

**PENNSYLVANIA IMPORTANT BIRD AREA #63
POCONO LAKE PRESERVE**

**Phase I Conservation Plan
(Prepared By: F. Arthur McMorris; 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, 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: Pocono Lake Preserve.

Size: 41,891 acres.

Ownership:

Private, 15,202 acres; PA stewardship, 26,689 acres.

County/Municipality:

Monroe County: Tobyhanna Township, Coolbaugh Township.

Physiographic Province/Bird Conservation Region/Watersheds:

The IBA is situated in the Pocono Plateau Section of the Appalachian Plateau province.

The IBA is part of the Appalachian Mountains Bird Conservation Region #28.

Delaware River drainage: Tobyhanna Creek, Tunkhannock Creek, Trout Creek; Lehigh River.

Legislative Districts:

11th Congressional District: Paul E. Kanjorski (D), 570-895-4176.

118th Legislative District (Tobyhanna Twp.): Thomas M. Tigue (D), 570-655-4883.

176th Legislative District (Coolbaugh Twp.): Mario M. Scavello (R), 570-839-0313, msscavell@pahousegop.com.

14th Senatorial District (Tobyhanna Twp.): Raphael J. Musto (D), 717-787-7105, musto@pasenate.com.

22nd Senatorial District (Coolbaugh Twp.): Robert J. Mellow (D), 717-787-6481, mellow@pasenate.com.

Stewardship Adoption Status: Not adopted.

IBA Selection Criteria:

- (2) Endangered or threatened: Osprey (B* – 5 pair), Yellow-bellied Flycatcher (B historical);
- (4a) Contains threatened, or unusual habitat within the Pocono region;
- (4b) Contains representative habitat and associated northern boreal forest birds.

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

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

Important Avian Habitats:

Native northern hardwood forest, evergreen forest, mixed forest, wetlands. Wetland types: rivers and streams, lakes, swamps, vernal pools. Major palustrine types: forested, scrub-shrub; minor palustrine types: emergent, aquatic bed, open water, and unconsolidated shore.

General Site Description:

The Pocono Lake Preserve IBA is located on the Pocono Plateau in western Monroe County at an elevation of approximately 500-550 meters (1640-1800 feet). The area represents the southernmost extent of the Wisconsin glaciation in northeastern Pennsylvania approximately 16,000 years ago. The relief is gently rolling, a relic of glacial scouring; and the soils are formed from glacial till consisting of silt, sand, gravel and stones derived from siltstone, sandstone and shale. Ground cover consists primarily of native northern hardwood forest with large areas of evergreen forest and mixed forest, and small areas of meadow and old-field. Common tree species include American beech (*Fagus grandifolia*), white and black oak (*Quercus alba*, *Q. velutina*), black cherry (*Prunus serotina*), red and sugar maple (*Acer rubrum*, *A. saccharum*), ash (*Fraxinus spp.*), yellow and black birch (*Betula allegheniensis*, *B. lenta*), eastern hemlock (*Tsuga canadensis*), red spruce (*Picea rubens*), balsam fir (*Abies balsamea*), eastern white pine (*Pinus strobus*), and tamarack (*Larix laricina*) (Cary, 2002). Essentially the entire Pocono Plateau was clear-cut in 1860-1870, and most of the area was logged again in 1900-1910. Pocono Lake Preserve and the immediate vicinity were not cut during the second logging episode; therefore, trees in this locality are approximately 40 years older than elsewhere in the region (Shirk, 1996; J. Henry, pers. comm.). The IBA contains four lakes of approximately 400-600 acres in size: Brady's Lake on Trout Creek; Stillwater Lake and Lake Naomi on Tunkhannock Creek; and, downstream of the latter, Pocono Lake on Tobyhanna Creek. Scattered through the IBA are numerous boreal conifer swamps and scrub-shrub swamps; these are drained by small streams which flow into the above-named creeks which then drain into the Lehigh River. Overall, 22% of the acreage of the IBA is classified as wetland. Selected areas of biological importance are designated as natural areas, and are protected from human disturbance. Pocono Lake Preserve is the largest site in Pennsylvania for Osprey reintroduction. Ten to twelve nests are currently active in the region, with 4-5 active on Pocono Lake each year (Rymon, 1989; Brauning, 1992; T. Master, pers. comm.).

The nucleus of IBA #63 is Pocono Lake Preserve (PLP), a 6190-acre private preserve which consists of the 548-acre Pocono Lake and surrounding land. Most of PLP (i.e., 5690 acres) lies within IBA #63; the remaining 500 acres (a portion of Adams Swamp) lies south of Interstate 80 and is included in the adjacent Long Pond IBA (IBA #64). Lands adjacent to PLP that have similar habitat and which are undeveloped or minimally developed are included in the IBA. This includes approximately 1000 acres of privately owned land, plus the southwestern unit of State Game Land (SGL) 127 (approximately 23,500 acres), SGL 318 (Lost Lakes; 859 acres), and Two Mile Run (TNC) Swamp. PLP is private and is not accessible to the public. However, PLP welcomes people onto the preserve for the purpose of conducting bona fide scientific studies (J. Henry, pers. comm.).

Pocono Lake is an artificial lake created by the construction of a logging dam in 1867 and enlarged to its present size in 1899 by the construction of a higher dam for ice production (Shirk, 1996). In 1907, the lake and much of the present-day preserve were purchased by a group of Quaker families for the purpose of forming a vacation and religious retreat; the enterprise was chartered as the Pocono Lake Preserve in 1910. Currently there are 140 “memberships” in the Preserve; each member is entitled to a 2-4-acre plot (“leasehold”) on which a cottage is constructed. The total area of the leaseholds is 500 acres (Shirk, 1996). The leasehold plots and cabins are restricted to the area close to the lake or along the access road leading to the lake. A strip of land and a gravel road encircling the lake form a buffer between the cabins and the lake. Areas further from the lake are minimally disturbed. Approximately 28 miles of maintained hiking trails and another 10-15 miles of casual hiking trails give access to the interior of the preserve. Motorized vehicles of any kind are banned from the trails.

Lake Naomi and Stillwater Lake lie upstream of Pocono Lake on Tunkhannock Creek. The southeastern side of Stillwater Lake and the entire perimeter of Lake Naomi are heavily developed. The lakes are included within the IBA but the developments are excluded. Brady’s Lake in SGL 127 is not developed.

Areas adjacent to IBA #63 or nearby include Gouldsboro State Park, Tobyhanna State Park and the northeastern unit of SGL 127 to the north; SGL 221 to the northeast; SGL 38 to the southeast; SGL 40, SGL 129 and Hickory Run State Park to the southwest, and Lackawanna State Forest, SGL 91, SGL 135, and Spruce Swamp Natural Area to the west. Units of Delaware State Forest are nearby to the northeast, east, southwest and west. Interstate Route 80 forms part of the southern boundary of IBA #63. Long Pond IBA (IBA #64) is immediately adjacent on the south side of I-80.

Summary of Birds:

At least 274 bird species have been reported on the Pocono Plateau (Master and Rymon, 1981; Carter, 1904, 1906; Street, 1915, 1956, 1976; Street and Wiltraut, 1986). The 1992 Atlas of Breeding Birds in Pennsylvania lists 125 species that are possible, probable or confirmed breeders in the Pocono Lake Preserve area (Brauning, 1992). Breeders represent a variety of birds characteristic of forest interior, forest edge, conifer and scrub-shrub swamp, and riparian habitats. These include Ruffed Grouse, Wild Turkey, Spotted

Sandpiper, American Woodcock, Scarlet Tanager, and a good variety of woodpeckers, flycatchers, vireos, swallows, thrushes, warblers (21 species), sparrows and finches, among others (Brauning, 1992). Noteworthy among the breeders are a number of forest interior, mountain, northern, and conifer species, including Black-billed Cuckoo, Yellow-bellied Sapsucker, Northern Saw-whet Owl, Alder Flycatcher, Red-breasted Nuthatch, Golden-crowned Kinglet, Swainson's Thrush (possible); warblers including Golden-winged (possible), Nashville, Magnolia, Yellow-rumped, Black-throated Blue (probable), Black-throated Green, Blackburnian (probable), Worm-eating (possible), Canada and Northern Waterthrush; White-throated Sparrow, Dark-eyed Junco, and Purple Finch (Brauning, 1992). Added to this list are historical records of Common Loon, Yellow-bellied Flycatcher, Olive-sided Flycatcher, and Winter Wren (Carter, 1904, 1906; Street, 1915, 1956, 1975; Street and Wiltraut, 1986). There are several historical records of Red Crossbills being observed at Pocono Lake, but no confirmed breeding records (Carter, 1904; Street, 1956; Street and Wiltraut, 1986; Brauning, 1992).

Pocono Lake Preserve was the most important site for Osprey re-introduction in Pennsylvania, and it now supports the highest concentration of Osprey nests in the state. Historically, Ospreys were observed at scattered locations across Pennsylvania, although breeding was poorly documented. Ospreys began to decline even before 1900 and declined severely during the 1950s and 1960s due to habitat alterations and agrochemical use (Rymon, 1989) and they were considered extirpated from the state by 1979 (Gill, 1985). From 1980 to 1986, a total of 111 Osprey nestlings were brought from the Chesapeake Bay area to Pocono Lake where they were hand-reared and released at hacking sites (Rymon, 1989). At least 13 breeding pairs were established in the Poconos by 1996, (McWilliams and Brauning, 2000), with about a third of those being at Pocono Lake itself. Currently, 4-5 nests are active at Pocono Lake each year (T. Master, pers. comm.).

Avian Monitoring Efforts:

North American Breeding Bird Survey (BBS) route 72037 runs through IBA #63; approximately 10 miles of the route are within the core boundary. Christmas Bird Count #171, Pocono Mountain, is within the IBA but is currently inactive. The Pocono Avian Research Center, founded in 2000, operates a migration banding station in the region and conducts studies with Project OwlNet and with the Monitoring of Avian Productivity and Survivorship (MAPS) program.

Education/Recreation/Ecotourism Activities and Opportunities:

Pocono Lake Preserve is on private land and is not accessible to the public. However, the Preserve welcomes naturalists who wish to conduct bona fide scientific studies. Birding, general nature study, hiking, and hunting are allowed on the 24,000-plus acres of State Game Lands within the IBA.

Management/Conservation Issues and Opportunities:

The primary conservation concern is overbrowsing by white-tailed deer (*Odocoileus virginianus*). Overbrowsing has been serious for many years, resulting in severe degradation of the forest understory.

Human population growth is a serious concern; the current growth rate in the Poconos is 300 times the state-wide average, due primarily to conversion from seasonal to year-round residence. Population growth results in haphazard development, habitat fragmentation, and stresses on land and water resources and on local governments and budgets which adversely affect conservation. Related to this issue is an ongoing movement to construct a highway interchange on Interstate 80 at Stoney Hollow Road, only 1 mile from Pocono Lake, for use by patrons of the nearby Pocono International Raceway. If constructed, this would be expected to increase local traffic and sprawl development.

Lake Naomi is overdeveloped and is eutrophic due to septic system outflow. Pollution is currently confined by the dam, so that water quality downstream is still excellent.

Eastern hemlock, the most common conifer in the Poconos, has come under attack by the exotic hemlock wooly adelgid (*Adelges tsugae*). The adelgid was nearly eradicated by the cold winter of 2002-2003, and it is hoped that cold winters will continue to be frequent enough to keep it under control. The Pocono area is too large, and hemlock too abundant, for effective control by any other than natural means.

American beech, originally one of the most common deciduous trees in the region, have become infected by beech bark disease, caused by the exotic beech scale insect (*Cryptococcus fagisuga*) together with native fungi (*Nectria spp.*). Most trees have become infected; this usually kills the trees. Occasional trees appear to be resistant, and it is hoped that these will become the base for natural repopulation with resistant trees.

A number of invasive plant species have gained a foothold in the Poconos. These include phragmites (*Phragmites australis*), multiflora rose (*Rosa multiflora*), purple loosestrife (*Lythrum salicari*), Japanese knotweed (*Polygonum cuspidatum*), spotted knapweed (*Centaurea maculosa*), Japanese stilt grass (*Microstegium vimineum*), and Japanese barberry (*Berberis thunbergii*). Common cattail (*Typha latifolia*), which is not native to the Poconos, has gained a foothold in disturbed areas. These species do not prefer the acidic soils that are prevalent on the Pocono Plateau, but they have become established nevertheless.

- 20-30 deer are taken by hunters each year; this represents approximately 10-15% of the estimated standing herd of 150-200 deer on the 6190-acre preserve. Private owners of surrounding properties do not follow such an aggressive deer-hunting policy, and deer are free to enter the preserve from surrounding areas. Nevertheless, the General Manager of PLP reports that he has observed a decrease in the deer population at PLP over the last 5 years (J. Henry, pers. comm.). The current deer herd at PLP, estimated to be 15-20 deer/square mile, is within the bearing capacity of a healthy forest, but the region been overbrowsed for so long that the habitat cannot support this population (J. Henry, pers. comm.; Cook, R., pers. comm.).
- PLP has constructed 3 deer exclosures, enclosing areas of 5, 22, and 24 acres, and a fourth exclosure of 20 acres is under construction. The first of these exclosures was

constructed 10 years ago, and has resulted in a dramatic increase in biodiversity of both plant and bird species.

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

- Deer hunting is allowed on the 24,000+ acres of IBA #63 which are on State Game Lands.
- PLP encourages deer hunting by its members and employees. Additionally, members of the general public are allowed onto the property to hunt deer. Preference is given to hunters who have antlerless deer licenses.
- PLP monitors the activities of a number of local companies, landowners, and municipalities. PLP takes a proactive stance on local issues affecting development, watershed protection, and other conservation-related issues, and works closely with The Nature Conservancy, the Wildlands Conservancy, and other groups to influence local activities.
- PLP has aggressively acquired land adjacent to its property, for the purpose of preventing development and protecting the watershed feeding the lake as well as for the purpose of expansion per se. From a former size of 3800 acres, PLP has acquired 2400 additional acres since 1980, almost half of it during the last 6 years. The first of these acquisitions, that of the 1200-acre Adams Swamp in 1980, was structured so that title to the land is held by The Nature Conservancy and is leased back to PLP. Subsequent purchases were made directly by PLP, with conservation easements being held by The Nature Conservancy or by the Wildlands Conservancy. Efforts are under way by PLP and its partners to achieve protection of other properties in the region by conservation easement.
- PLP has an aggressive program for the removal of invasive plants. Multiflora rose has been essentially extirpated from the property. However, other species, particularly Japanese barberry, have not yet been brought under control.
- PLP proactively monitors septic systems, lake and stream water quality, runoff, lake and stream macroinvertebrates, and other conditions to keep informed of watershed and ecosystem health and to obtain early warning of any threats.
- PLP has a long-range forest conservation and management plan, under the direction of Richard E. Cary, Certified Forester. Extensive forestry studies are carried out in 10 study areas of approximately 100-400 acres each. Approximately 800 acres of the preserve are actively managed; the remainder is left as unmanaged wilderness. Primary objectives in the managed areas are to enhance age diversity and biodiversity. A representative management approach is to selectively log an area and then erect a deer enclosure.

*The following conservation actions describe **proposed recommendations** for consideration by Pocono Lake Preserve, other private landowners, The Nature Conservancy, the Pennsylvania Game Commission, 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:*

- Further actions are needed to reduce the deer population. Possible actions would be:
 - Work with private landowners, companies and governmental agencies having responsibility for lands within and adjacent to the IBA to promote deer hunting.
 - Revise state regulations concerning deer hunting. In the opinion of the director of the Northeastern PA Office of The Nature Conservancy, current state regulations do not allow enough pressure to be brought against deer to bring the population to a level which can be supported by the habitat (R. Cook, pers. comm.).
 - Enlist the forest products industry in Pennsylvania to address the deer problem. The industry has taken little action, in spite of the significant economic losses it suffers from deer.
- Limit the timber harvest within the IBA and the region.
- Obtain a scientific assessment of the forest management procedures currently being followed at privately and publicly-owned properties, and their effect on ecosystem health in general and birds in particular, especially forest interior birds.

Institutional Partners and Key Contacts:

- Pocono Lake Preserve, Pocono Lake, PA 18347: John D. Henry, General Manager, 570-646-2081, John@thepreserve.net.
- The Nature Conservancy, Northeastern PA Office, Long Pond, PA, 18334: Bud Cook, Director. 570-643-7922, RCook@tnc.org.
- The Wildlands Conservancy, 3701 Orchid Place, Emmaus, PA. Debra Lermite , Director of Land Conservation and Planning. 610-965-4397 ext. 11. www.wildlandspa.org.
- Pennsylvania Department of Conservation and Natural Resources (PA DCNR), www.dcnr.state.pa.us.
- Pennsylvania Game Commission, www.pgc.state.pa.us. Northeast Regional Office. PO Box 220, Dallas, PA 18612. Barry Warner, Director. 570-675-1143 or 1144.
- Pennsylvania Department of Environmental Protection, www.dep.state.pa.us. Northeast Regional Office. 2 Public Square, Wilkes Barre, PA 18711-0790. William F. McDonnell, Regional Director. 570-826-2511.
- Tobyhanna Creek/Tunkhannock Creek Watershed Association. P.O. Box 796, Pocono Lake, PA 18347. Herb Wile, President. 570-643-2001, www.tctcwa.org.
- Tobyhanna Township Government, HC 89, Box 289, Government Center Building, State Avenue, Pocono Pines, PA 18350. 570-646-1212.
- Monroe County Government, One Quaker Plaza, Stroudsburg, PA 18360. 570-420-3450.
- Monroe County Conservation District, 8050 Running Valley Road, Stroudsburg, PA 18360. 570-629-3060.
- Monroe County Cooperative Extension Service, RR 7 Box 7391, Stroudsburg PA 18360. 570-421-6430.
- Terry Master. Ornithologist, local bird authority; monitors Osprey nests in Pocono Lake area. Professor of Biology, East Stroudsburg University, 200 Prospect St., East Stroudsburg, PA 18301. 570-422-3709, Terry.Master@po-box.esu.edu.

- Larry M. Rymon, ornithologist. Directed Osprey re-introduction program at Pocono Lake. Professor of Biology Emeritus, East Stroudsburg University. 214 Timberline Drive, Sequim, WA, 98382. 360-681-6399. docnbarb@olypen.com.
- Rick Wiltraut, local naturalist. Environmental Education Specialist, Jacobsburg EE Center, 835 Jacobsburg Road, Wind Gap, PA 18091-9781. 610-746-2810. JacobsburgEEProgramssp@STATE.PA.US.
- Brian Hardiman, Monroe County compiler for *Pennsylvania Birds* (Pennsylvania Society for Ornithology). Monroe County Environmental Education Center, 8050 Running Valley Road, Stroudsburg, PA 18360. 570-629-3061, hardiman@nac.net.
- Pocono Avian Research Center, PO Box 4, Cresco, PA 18326. Darryl Speicher, President. 570-595-9324, poconoavian@hotmail.com.
- Audubon PA, Pocono Mountain Chapter. Chris Turn, President. 570-588-6850, birder@ptd.net.
- Richard E. Cary, Certified Forester. Road 2, Orefield, PA 18069. 610-395-9360.

References:

Brauning, D.W., Ed., 1992. Atlas of Breeding Birds in Pennsylvania. Pittsburgh, PA, University of Pittsburgh Press.

Carter, J.D., 1904. Summer Birds of Pocono Lake, Monroe County, Pennsylvania. *Cassinia* 8: 29-35.

Carter, J.D., 1906. A June Trip to Pocono Lake, Monroe County, Pennsylvania. *Cassinia* 10: 30-34.

Cary, R.E., 2002. P.L.P. Forest Conservation Plan. Pocono Lake Preserve.

Cook, R., personal communication.

Crossley, G.J., 1999, Ed. A Guide to Critical Bird habitat in Pennsylvania. Important Bird Areas in Pennsylvania. Pennsylvania Audubon Society.

Gill, F. B. 1985. in "Species of Special Concern in Pennsylvania," Chapter 5 Genoways, H.H., and Brenner, F.J., eds., 1985. Carnegie Museum of Natural History Special Publication No. 11. Pittsburgh, Carnegie Museum of Natural History.

Henry, J., personal communication.

Master, T.L., personal communication.

Master, T.L., and Rymon, L.M., 1981. A Checklist of the Birds of the Pocono Plateau of Pennsylvania. East Stroudsburg, PA, East Stroudsburg State College, 18 pp.

McWilliams, G.M., and Brauning, D.W., 2000. The Birds of Pennsylvania. Ithaca, NY, Cornell University Press.

Rymon, L.M., 1989. The Restoration of Ospreys to Breeding Status in Pennsylvania by Hacking (1980-1986). In: R.D. Chancellor, Ed., "Raptors in the Modern World," Proceedings of the Third World Conference on Birds of Prey. Eilat, Israel, World Working Group on Birds of Prey and Owls.

Shirk, W., 1996. The Green Book. Lake Pocono, PA, Pocono Lake Preserve.

Street, J.F., 1915. Nesting Birds of Pocono Lake. *Cassinia* 19: 14-23.

Street, P.B., 1956. Birds of the Pocono Mountains, Pennsylvania. Philadelphia, Delaware Valley Ornithological Club.

Street, P.B., 1975. Birds of the Pocono Mountains, 1955-1975. *Cassinia* 55: 3-16.

Street, P.B., and Wiltraut, R.E., 1986. Birds of the Pocono Mountains. *Cassinia* 61: 3-19.