

BIRDS SURVEYED IN SIX NATIONAL PARKS IN PENNSYLVANIA

By Betsie Blumberg

In cooperation with the National Park Service, investigators from Pennsylvania State University conducted a comprehensive inventory for birds at six national parks in Pennsylvania: Allegheny Portage Railroad National Historic Site, Eisenhower National Historic Site, Gettysburg National Military Park, Hopewell Furnace National Historic Site, Johnstown Flood National Memorial, and Valley Forge National Historical Park. The objectives of the bird inventory project were to (1) obtain a comprehensive inventory of birds and (2) make recommendations for long-term sampling to monitor birds at each of these parks.

To meet the first objective, investigators surveyed bird populations during the spring migratory, breeding, fall migratory, and winter seasons, May 1999–May 2001. They used point-count and vehicular-road techniques for all birds. They used additional diurnal surveys for raptors and vultures, nocturnal surveys for owls, separate loggerhead shrike (*Lanius ludovicianus*) inventories at Eisenhower National Historic Site, and riparian-bird surveys at Johnstown Flood National Memorial and Valley Forge National Historical Park. Between 1999 and 2001 the number of bird species at the six parks ranged from 94 species at Johnstown Flood National Memorial to 163 species at Valley Forge National Historical Park.

Investigators counted a total of 186 species for all parks combined. The number of species of special concern from federal, state, and national lists (table 1) at the parks varied from 10 at Johnstown Flood National Memorial to 23 at Gettysburg National Military Park, and investigators found a total of 31 species of special concern in all parks combined. Most notably, investigators located 21 of these species within at least one of the parks during their respective breeding seasons.

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Monitoring bird populations

Based on field-testing of survey protocols and results of inventories for two years, researchers made recommendations for monitoring bird populations at the six national parks. First, point-count, vehicular-road, and diurnal raptor and vulture surveys should be conducted twice a season during all seasons for two consecutive years out of every five-year period at each of the six parks. Second, owl surveys should be conducted three times each winter season for two consecutive winters out of every five years at all of the parks. Third, to supplement this work at Valley Forge National Historical Park, riparian birds should be surveyed eight to ten times between October and April for two consecutive years out of every five-year



Dr. David Klute surveys birds by point-count method at Valley Forge National Historical Park.

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period. Fourth, at Eisenhower National Historic Site, loggerhead shrikes should be surveyed four times every year between May and early July.

Resource management specialists implementing these recommendations will create an extensive long-term database of information on the presence, relative abundance, and distribution of species. Based on data derived from this project and future inventories, they will be able to better protect and manage species of special concern within these six national parks.

The final report of this project is available at <http://www.nps.gov/phso/science/FINAL/Birds6parks.htm>.

About the author

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Table 1.

Status of Bird Species of Special Concern Detected from May 1999 to May 2001 at Six National Park Sites in Pennsylvania

SPECIES	STATUS	PARKS
Pied-billed grebe (<i>Podilymbus podiceps</i>)	SV	VAFO
Yellow-crowned night-heron (<i>Nyctanassa violacea</i>)	SE	GETT
American black duck (<i>Anas rubripes</i>)	AW	VAFO
Osprey (<i>Pandion haliaetus</i>)	ST	GETT, VAFO
Northern harrier (<i>Circus cyaneus</i>)	FMC, SV	EISE, GETT, VAFO
Bald eagle (<i>Haliaeetus leucocephalus</i>)	FT, SE	HOFU
Red-shouldered hawk (<i>Buteo lineatus</i>)	FMC	ALPO, EISE, GETT, HOFU, JOFL, VAFO
Upland sandpiper (<i>Bartramia longicauda</i>)	SCI, SI, AW	GETT
Common snipe (<i>Gallinago gallinago</i>)	SV	EISE, GETT
Barn owl (<i>Tyto alba</i>)	SV	GETT
Short-eared owl (<i>Asio flammeus</i>)	FMC, SE	EISE, GETT
Long-eared owl (<i>Asio otus</i>)	SI	HOFU, VAFO
Northern saw-whet owl (<i>Aegolius acadicus</i>)	SV	ALPO, GETT, HOFU, VAFO
Red-headed woodpecker (<i>Melanerpes erythrocephalus</i>)	FMC	EISE, GETT, HOFU, VAFO
Northern flicker (<i>Colaptes auratus</i>)	FMC	ALPO, EISE, GETT, HOFU, JOFL, VAFO
Loggerhead shrike (<i>Lanius ludovicianus</i>)	FMC, SE	EISE
Marsh wren (<i>Cistothorus palustris</i>)	SI, SV	VAFO
Wood thrush (<i>Hylocichla mustelina</i>)	FMC, AW	ALPO, EISE, GETT, HOFU, JOFL, VAFO
Veery (<i>Catharus fuscescens</i>)	FMC	ALPO, EISE, GETT, HOFU, VAFO
Blue-winged warbler (<i>Vermivora pinus</i>)	FMC	HOFU, JOFL, VAFO
Brewster's warbler (blue-winged warbler and golden-winged warbler hybrid)	FMC	HOFU
Chestnut-sided warbler (<i>Dendroica pensylvanica</i>)	FMC	ALPO, EISE, GETT, HOFU, JOFL, VAFO
Black-throated blue warbler (<i>Dendroica caerulescens</i>)	AW	ALPO, GETT, HOFU, JOFL, VAFO
Cerulean warbler (<i>Dendroica cerulea</i>)	FMC, AW	ALPO, GETT, HOFU, VAFO
Canada warbler (<i>Wilsonia canadensis</i>)	AW	ALPO, GETT, HOFU, VAFO
Worm-eating warbler (<i>Helmitheros vermivorus</i>)	FMC, AW	ALPO, EISE, GETT, HOFU, VAFO
Louisiana waterthrush (<i>Seiurus motacilla</i>)	FMC, AW	ALPO, EISE, GETT, HOFU, VAFO
Field sparrow (<i>Spizella pusilla</i>)	FMC	ALPO, EISE, GETT, HOFU, JOFL, VAFO
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	FMC	EISE, GETT, JOFL, VAFO
Henslow's sparrow (<i>Ammodramus henslowii</i>)	FMC, AW	GETT, JOFL
Eastern meadowlark (<i>Sturnella magna</i>)	FMC	ALPO, EISE, GETT, JOFL, VAF

Notes: Resource managers selected birds of special concern from federal, state, and national lists: federally endangered (FE), threatened (FT), or management concern (FMC); state endangered (SE), threatened (ST), critically imperiled (SCI), imperiled (SI), or vulnerable (SV); Audubon Watchlist (AW) for the northern Ridge and Valley and Allegheny Plateau physiographic provinces in Pennsylvania.

The six national park sites are Allegheny Portage Railroad National Historic Site (ALPO), Eisenhower National Historic Site (EISE), Gettysburg National Military Park (GETT), Hopewell Furnace National Historic Site (HOFU), Johnstown Flood National Memorial (JOFL), and Valley Forge National Historical Park (VAFO).

