

**PENNSYLVANIA IMPORTANT BIRD AREA #3
PYMATUNING, HARTSTOWN COMPLEX**

**Phase I Conservation Plan
(Prepared By: John Tautin Revised Draft; May 2004)**

Purpose of the Phase I Conservation Plan: This phase I conservation plan is a preliminary document to: 1) catalogue the natural resources and built environment for each Important Bird Area (IBA), 2) identify site boundaries, 3) document the criteria for which it was selected, 4) describe the birds and wildlife habitat which occur on the site with special reference to the species for which the site was selected as an IBA, 5) identify any conservation issues or threats to the site, and 6) provide recommendations for conservation actions to conserve or enhance habitat for bird populations, especially for those species for which the site was selected as an IBA. This Phase I Conservation Plan is intended to augment and expand the one-page site report contained in “A Guide to Critical Bird Habitat in Pennsylvania” (Crossley, 1999). The recommendations are presented from the perspective of bird and wildlife habitat conservation. It is acknowledged that not all the recommendations contained herein may be feasible or affordable. However, the plan is presented as an initial position from which to plan for and implement bird conservation on the site.

Site Name: Pymatuning, Hartstown Complex

Size: 29,978 acres (12, 132 hectares)

Ownership:

Pennsylvania Game Commission (PGC), Pennsylvania Department of Conservation and Natural Resources (DCNR), and some private holdings.

County/Municipality:

Crawford County/Conneaut, North Shenango, South Shenango, West Shenango, West Fallowfield, East Fallowfield, Sadsbury, Summit and Pine Townships.

Physiographic Province/Bird Conservation Region/Watershed:

The IBA is within the Glaciated Pittsburgh Plateau Section of the Appalachian Plateau Province. The IBA is part of the Lower Great Lakes/St. Lawrence Plain- US portion Bird Conservation Region (BCR) #13. The IBA is within the Shenango River watershed.

Legislative Districts:

3rd Congressional District, U.S. Representative, Phil English (R) - Crawford County
50th Senatorial District, State Senator, Robert D. Robbins (R) – Crawford County
5th House District, State Representative, John Evans (R) - Conneaut, Sadsbury, Summit and Pine Townships
17th House District, State Representative, Rod E. Wilt (R) – North Shenango, South Shenango, West Shenango, West Fallowfield and East Fallowfield Townships

Stewardship Adoption Status: The IBA has not been officially adopted to date.

IBA Selection Criteria:

- (1a) The site regularly supports numerous waterfowl, including Common Goldeneye (FM*, W-18,000max.), Canada Goose (W, FM-18,000±), Hooded Merganser (W,FM-4,000max.), and Tundra Swan (SM-2-5,000);
- (1b) The site supports numerous shorebirds (SM-400±);
- (2) The IBA supports the federally threatened and state endangered Bald Eagle (B-6±pair, W-10±), state endangered Black Tern (B-2±), state endangered American Bittern (B-2±pair), state endangered Least Bittern (B-2±pair), and state threatened Upland Sandpiper ((B 15-20 pair);
- (3) The site supports Pennsylvania species of special concern including *candidate-at-risk* Black-crowned Night-Heron (S), *candidate-rare* Pied-billed Grebe (B-2±pair), *candidate-rare* Marsh Wren (B), and *candidate-rare* Prothonotary Warbler (B-2±pair);
- (4a) The IBA contains an extensive, intact wetland complex, supporting breeding species such as Virginia Rail, Sora, Common Moorhen, etc.

Note: Numbers indicate single season maximum documented in recent years.

*SM= spring migration; FM= fall migration; B= breeding; W= winter

Important Avian Habitats:

Extensive emergent, scrub shrub, forested and open water wetlands and associated islands, hardwood/white pine forest and grassland/agricultural fields.

General Site Description:

Pymatuning SP and SGL No. 214 comprise the bulk of the large (29,978 acres, 12,137 hectares), diverse, horseshoed-shaped Pymatuning, Hartstown Complex IBA. Pymatuning SP is also known as Pymatuning Reservoir or Pymatuning Lake, and SGL No. 214 is sometimes called Pymatuning Wildlife Refuge, Pymatuning Wildlife Management Area, Sanctuary Lake, Pymatuning Swamp or Hartstown Swamp. The entire Complex is located near Linesville in Crawford County along the Ohio border, and is often referred to simply as “Pymatuning”.

Pymatuning SP covers Pymatuning Reservoir, and virtually all of its shoreline. The two-part Reservoir was created in 1934 to regulate water from Pymatuning Swamp into the Shenango and Beaver Rivers, and for flood control. A dam on the Shenango River at Jamestown maintains the 14,500 acre (5,870 hectare) lower Reservoir that extends into Ohio. This part of the Park is open to the public and offers recreational opportunities typical of state parks. Ohio’s portion of the lower Reservoir is also operated as a state park. Fishing and boating are especially popular at Pymatuning SP, and up to 4 million people visit each year.

A second, upper dam forming the causeway carrying present day Linesville-Hartstown Road Route south from Linesville maintains the 2,500 acre (1,012 hectare) upper

Reservoir at a constant level (elevation) of 1,010 feet (308 meters) , 2 feet (0.6 meter) higher than the lower reservoir. Both the upper and lower Reservoirs of Pymatuning are relatively shallow with maximum depths of 14 (4.3 meters) and 35 feet (10.7 meters), respectively.

The upper dam's infamous water control structure, the "Spillway" presents a barrier to fish attempting to move between the lower and upper Reservoirs. Thousands of carp concentrate gill to gill at the Spillway, much to the delight of tourists who feed them, and to the tame Mallards, Canada Geese and Ring-billed Gulls that compete with the carp for the food. At times the ducks actually walk on the fishes' backs. Although bizarre, perhaps even disgusting to the wildlife purist, this phenomenon is significant, because it draws visitors to the Pymatuning, Hartstown IBA, and for many visitors, it will be their most memorable wildlife experience.

The words "swamp", "bog", and "boreal" are common in pre-impoundment (1934) descriptions of habitat in the Pymatuning area, e.g., in Sutton (1928). While the post-impoundment loss of most of this original, pristine wetland habitat is regrettable, sizeable remnants remain in the Blackjack Swamp and upper sanctuary areas of Pymatuning State Park (Pymatuning SP), and on SGL No. 214 in the vicinity of Hartstown. Blackjack Swamp alone covers 725 acres (294 hectares). These emergent, forested, and shrub-scrub wetlands are all important to the wetland associated birds that warrant IBA status for the Pymatuning, Hartstown Complex. Also, the large expanses of open water that now cover the original wetlands provide some mitigating benefits to birds, especially the large numbers of breeding, migrating and wintering waterfowl. An abundance of lake fishes benefits piscivorous birds.

The Pymatuning, Hartstown Complex also contains upland habitats that are important to birds. Hardwood forest exists on the fringes, and on numerous islands found in both the upper and lower impoundments. Clark Island, in particular, has 161 acres (65 hectares) of protected mature hardwood/ white pine forest. The heavily managed Controlled Hunting Area of SGL No. 214 contains a mix of grasslands and agricultural fields that support grassland species of birds such as the Bobolink and Upland Sandpiper.

The legislation enabling Pymatuning Reservoir called for certain lands to be reserved for a wildlife sanctuary. Thus, the upper 2,500 acre (1,012 hectare) Reservoir and approximately 1,650 acres (668 hectares) of adjoining land are maintained as a sanctuary, largely closed to the public, and managed by PGC under a long-term lease with the Park. Pymatuning Swamp and the 4,140 acre SGL 214 begin at the terminus of the upper Reservoir and extend as a line of marsh and forested swamp south through Hartstown, Hartstown Swamp and Crooked Creek. An upland area adjacent to State Route 285 contains several small ponds and extensive fields. Much of SGL 214 is intensively managed as a Controlled Hunting Area to provide quality waterfowl hunting. In total, through ownership and lease, PGC manages some 8,300 acres (3,360 hectares) of the Pymatuning, Hartstown IBA.

The Pennsylvania Fish and Boat Commission (PFBC) and the University of Pittsburgh (UP) also lease small acreages from Pymatuning SP along the upper Reservoir near Linesville. PFBC operates the Linesville Fish Hatchery and Visitor Center there, and UP operates its Pymatuning Laboratory of Ecology, a research facility.

More extensive descriptions of the Pymatuning area can be found in Grimm (1952) and in DCNR (1998). The latter contains detailed information on history, soils, water resources, geology, and Park management. Excellent maps of the Pymatuning area are available from the Park <http://www.dcnr.state.pa.us/stateparks/parks/pymatuning.asp>, and from PGC http://www.pgc.state.pa.us/land/maps/game_land/214.pdf. About 26,000 (10,522) of the 29,000 acres (11,736 hectares) of the Pymatuning, Hartstown IBA are under State jurisdiction and thus afforded a significant measure of protection.

Summary of Birds:

Pymatuning was long been known for its diverse birdlife. Sutton's (1928) definitive work describes habitats and documents birds of the area prior to the establishment of the Reservoir. He listed 244 species of birds as being found in the area. Todd's (1940) monumental work, while broader in scope than Sutton's, contains numerous references to Pymatuning.

The establishment of the Reservoir greatly altered avian habitats at Pymatuning, destroying some and creating others as large areas of aquatic vegetation developed. Subsequent changes in bird life stimulated a flurry of publications during the 1930s and 40s, mostly anecdotal species reports, e.g., Oudette (1937), but some more comprehensive (Trimble 1940). The flush of new aquatic habitat combined with widespread drought of 1930's in other parts of country may have accounted for the nesting of unexpected species, e.g. Redhead (Todd 1940) not since recorded. Grimm's (1952) comprehensive work provides excellent summaries of the occurrence and status of birds at Pymatuning during the 1930s and 1940s.¹

In recent decades attention to birds at Pymatuning has waned, and comparatively little information about birds in the area has been documented formally. Most recent information, while generally reliable, is informal and based largely on casual observation. Exceptions to this generality are occasional observations recorded in *Pennsylvania Birds*, a series of behavioral studies done at Pymatuning Laboratory of Ecology (<http://www.pitt.edu/~biology/pymatuning.htm>), Christmas Bird Counts, and annual reports of waterfowl survey data compiled by PGC.

Waterfowl continue to be abundant and conspicuous at the Pymatuning, Hartstown Complex. Thousands of geese, ducks, and swans are found there during migration, often concentrated on Sanctuary Lake. Notable numbers of migrants include up to 18,000

¹ It is noteworthy that Grimm's bibliography of Pymatuning related publications contains works by prominent ornithologists like John W. Aldrich, Hal H. Harrison, Harry C. Oberholser, George M. Sutton, Roger Tory Peterson, and W. E. Clyde Todd. This list of names reads like a Who's Who of mid-twentieth century ornithologists and suggests that Pymatuning was of some import as a birding area.

Common Goldeneyes, 5,000 Tundra Swans, and 4,000 Hooded Mergansers. Some 18,000 Canada Geese winter at Pymatuning, including a substantial portion of the Southern James Bay Population that is well below population objectives set under the North American Waterfowl Management Plan (USFWS 1998). American Black Ducks, another species well below population objectives, winter at Pymatuning and also use the Complex during migration. Some 200 pairs of Canada Geese nest at Pymatuning as do substantial numbers of Wood Ducks, Mallards and Hooded Mergansers. The all-around Importance of the Pymatuning, Hartstown Complex to waterfowl has earned it Sub-Focus Area recognition and emphasis under the North American Waterfowl Management Plan.

Shorebird use of the Pymatuning, Hartstown Complex is not well documented, but 400 individuals of several species are estimated conservatively to use the complex during migration (Bish, personal communication).

During the widespread decline of Bald Eagles during the 1950s, 1960s, and 1970s, Pymatuning was the last place in Pennsylvania where they nested, albeit as few as one pair in some years. In 2003, six pairs nested on the complex, and as many as 22 individuals have been observed at one time at Sanctuary Lake (Bish, personal communication). Pymatuning is thought to be a continuing source of Bald Eagles expanding out into other parts of Northwestern Pennsylvania to nest.

A number of other Pennsylvania Breeding Birds of Special Concern (<http://www.dcnr.state.pa.us/forestry/pndi/fullvertebrate.asp>) occur at the Pymatuning, Hartstown Complex. Of these, Marsh Wren, Common Moorhen, American Bittern, Least Bittern, Sora, Upland Sandpiper, Black Tern, Pied-billed Grebe, and Virginia Rail are known to breed there. Black Terns have nested sporadically in the past, and 2-3 pairs were observed exhibiting nesting behavior again in 2003 (Bish, personal communication). Up to 20 pairs of Upland Sandpipers nest in the managed grasslands of SGL 214 (Bish, personal communication).

At least 10 of the 16 species on the BCR 13 Birds of Conservation Concern (<http://migratorybirds.fws.gov/reports/bcc2002.pdf>) occur at the Pymatuning, Hartstown Complex. These are: Peregrine Falcon, Upland Sandpiper, Common Tern, Black-billed Cuckoo, Whip-poor-will, Red-headed Woodpecker, Golden-winged Warbler, Cerulean Warbler, Canada Warbler, and Bobolink. The Bobolink commonly nests on the managed grasslands of SGL No. 214.

Two small colonies of Cliff Swallows are found on the Pymatuning, Hartstown Complex, one at the causeway bridge west of Espyville, and the other at the PFBC Linesville Fish Hatchery.

Avian Monitoring Efforts:

PGC monitors waterfowl closely with a spring duck breeding pair survey, a Canada Goose nest survey and a Mid-winter Waterfowl Survey. Although not monitoring, per se, about 3,000 waterfowl are banded annually by PGC. PGC also monitors Bald Eagle numbers and nesting success.

The Linesville Christmas Bird Count, conducted annually since 1948, covers the Pymatuning, Hartstown Complex. Results and analytical tools are available from <http://www.audubon.org/bird/cbc/hr/index.html>. Highlights of the annual Linesville count include high counts of waterfowl and Ring-Billed Gulls, and the Commonwealth's highest count of Bald Eagles.

Education/Recreation/Ecotourism Activities and Opportunities:

The clearly stated mission of Pymatuning SP is to provide recreation and education. (*"The primary purpose of state parks is to provide opportunities for enjoying healthful outdoor recreation and to serve as outdoor classrooms for environmental education."*) (DCNR 1998). A wide range of recreational activities occur, including boating, fishing, hunting, birding, camping, picnicking, hiking, and swimming. In the winter months, snowmobiling, skiing, and sledding are common activities. The Park maintains numerous campgrounds, boat launches, parking areas and beaches to facilitate these activities. Up to 4 million people visit the Park annually. Fishing and boating are especially popular activities. Bird watching seems not to be at its full potential, but some organizations like Presque Isle Audubon Society and Three Rivers Birding Club from Pittsburgh occasionally organize birding trips to Pymatuning.

The Park employs one full-time Environmental Education Specialist, and conducts a wide variety of environmental education and interpretive programs, including hands-on activities, guided walks, and evening programs. Group programs are also available, as well as curriculum-based education programs for school-age children and youth groups. Some information on birds is presented, and an abbreviated bird list is available.² The Park does not have a visitor center or other suitable indoor venue for larger group presentations.

The PGC Wildlife Learning Center located at Ford Island on Sanctuary Lake features natural history information on birds. Mounted birds, eggs, and nests are exhibited in traditional museum style. Bird posters and fact sheets are available and informative, but dated in appearance. Clearly lacking is contemporary information on bird conservation. The crowded quarters put the bird material in close competition with other wildlife exhibits. A checklist is not available, but the grounds and a short nature trail afford some birding opportunity. Bald Eagles can often be observed from the Center. A colony of Purple Martins is maintained at the Center.

The annual (September) Pymatuning Waterfowl Expo at Linesville presents an opportunity to expand public awareness of birds and bird conservation. The Expo is a locally organized fund raiser for Ducks Unlimited. It naturally features events, displays and vendors emphasizing waterfowl hunting and conservation. However, in recent years the scope of the Expo has expanded to include local conservation organizations, programs, and themes complementary to waterfowl conservation. In 2003, a Clean Water Festival will be held in conjunction with the Expo. The Pymatuning Waterfowl

² Less than 100 common species are listed. DCNR (1998) lists 197 species occurring in the Park. Sutton (1928) reported 244 species in the area.

Expo receives considerable community support, because it draws out of town visitors, and thus contributes to ecotourism and the local economy.

Management/Conservation Issues and Opportunities:

Although most of the Pymatuning, Hartstown Complex is State-owned and protected, some threats to birds, and to their habitats exist. Invasive species dominate much of the vegetation on both Pymatuning SP and SGL No. 214. Multiflora Rose and the bush-honeysuckles affect upland habitats. Reed Canary Grass, Common Reed, Purple Loosestrife, Narrow-leaf Cat-tail and Eurasian Water-milfoil pose a specific threat to the wetlands. Ironically, a State endangered species, American Lotus, has become a problem in some areas, impeding access at some boat launches. Another native emergent, Spatterdock covers large areas of SGL No. 214. PGC makes some effort to control invasive plant species on SGL No. 214 by mechanical means, and more recently, with experimental draw-downs. The latter approach met with some local resistance, however, because some fish died.

From opposite perspectives, two animal species, the Canada Goose and the Common Carp are seen as invasive species in the Pymatuning, Hartstown Complex. An over-abundance of resident Canada Geese at beaches and launches poses a serious management problem for Pymatuning SP. These nuisance geese are not known to adversely affect other bird life, but they give many Park visitors a negative experience with birds and cause the Park to expend resources to move, remove or otherwise control the geese. Their efforts have been largely unsuccessful, and the Park seeks more latitude in controlling geese on site, as well as liberalized hunting off-site where presumably many of these resident geese originate. This puts them somewhat at odds with PGC and US Fish and Wildlife Service efforts (conservative regulations) aimed at protecting the migrant Southern James Bay Population that winters in the area.

Just the opposite situation occurs with carp. The Park views carp as largely benign relative to other fish, and to birds, and positive for visitors who go to the Spillway to view and feed the mass that concentrates there. In contrast, on the PGC managed side, carp are viewed as detrimental to wetland bird habitat because they destroy aquatic vegetation. Indeed, the detrimental effects of carp on aquatic vegetation are well documented, including a study at Pymatuning. From Aldrich and Uhler (1944):

“The reservoir is now almost barren of submerged vegetation. The coontail and waterweed which spread from the original tiny open-water areas of the former swamp until most of the Upper Reservoir was well vegetated with these aquatic plants in 1936 began to decrease in 1937 along with the advent of the European carp. By 1938 the carp began to become conspicuous in the Upper Reservoir in spite of the fact that an effort was made to exclude the tremendous carp population of the Lower Reservoir from the upper unit by installing wire screening at the spillway. The carp population has now increased to the point where the turbidity that they create while rooting for feed has made the survival of submerged vegetation practically impossible in any but the shallowest portions of the reservoir.”

DCNR proposes to increase the allowable boat motor size from 10 to 20 hp at Pymatuning and several other state parks. Some may see this as a threatening because of possible increased disturbance to birds and their aquatic habitats. However, many of the boats used at Pymatuning are larger, inherently slower, pontoon boats, and it is not expected that the increase in horsepower will significantly change their operation. The proposal will likely be implemented soon for safety concerns and the practical reason that many motors used on Pymatuning have already been modified to yield higher than nominal horsepower. Regulations restricting the use of towables and personal watercraft will remain in effect, as will area closures around Bald Eagle nests. Hopefully, there will be no adverse affect on bird life, but the situation bears watching.

The combination of diverse bird populations and habitats, the resources and interests of Pymatuning SP and PGC, a supportive local community, and an already high visitation rate present opportunities for expanding awareness and conservation of birds in this IBA. More can be done to enhance bird habitats on and around the Upper Reservoir and SGL 214. Local PGC staff has a definite interest in managing for avian diversity and abundance, and they have the requisite knowledge and considerable capability. Their efforts would be enhanced with a management plan³, and increased support from partners and higher levels in the agency. Likewise, with some planning and additional resources, PGC, Pymatuning SP, and their partners can do more to educate people about birds and promote birding based ecotourism in the area. This would have the added benefit of helping the local economy.

Conservation Actions: *The following conservation actions describe **current and ongoing efforts** by DCNR and PGC:*

DCNR:

- Clark Island and Black Jack Swamp maintained as natural areas
- Area closures around Bald Eagle Nests
- Birds included in educational programs

PGC:

- Large upper reservoir maintained as sanctuary
- Waterfowl and Bald Eagle surveys conducted annually
- Waterfowl banded annually
- Warm-season grasslands maintained
- Some control of invasive species
- Some management of water levels in impoundments
- Extensive natural history material on birds at Wildlife Learning Center

*The following conservation actions describe **proposed recommendations** for consideration by DCNR and PGC and other interested organizations, agencies and groups for the maintenance, improvement and enhancement of habitat for bird species, especially to optimize habitat value for IBA target species as well as for the promotion of bird conservation through educational outreach:*

³ A management plan is currently being drafted.

- Expand research, inventory and monitoring efforts to include non-hunted, non-endangered species;
- Focus on documenting breeding species in conjunction with Breeding Bird Atlas
- Conduct inventory and monitoring of species of special concern including threatened and endangered species
- Increase efforts to aggressively manage and control invasive plant species, especially in areas that affect the quality of habitat for birdlife
- Control carp on PGC managed areas
- Increase management of water levels on PGC impoundments to improve habitat quality for breeding and migrating waterfowl
- Acquire adjoining habitats important to birds as opportunities arise
- Monitor effects of increased boat motor size on Pymatuning SP
- Expand information and education efforts
- Update bird materials at PGC Wildlife Learning Center, include IBA brochure and other bird conservation materials
- Increase EES staff at Pymatuning SP and include more material on birds in educational programs
- Promote bird conservation at the Pymatuning Waterfowl Expo
- Promote birding in the Pymatuning, Hartstown Complex
- Develop a comprehensive species checklist and continually update on a 5 year frequency
- Develop an area birding “trail” and guide
- Advertise bird sightings via web site or other means
- Incorporate the above recommendations in PGC’s management plan for SGL 214
- Install an interpretive sign at a high use point identifying the site as an IBA and also identifying other conservation partners

Institutional Partners and Key Contacts:

- Crawford Conservation District (CCD), Lynne Sandieson, 814-724-1793
- Ducks Unlimited (DU), Chris Clouser, 814-832-4675
- National Wild Turkey Federation (NWTf), Larry Holjencin, 814-834-6492
- Northwestern Pennsylvania Duck Hunters Association (NPDHA) Bernie Pauley, 814-455-9392
- Pennsylvania Department of Conservation and Natural Resources (PA DCNR) Pymatuning State Park, Park Operations Manager, John Houghton, 724-932-3142,
- Pennsylvania Department of Environmental Protection (PA DEP) Freda Tarbell, 814-332-6816
- Pennsylvania Fish and Boat Commission (PFBC) A. Woomey, 814-755-3890
- Pennsylvania Game Commission (PGC) Jerry Bish, 724-927-2658
- Purple Martin Conservation Association (PMCA), John Tautin 814-763-734-4420
- Ruffed Grouse Society (RGS) 412-262-4044
- Safari Club International (SCI) 520-620-1220
- US Fish and Wildlife Service (US FWS) David Putnam 814-234-4090

- UDSA Natural Resources Conservation Service (USDA NCRS) Carl Pelino, 814-724-1852
- University of Pittsburgh (UP) Peter Quinby 814-683-5813
- Western Pennsylvania Conservancy (WPC), Todd Sampsell 814-739-9991

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