White-winged Scoter	-	-	i	-
Black Scoter	-	-	i	-
Long-tailed Duck	r	-	-	-
Bufflehead	u	-	u	-
Common Goldeneye	r	-	r	r
Hooded Merganser*	c	u	u	r
Common Merganser	c	r	a	c
Red-breasted Merganser	-	r	-	-
Ruddy Duck	c	o	c	-
<b>Grouse &amp; Turkeys</b>				
Ring-necked Pheasant*	c	c	c	c
Ruffed Grouse	r	r	r	r
Wild Turkey*	c	c	c	c
<b>Quail</b>				
Northern Bobwhite	r	r	r	-
<b>Loons</b>				
Common Loon#	i	-	-	-
<b>Grebes</b>				
Pied-billed Grebe*	c	c	c	-
Horned Grebe	o	-	r	-
Eared Grebe	r	-	-	-
<b>Pelicans</b>				
American White Pelican	o	o	r	-

Common Name	Sp	S	F	W
<b>Cormorants</b>				
Double-crested Cormorant	c	r	c	r
<b>Hérons &amp; Bitterns</b>				
American Bittern*	u	u	u	-
Least Bittern*#	u	u	u	-
Great Blue Heron*	c	c	c	o
Great Egret	u	c	c	-
Snowy Egret	r	r	-	-
Little Blue Heron	i	-	-	-
Cattle Egret	r	r	r	-
Green Heron*	u	c	u	-
Black-crowned Night-Heron	u	c	u	-
Yellow-crowned Night-Heron	-	i	-	-
<b>Ibises</b>				
White Ibis	-	-	i	-
Glossy Ibis	r	r	r	-
<b>Vultures</b>				
Turkey Vulture*	c	c	c	-
<b>Hawks &amp; Eagles</b>				
Osprey#	r	r	r	-
Bald Eagle*#	c	u	u	c
Northern Harrier	r	o	u	u
Sharp-shinned Hawk	o	-	o	r
Cooper's Hawk*	u	o	u	u
Northern Goshawk	-	-	r	r
Red-shouldered Hawk	r	-	r	r
Broad-winged Hawk	r	-	r	-
Red-tailed Hawk*	c	c	c	c
Rough-legged Hawk	o	-	o	u
Golden Eagle	r	-	-	r
<b>Falcons</b>				
American Kestrel	o	o	o	u
Merlin#	r	-	o	-
Gyr Falcon	-	-	i	-
Peregrine Falcon!	o	-	o	-
<b>Rails &amp; Coots</b>				
Yellow Rail	-	-	i	-
King Rail*!	r	r	r	-
Virginia Rail*	c	u	u	-
Sora*	c	u	u	-
Common Moorhen*	u	u	u	-
American Coot*	c	c	c	-
<b>Cranes</b>				
Sandhill Crane*	u	o	u	r



**Common Name****Sp S F W****Plovers**

Black-bellied Plover	o	r	o	-
American Golden-Plover	o	r	o	-
Semipalmated Plover	u	o	u	-
Killdeer*	c	c	c	r

**Avocets & Stilts**

Black-necked Stilt	-	i	-	-
American Avocet	r	r	r	-

**Sandpipers**

Greater Yellowlegs	c	c	c	-
Lesser Yellowlegs	c	c	c	-
Solitary Sandpiper	o	u	u	-
Willet	i	-	-	-
Spotted Sandpiper*	c	c	c	-
Upland Sandpiper	r	r	r	-
Whimbrel	i	-	-	-
Hudsonian Godwit	r	r	r	-
Marbled Godwit	r	-	-	-
Ruddy Turnstone	r	r	r	-
Red Knot	r	r	r	-
Sanderling	-	-	r	-
Semipalmated Sandpiper	u	u	u	-
Western Sandpiper	i	i	-	-
Least Sandpiper	u	u	u	-
White-rumped Sandpiper	o	o	o	-
Baird's Sandpiper	r	-	o	-
Pectoral Sandpiper	u	u	u	-
Dunlin	c	o	u	-
Curlew Sandpiper	i	-	-	-
Stilt Sandpiper	o	u	u	-
Buff-breasted Sandpiper	-	-	r	-
Ruff	i	-	-	-
Short-billed Dowitcher	u	u	u	-
Long-billed Dowitcher	-	-	u	-
Wilson's Snipe	u	-	u	-
American Woodcock*	u	u	u	-
Wilson's Phalarope*	o	r	o	-
Red-necked Phalarope	r	-	r	-

**Gulls & Terns**

Laughing Gull	i	i	-	-
Franklin's Gull	i	-	i	i
Little Gull	i	-	-	-
Bonaparte's Gull	o	-	u	o
Ring-billed Gull	c	u	a	o
Herring Gull	u	o	c	u
Iceland Gull	-	-	-	r
Lesser Black-backed Gull	-	-	-	r
Glaucous Gull	-	-	-	r
Great Black-backed Gull	-	-	-	r
Caspian Tern#	u	u	u	-

Common Name	Sp	S	F	W
Common Tern#	o	-	o	-
Forster's Tern	o	-	o	-
Black Tern*	o	o	o	-
<b>Pigeons &amp; Doves</b>				
Rock Pigeon	o	o	o	o
Mourning Dove	c	c	a	c
<b>Cuckoos</b>				
Black-billed Cuckoo*	o	o	o	-
Yellow-billed Cuckoo*	o	u	o	-
<b>Barn Owls</b>				
Barn Owl	-	i	-	-
<b>Owls</b>				
Eastern Screech-Owl*	u	u	u	u
Great Horned Owl*	u	u	u	u
Snowy Owl	r	-	-	r
Barred Owl*	u	u	u	u
Long-eared Owl#	-	-	-	i
Short-eared Owl!	o	-	u	u
<b>Nightjars</b>				
Common Nighthawk	o	-	o	-
Whip-poor-will	r	-	-	-
<b>Swifts</b>				
Chimney Swift	c	o	c	-
<b>Hummingbirds</b>				
Ruby-throated Hummingbird*	-	u	u	u
<b>Kingfishers</b>				
Belted Kingfisher*	c	c	c	r
<b>Woodpeckers</b>				
Red-headed Woodpecker	o	r	o	-
Red-bellied Woodpecker*	c	c	c	c
Yellow-bellied Sapsucker	u	-	u	-
Downy Woodpecker*	c	c	c	c
Hairy Woodpecker*	u	u	u	u
Northern Flicker*	c	c	c	o
Pileated Woodpecker*	u	u	u	u
<b>Flycatchers</b>				
Olive-sided Flycatcher	r	-	-	-
Eastern Wood-Pewee*	c	c	u	-
Yellow-bellied Flycatcher	r	-	-	-
Acadian Flycatcher	-	i	-	-
Alder Flycatcher	r	-	-	-
Willow Flycatcher*	c	c	o	-
Least Flycatcher*	u	u	o	-



Common Name	Sp	S	F	W
Eastern Phoebe*	u	u	u	-
Great Crested Flycatcher*	c	c	u	-
Eastern Kingbird*	u	u	u	-
<b>Shrikes</b>				
Northern Shrike	r	-	-	o
<b>Vireos</b>				
Yellow-throated Vireo*	u	u	o	-
Blue-headed Vireo	o	-	r	-
Warbling Vireo*	c	c	u	-
Philadelphia Vireo	r	-	r	-
Red-eyed Vireo*	u	u	u	-
<b>Crows &amp; Jays</b>				
Blue Jay*	c	c	c	c
American Crow*	c	c	c	c
<b>Larks</b>				
Horned Lark*	c	c	c	c
<b>Swallows</b>				
Purple Martin	o	r	r	-
Tree Swallow*	a	c	a	-
Northern Rough-winged Swallow*	c	u	c	-
Bank Swallow	c	o	c	-
Cliff Swallow	u	o	u	-
Barn Swallow*	c	u	c	-
<b>Chickadees &amp; Titmice</b>				
Black-capped Chickadee*	c	c	c	c
Tufted Titmouse*	c	c	c	c
<b>Nuthatches</b>				
Red-breasted Nuthatch	r	-	r	r
White-breasted Nuthatch*	c	c	c	c
<b>Creepers</b>				
Brown Creeper*	c	c	c	c
<b>Wrens</b>				
Carolina Wren	i	-	-	-
House Wren*	u	u	u	-
Winter Wren	u	-	u	-
Sedge Wren*	c	c	u	-
Marsh Wren*	c	c	u	-
<b>Kinglets &amp; Gnatcatchers</b>				
Golden-crowned Kinglet	u	-	u	r
Ruby-crowned Kinglet	u	-	u	-
Blue-gray Gnatcatcher*	c	c	u	-

Common Name	Sp	S	F	W
<b>Thrushes</b>				
Eastern Bluebird*	u	o	u	-
Veery	o	r	r	-
Gray-cheeked Thrush	o	-	o	-
Swainson's Thrush	u	-	u	-
Hermit Thrush	u	-	u	-
Wood Thrush*	u	u	u	-
American Robin*	c	c	c	o
<b>Thrashers</b>				
Gray Catbird*	c	c	c	-
Northern Mockingbird	r	r	r	-
Brown Thrasher*	o	o	o	-
<b>Starlings</b>				
European Starling*	c	c	c	c
<b>Pipits</b>				
American Pipit	u	-	u	-
<b>Waxwings</b>				
Bohemian Waxwing	-	-	-	r
Cedar Waxwing*	u	u	u	u
<b>Wood Warblers</b>				
Blue-winged Warbler	o	r	o	-
Golden-winged Warbler	o	r	o	-
Tennessee Warbler	u	o	u	-
Orange-crowned Warbler	r	-	o	-
Nashville Warbler	u	o	u	-
Northern Parula	o	-	o	-
Yellow Warbler*	c	c	u	-
Chestnut-sided Warbler	u	o	u	-
Magnolia Warbler	u	r	u	-
Cape May Warbler	o	r	o	-
Black-throated Blue Warbler	o	r	o	-
Yellow-rumped Warbler	c	-	c	r
Black-throated Green Warbler	u	r	u	-
Blackburnian Warbler	u	-	u	-
Pine Warbler	o	-	r	-
Kirtland's Warbler!	i	-	-	-
Palm Warbler	u	-	u	-
Bay-breasted Warbler	o	r	o	-
Blackpoll Warbler	o	-	o	-
Cerulean Warbler*	r	r	r	-
Black-and-white Warbler	u	o	u	-
American Redstart*	u	u	u	-
Prothonotary Warbler*	u	u	u	-
Ovenbird	u	o	u	-
Northern Waterthrush	u	o	u	-
Connecticut Warbler	o	r	o	-
Mourning Warbler	u	o	u	-



Common Name	Sp	S	F	W
Common Yellowthroat*	c	c	c	-
Hooded Warbler	i	-	-	-
Wilson's Warbler	u	o	u	-
Canada Warbler	u	r	u	-
Yellow-breasted Chat	i	-	-	-

### Tanagers

Scarlet Tanager*	u	u	o	-
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### Sparrows

Eastern Towhee	o	r	o	-
American Tree Sparrow	u	-	o	c
Chipping Sparrow*	u	u	u	-
Clay-colored Sparrow	i	-	-	-
Field Sparrow*	o	r	o	-
Vesper Sparrow*	u	u	u	-
Lark Sparrow	i	-	-	-
Savannah Sparrow*	c	c	c	-
Henslow's Sparrow	i	-	-	-
Fox Sparrow	u	-	u	-
Song Sparrow*	c	c	c	o
Lincoln's Sparrow	u	-	u	-
Swamp Sparrow*	c	c	c	r
White-throated Sparrow	c	-	c	-
Harris's Sparrow	i	-	-	-
White-crowned Sparrow	u	-	u	-
Dark-eyed Junco	c	-	c	u
Lapland Longspur	o	-	o	o
Snow Bunting	o	-	o	u

### Grosbeaks & Buntings

Northern Cardinal*	c	c	c	c
Rose-breasted Grosbeak*	u	u	u	-
Indigo Bunting*	c	c	u	-
Dickcissel*	-	i	-	-

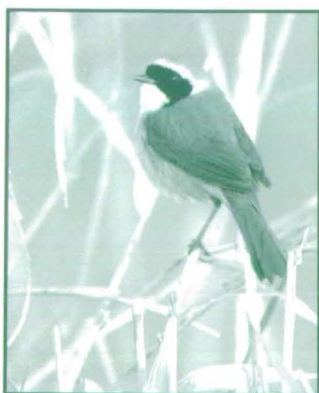
### Blackbirds & Orioles

Bobolink*	u	u	u	-
Red-winged Blackbird*	a	a	a	o
Eastern Meadowlark*	o	o	o	r
Western Meadowlark	i	-	-	-
Yellow-headed Blackbird*	r	r	r	-
Rusty Blackbird	c	-	c	-
Brewer's Blackbird	r	-	r	-
Common Grackle*	a	c	a	r
Brown-headed Cowbird*	c	c	c	r
Orchard Oriole	o	r	-	-
Baltimore Oriole*	c	c	r	-

Common Name	Sp	S	F	W
<b>Finches</b>				
Pine Grosbeak	-	-	-	i
Purple Finch	r	-	r	r
House Finch*	u	u	u	u
Common Redpoll	-	-	-	r
Hoary Redpoll	-	-	-	i
Pine Siskin*	r	-	-	r
American Goldfinch*	c	c	c	c
Evening Grosbeak*	-	-	-	i
<b>Old World Sparrows</b>				
House Sparrow*	u	u	u	u



*Mallards, Kim LeBlanc*



*Common Yellowthroat, Steve Gasser*





*Great Egret, Kim LeBlanc*

**Shiawassee National Wildlife Refuge**  
**6975 Mower Road**  
**Saginaw, MI 48601**  
**Phone: (989) 777-5930**

**Website:**  
**<http://www.fws.gov/midwest/shiawassee>**

**Individuals with hearing impairments may reach the refuge through the Federal Information Relay System at (800) 877-8339 (V/TTY)**

