NEW YORK
STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

Conservation Plan for Bald Eagles in New York State

NYSDEC Photo

Division of Fish, Wildlife and Marine Resources
Bureau of Wildlife

March 2016

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NYS Bald Eagle Conservation Plan

Mission of the Bureau of Wildlife

To provide the people of New York the opportunity to enjoy all the benefits of the wildlife of the State, now and in the future. This shall be accomplished through scientifically sound management of wildlife species in a manner that is efficient, clearly described, consistent with law, and in harmony with public need.

Goals of the Bureau of Wildlife

Goal 1. Ensure that populations of all wildlife in New York are of the appropriate size to meet all the demands placed on them.

Goal 2. Ensure that we meet the public desire for: information about wildlife and its conservation, use, and enjoyment; understanding the relationships among wildlife, humans, and the environment; and clearly listening to what the public tells us.

Goal 3. Ensure that we provide sustainable uses of New York's wildlife for an informed public.

Goal 4. Minimize the damage and nuisance caused by wildlife and wildlife uses.

Goal 5. Foster and maintain an organization that efficiently achieves our goals.

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Executive Summary

This document describes the historic and current status of the bald eagle in New York State and provides guidelines for future management actions. This plan is intended to guide NYSDEC staff in the management of bald eagles and inform the public of actions recommended to achieve this goal.

Conservation Strategy and Implementation

Goal: To ensure the perpetuation of a healthy bald eagle population, including its essential habitat and the ecosystems upon which it depends, in a cost effective manner.

Objective 1: To maintain a statewide average breeding bald eagle population of at least 200 breeding pairs

Actions:

1A. Participate in environmental review of projects potentially impacting eagles or eagle habitat.

1B. NYSDEC recommends the continued use of conservation easements or land management plans for individual landowners through working partnerships between NYSDEC, local land trusts, Audubon chapters and environmental groups.

1C. Posting around a nesting area to establish a buffer should be determined on a case-by-case basis, taking into consideration site conditions and existing activities.

1D. Restrict human activity close to nest sites to decrease mortality of young eagles. Buffers may need to be applied to reduce the likelihood of mortality at nest sites.

1E. Reduce predation at some nests.

1F. Continue public education and outreach activities to decrease persecution by humans.

1G. Encourage prompt removal of animal carcasses from transportation corridors to minimize the potential for collisions with eagles feeding on carrion.

1H. Provide guidance for the siting and ongoing operation of wind turbines, communications towers, and high voltage lines.

1I. Provide outreach regarding alternatives to lead ammunition for hunting.

1J. Discourage the intentional feeding of bald eagles.

1K. Continue to monitor contamination in bald eagles by collecting tissue samples from bald eagles, their eggs and prey.

1L. Support and encourage the application of the latest industry standards for new electric generation facilities and transmission corridors, based on raptor research.

1M. Encourage the removal of animal carcasses suspected of botulism intoxication to reduce potential exposure to botulism.

1N. Implement a program to address the handling of distressed bald eagles.

Objective 2: Maintain protection of our significant wintering bald eagle population.

Actions:

2A. Identify and protect important wintering areas.

2B. Reduce human disturbance through posting and public education.

Objective 3: Monitor breeding and wintering bald eagles in New York State at a level suitable to detect significant trends in their populations.

Actions:

3A. Develop a monitoring program capable of detecting a 20% decline in the breeding population over a 5 year-period.

3B. Provide nest lists at five year intervals, until 2027, to meet the federal recommendations.

3C. Conduct breeding surveys.

3D. Conduct productivity surveys as needed.

3E. Incorporate newly discovered nests reported to wildlife staff, into the monitoring program.

3F. Regions will maintain nest records. Regional records will be provided annually to a statewide coordinator who will maintain the statewide database.

3G. Encourage the public to report bald eagle nests by establishing an online reporting form.

3H. Recruit volunteers as needed, to assist with bald eagle nest monitoring.

3I. Curtail statewide aerial surveys conducted as part of the National Midwinter Bald Eagle Survey.

3J. Continue to facilitate volunteer survey efforts conducted as part of the National Midwinter Bald Eagle Survey.

3K. Add newly documented wintering areas and deep winter roost sites to the Natural Heritage database.

Introduction

NYSDEC Photo

This Bald Eagle Conservation Plan addresses the natural history of bald eagles, their status and current threats facing New York's bald eagle population. It provides an outline of management actions directed toward the conservation of bald eagles, summarizes current monitoring and management efforts and proposes future techniques to be employed. Furthermore, research and outreach are discussed and parties identified that will be involved in implementation. This plan serves as a guide for landowners, resource managers (including NYSDEC), local government agencies and other stakeholders to manage and perpetuate this species and its habitat in New York State.

Bald eagles, once found throughout New York State, were nearly eliminated in the state by the late 1960's. An intensive restoration program began in the late 1970's to slowly rebuild the nesting population. The goal of the restoration program was to establish 40 breeding pairs of bald eagles within New York State. An interim goal of achieving 10 breeding pairs in the state was reached in 1988 and the active release phase of the project was terminated. As a result of the restoration program and additional protection and management provided by New York State Department of Environmental Conservation (NYSDEC), New York's population of bald eagles increased to the point where state down-listing from endangered to threatened occurred in 1999. New York State's breeding bald eagle population has experienced a consistent annual increase in each subsequent year. The 2014 breeding survey documented a total of 331 nesting territories (254 occupied pairs) statewide.

While current bald eagle numbers are encouraging, there are continued threats to this species (Table 2). The guidance provided in this document will serve to keep the population secure into the future.

This document is not intended to address the listing status of bald eagle in New York. There is a separate effort for revision to the list of endangered, threatened and special concern species in New York.

This conservation plan should be revisited every five years to update the population status and trends, and to evaluate any new information that may relate to the long term conservation of bald eagles in New York.

Legal Mandate

Bald eagles are protected under Federal Law by the Migratory Bird Treaty Act, Lacey Act and the Bald and Golden Eagle Protection Act. These laws make it illegal to take an eagle or its nest, or possess birds, eggs, or parts thereof without permits to do so from the United

States Fish and Wildlife Service (USFWS). The bald eagle was removed from protection under the Federal Endangered Species Act in 2007, though requirements for post-delisting monitoring of the species are in effect until 2027. Eagles are also protected under five sections of the Environmental Conservation Law of New York (ECL)[1]

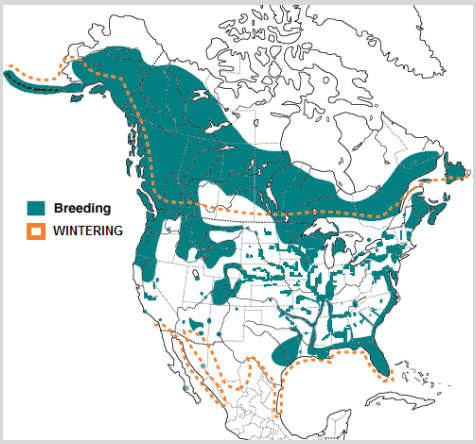


Figure 1. Bald Eagle Range (USFWS and The Birds of North America 2009)

Natural History

Physical Description and Taxonomic Status

Bald eagles stand 30-36 inches tall with a wingspan of six to seven feet. Adults have a brown body, distinct white head and tail, yellow bill and feet. Both sexes have the same plumage, but the female is slightly larger, with adult males weighing on average nine pounds and adult females weighing an average of 12 pounds. Immature bald eagles are mottled, progressing through three juvenile stages of mostly dark brown plumage. Juvenile eagles lack the distinct white head and tail. Adult plumage develops at approximately five years of age when eagles are ready to breed.

The bald eagle is a member of the family Accipitridae and the order Falconiformes, of the genus *Haliaeetus,* meaning *sea eagle* and species *leucocephalus,* meaning *white-headed.* The bald eagle is the only member of its genus regularly occurring in North America.

Range of Species (Breeding and Non-breeding)

Bald eagles historically occurred throughout North America, with the largest breeding populations found in Alaska, the Pacific Northwest and Canada. Significant breeding populations also occurred in the Great Lakes states, Florida and along the Atlantic coast. The bald eagle population had declined greatly in the lower 48 states by the 1950's and 1960's, but legislation and successful restoration programs have restored bald eagles to New York State and the country as a whole (Figure 1). As a result, eagles have gradually reoccupied their range in New York to include nest locations on many large lakes and rivers.

[1] Eagles are listed as a State threatened species pursuant to ECL Article 11-0535, which protects eagles and their occupied habitat. Eagles are also protected by ECL Article 11-0537. In addition, bald eagles are defined as wild birds and therefore are considered protected wildlife under ECL Article 11-0103. ECL Article 11-0107 provides protection by making it illegal to take protected wildlife except as permitted by the Fish and Wildlife Law. Finally, ECL 03-0301 (1)c, provides for the propagation, protection, and management of fish and other aquatic life and wildlife and the preservation of endangered species.

Breeding Biology and Development

Bald eagle life history is categorized into breeding and non-breeding periods, with some variation in these seasons based on latitude. In New York, the nesting season lasts approximately seven months, with courtship and nest building beginning as early as January and ending post-fledging, as late as September.

Bald eagles form a pair bond and select a breeding territory. They often choose a nest site near their natal territory. They are monogamous and mate for life, but will secure a new mate should something happen to either the male or the female. In addition to food sharing and nest building as courtship activities, bald eagles sometimes perform spectacular courtship flights. During the breeding season, eagles defend their territory from other eagles.

Comprised of nesting and foraging areas, the breeding territory is focused on the active nest but also often includes alternate nests that are maintained but not used for nesting during a given year. Bald eagles show a great deal of site fidelity, returning to the same territory year after year. As the bald eagle population increases and there is greater competition for nest sites, some birds may remain on their breeding territory year round or return to the nest site earlier in the year to defend their territory.

Prior to egg laying, eagles build stick nests, most of which are constructed in mature, often super-canopy trees near large lakes, rivers or wetland complexes. Nests are quite large, approximately five feet in diameter and up to eight feet deep. The stick nests are lined with moss, grass, corncobs, pine sprigs and other soft materials. Nest sites typically have a perch site above that provides a clear vantage of the nest and surrounding area.

Eggs are laid between February and April, with the clutch size varying from one to three eggs. Egg laying in New York and elsewhere, is occurring earlier in recent years, with some eagles laying eggs as early as February 15 (Nye 2010). Incubation lasts approximately 35 days and young eaglets make their first flight 10 to 12 weeks after hatching. Within a few days of the first flight, chicks have fledged and will leave the nest to forage, but they may remain in the vicinity of the nest and continue to receive food from the adults for several weeks. Mortality is high in juvenile birds, but considerably lower in birds who manage to survive their first two years (Nye 1987). For the next four years of their life, bald eagles may travel great distances. Typically, upon reaching adulthood around the age of five, they will select a mate and choose a nesting location. Based upon studies of our marked New York eagles, we believe male eagles are the primary territory-selectors, and establish territories closer to their natal areas than do females (Nye 1988). Bald eagles may live more than 30 years, but 15-25 years is the normal lifespan in the wild.

Adults tend to use the same breeding area and often the same nest each year (Nye 1987). One of the first eaglets brought into New York State from Wisconsin in 1976, as part of New York State's recovery program, was recaptured during winter live-trapping efforts in 2001(Town and Nye 2001). The bird, age 25, continued to breed for at least three additional

seasons after capture, making her 28 years old at the time of the last encounter. She and her mate maintained the same territory, moving only a short distance from one nest tree to another, over the course of at least 24 years. Nests were constructed in three different trees, as trees and/or nests were lost to wind or decay. A historic bald eagle nesting territory on Lake Umbagog in New Hampshire, last occupied in 1945, was vacant until a New York State hacked eagle took up residence again there in 1991 with an eagle suspected from Maine, reestablishing this nesting territory and successfully raising young in the very same pine tree (Nye, pers. comm. 2012). This territory has been active ever since.

Non-breeding Biology

Bald eagles are visual hunters, typically locating their target while perched or soaring, then swooping down with a talon strike to take their prey. Bald eagles primarily eat fish, but are also opportunistic hunters. Their diet includes fish, waterfowl, shorebirds, small mammals, carrion and reptiles. Most bald eagles in New York are considered mildly migratory, but some, an increasing number annually, occupy their breeding territory year-round. In the late summer and fall, bald eagles typically begin migrating to their wintering grounds. Most breeding New York eagles will only move as far as necessary during the coldest, iciest winter months in order to obtain food, quickly returning to breeding territories once conditions (open-water) allow. During the non-breeding period, eagles may forage for small mammals and carrion in terrestrial habitats some distance from water. Carrion may make up a large part of an eagles diet, especially in winter. Wintering eagles sometimes congregate in communal roost trees, in locations that provide natural shelter from wind, rain, and snow. Similar to their breeding territories, bald eagles also exhibit a great deal of fidelity to their wintering areas. Over 71% of radio-tagged eagles captured and monitored on the St. Lawrence River, wintered there for at least two years (Town and Nye 2001). Large communal roost sites, used by 20 or more birds, or smaller roosts used by four or more eagles, are all important to the wintering population.

Historical Status Assessment

Historic Distribution and Abundance

Bald eagles are native to New York State and once thrived here. Historic records suggest that the bald eagle was commonly observed in New York prior to the onset of their population decline, although the actual number of nests is not known. Bald eagle numbers began declining post-European settlement as a result of shooting, logging, habitat loss and disturbance. Records indicate that bald eagle populations began to decline in the early 1900's (Eaton 1914). By the mid-1940's, fewer than 20 breeding pairs remained in the state (Nye 1998). In later years, pollution and chemical poisoning, most notably from *dichlorodiphenyltrichloroethane* (*DDT*), accelerated their decline. Historic bald eagle nests were identified in 41 locations in western and northern New York where water and fish were abundant (Bull 1974); activity was documented at some of these nests into the 1950's (Buckley 1963; Spofford 1953). However, by 1960 nesting activity had ceased at most of these locations (Buckley 1963). In 1977, Peter Nye of the NYSDEC Endangered Species Unit

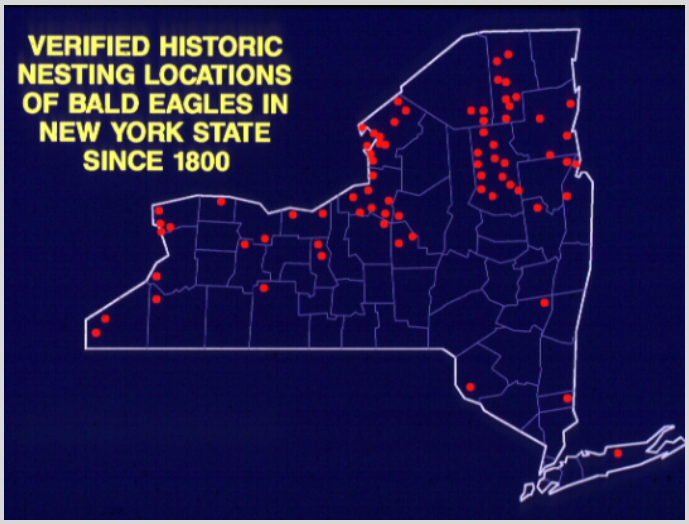


Figure 2. Verified Historic Nesting Locations of Bald Eagles in NY State between 1800 and 1977

(ESU) performed an assessment of historic bald eagle nesting in NY. He was able to confirm nesting at 72 sites statewide, between 1800 and 1977 (Figure 2.).

In 1967, the bald eagle was listed as an endangered species in the lower 48 states, under the federal Endangered Species Preservation Act of 1966. By 1970, only one active but unproductive bald eagle nest remained in New York State. In 1971, New York State listed the bald eagle as endangered. Although the pair continued to breed, eggs laid by the female were not viable due to DDT contamination and no young were hatched. DDT was banned nationally in 1972. Based upon known levels of dichlorodiphenyldichloroethylene (DDE) in eggs produced by the last breeding female in New York, it is believed she would never produce a viable egg. DDE is a breakdown product of DDT and is persistent in the environment. In 1973, bald eagles were one of the original species receiving protection under the newly passed federal Endangered Species Act. Between 1978 and 1986 NYSDEC acquired eight eaglets, some from a captive breeding effort at the USFWS Patuxent Wildlife Research Center in Maryland, and others from wild populations. The eaglets were fostered successfully by this last remaining pair. While the fostering effort was successful, a more aggressive approach was needed to assist bald eagles in their recovery in New York.

Restoration and Recovery

In 1972 the banning of DDT set the stage for recovery of eagles. In 1976, in response to this need, NYSDEC's ESU, with assistance from Cornell University and the USFWS, launched a restoration effort based on a falconry technique called hacking. Hacking involves hand-rearing and releasing older nestlings in the absence of parent birds. This technique had never been tried with bald eagles and the outcome was uncertain. Despite this uncertainty, New York forged ahead with the hacking effort releasing 198 eaglets (primarily collected from wild nesting pairs in Alaska) at four historic nest locations between 1976 and 1988 (Nye 1998). High release towers were constructed to create a scenario as similar to natural nesting as possible, with little human exposure, a suitable food supply and potential nesting substrate. Power companies provided assistance with hacking tower construction at three of the sites and corporate aircraft flight time was donated during the initial phases of the program. These private donations were instrumental in moving the program forward, supplementing limited NYSDEC funding.

In 1980, the first breeding pair ever established by hacking fledged two young in Jefferson County (Nye 1998). This nesting success occurred earlier than projected and reestablished naturally reproducing bald eagles in New York State. In 1987, a recovery plan for bald eagles was drafted (Nye 1987). This plan was never formally adopted by the Department. The original recovery objectives are listed in Table 1.

Table 1. Recovery Objectives (Nye 1987)

Achievement	Resultant Action
10 occupied nesting territories within New York State	Cease the bald eagle hacking project
20 occupied nesting territories within New York achieving an average annual productivity of at least 1.0 young/nest and protection of 2 wintering areas supporting 12 or more eagles each	Down grade from New York "endangered" to New York "threatened" category
40 occupied nesting territories within New York achieving an average annual productivity of at least 1.0 young per occupied nest and annual use of wintering habitats by 200 or more bald eagles	Delist the bald eagle in New York

The hacking effort proved to be very successful. It was terminated in 1988, when the initial goal of ten nesting bald eagle pairs in New York State was achieved. The objectives outlined in the recovery plan were achieved through intensive efforts. Of the 198 birds hacked as part of the restoration program, at least 32 did not survive. Fifty percent of these deaths were due to illegal shooting (Nye 1988). Notably, New York's bald eagle restoration

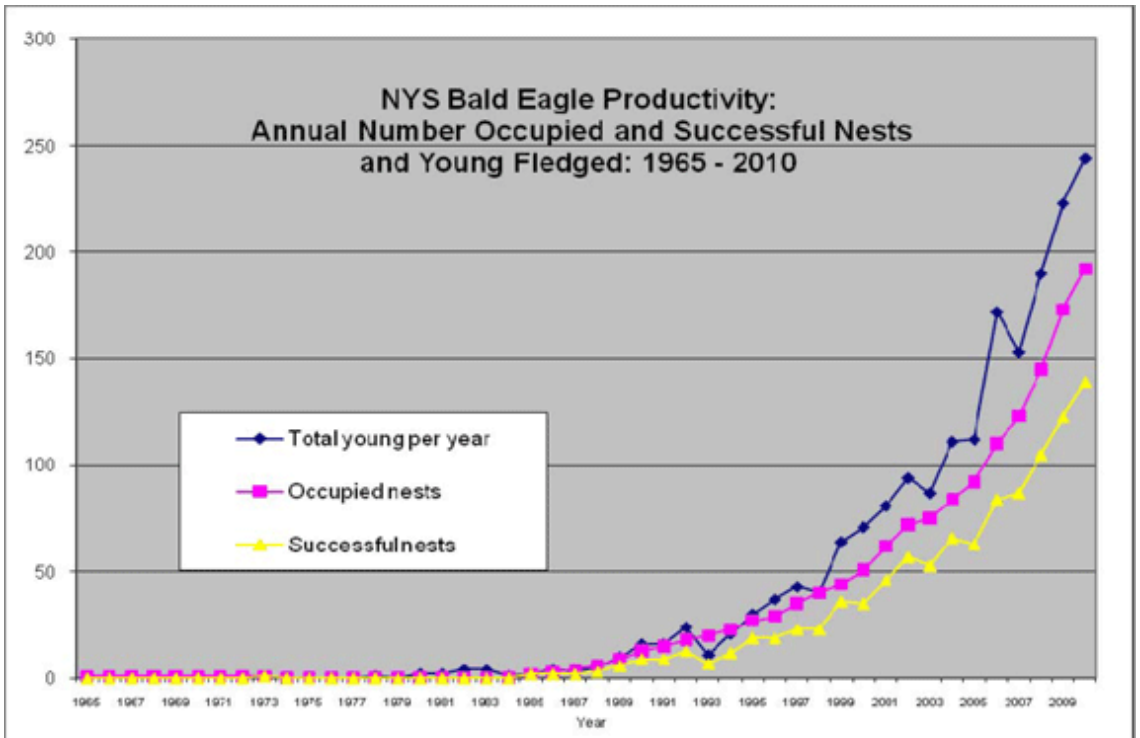


Figure 3. NYS Bald Eagle Productivity (Nye 2010)

program was so successful that 16 other states and the Province of Ontario followed NYSDEC's lead and instituted hacking programs of their own (Fowle 2005; Meyers and Miller 1992; Jacobsen 1991; Nye 2009).

In 1995 USFWS down-listed the bald eagle's status to threatened and in 2007 they were removed from the federal list of threatened and endangered species. By 2010, NYSDEC monitoring revealed 192 known occupied nesting territories (Figure 3). A total of 254 occupied nesting territories were documented in the most recent breeding survey conducted in 2014 (Figure 4).

Historic Management and Monitoring

Between1976 and 2010, NYSDEC's ESU led intensive bald eagle monitoring, research and management activities using a network of NYSDEC staff, municipal agencies and volunteers to document activity at all known nests. During this period, nest visits conducted by a NYSDEC climbing crew frequently included collection of feathers and blood samples from chicks, identification and collection of prey items, inspection of young for disease, parasites or deformities, banding, radio-tagging young and collection of addled eggs (Nye 2010). NYSDEC staff also recorded the exact location of nests, assessed management needs and routinely installed predator guards as part of this effort. Due to the rapidly expanding bald eagle population near the end of this period, climbing each nest tree was neither feasible, nor necessary and therefore occurred only at newly discovered nests. However, efforts continued to accurately assess the activity and productivity of every known occupied territory through 2010, primarily through remote ground and aircraft surveys.

New York also participated annually in the National Midwinter Bald Eagle Survey (Nye 2010). The annual mid-winter bald eagle survey is a source of long term baseline data providing information on both breeding and non-breeding segments of the population in the lower 48 states. This federally coordinated effort also provides an opportunity to monitor important winter habitats. [http://ocid.nacse.org/nbii/eagles/] The mid-winter survey began in 1978 and continues to date. Each year, New York is home to hundreds of wintering eagles, including our resident population and eagles migrating from the north. Eagle wintering areas are comprised of foraging, perching and roosting sites. These locations provide open water for foraging, even when severe winter temperatures are experienced. The open water must be located in close proximity to forest stands which provide sheltered roosts for the eagles during inclement weather. Areas which have been identified as important wintering areas in New York include the Delaware, St. Lawrence and Hudson Rivers, as well as the Mongaup River system, the Allegheny River Reservoir, Lake Erie and Lake Champlain. Numerous volunteers and NYSDEC staff have annually surveyed for wintering eagles using established aerial and ground surveys to identify and monitor important wintering areas. These survey results are included in the national count. The number of eagles counted each winter has increased dramatically since the survey began.

A number of intensive research projects have been conducted in an effort to gain a greater understanding of bald eagles and their management needs. Bald eagles have

been captured using rocket nets and other techniques and subsequently banded, marked with patagial tags and fitted with radio transmitters. In recent years, satellite and Geographic Positioning System (GPS) radio transmitters have greatly increased the accuracy of location data. These research efforts also provided an opportunity to collect blood and feather samples for contaminant analysis and aided in the discovery of important foraging and roosting areas, migration routes, nesting and wintering territories and bald eagle fidelity to these areas.

In 1990, the NYSDEC acquired 11,855 acres of critical bald eagle wintering habitat in Sullivan and Orange counties with 15 million dollars in funds, through the New York State Environmental Quality Bond Act of 1986. Known as the Mongaup Valley Wildlife Management Area, it includes important feeding and roosting habitat, with the primary management focus on eagles. Public eagle viewing areas and blinds are located on site. Seasonal NYSDEC staff and volunteers with The Eagle Institute, Inc. provide guidance and education to visitors. This location also provides an opportunity for dedicated volunteers using spotting scopes to gather data about banded eagles. Although purchased primarily for wintering eagles, the area has also become a breeding location for four resident pairs as of 2010.

Acquisition of critical bald eagle habitat has also been accomplished along the St. Lawrence River and Lake Ontario shoreline through outright purchase of property and conservation easements, many through local land trusts in Canada and the U.S. Some of these areas were identified by the St. Lawrence River Bald Eagle Working Group, an international working group made up of government agencies, non-government agencies and individuals concerned with the protection of bald eagles and their habitat. A report documenting some of these efforts can be found at: http://www.epa.gov/greatlakes/lakeont/reports/lo_baldeagle1.pdf

NYSDEC Bureau of Wildlife staffs have assisted in the recovery of debilitated eagles and eagle carcasses. Sick and injured eagles are captured and delivered to an appropriate veterinarian/rehabilitator and carcasses are collected and submitted for necropsy to NYSDEC's Wildlife Health Unit in Delmar, New York. Following necropsy, carcasses in suitable condition are sent to the federal eagle repository for distribution to eligible Native Americans for religious and ceremonial purposes. The frequency of these activities has been increasing along with the eagle population in New York.

A report detailing all NYSDEC efforts associated with bald eagles was produced annually through 2010 and is available at: http://www.dec.ny.gov/docs/wildlife_pdf/baea2010.pdf

Current Status Assessment

Population Status

The bald eagle was removed from the USFWS list of Threatened and Endangered Species in 2007 and is no longer considered to be at risk in Canada. Currently, nine states list the bald eagle as endangered and thirteen as threatened. The remaining states list it in a lesser

category or not at all. New York State down-listed the eagle from endangered to threatened in 1999, where it currently remains.

Distribution and Population Size Range-wide and in New York

The bald eagle's distribution is considered widespread but local throughout its range in North America and in New York State. Corresponding to its historic range, the bald eagle currently ranges from Alaska and Canada, south to Florida and into northern Mexico. Bald eagles are known to breed throughout New York State, with the exception of the New York City area and one county in northern New York. Confirmed breeding territories are concentrated along the Hudson River, the Upper Delaware River Watershed and the Montezuma Wetlands Complex (Figure 4). Other possible breeding locations have been identified by The Second Atlas of Breeding Birds in New York State (Nye 2008a) in areas with no prior documented nest locations (Figure5). In North America, the total bald eagle population was estimated at 100,000 birds in 2004 (Hawk Mountain 2011). In 2006, the USFWS estimated the number of breeding pairs to be approximately 9,800 in the lower 48 states (Figure 6). Monitoring efforts in 2014 documented 254 occupied pairs and 331 nesting territories in New York State (Figure 4).

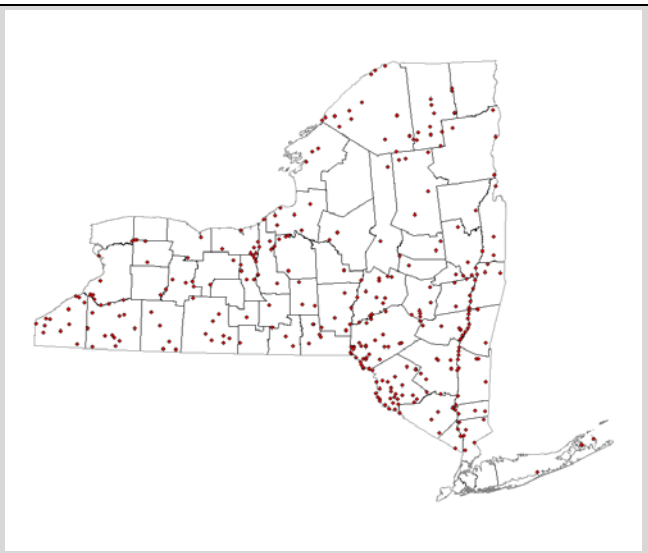
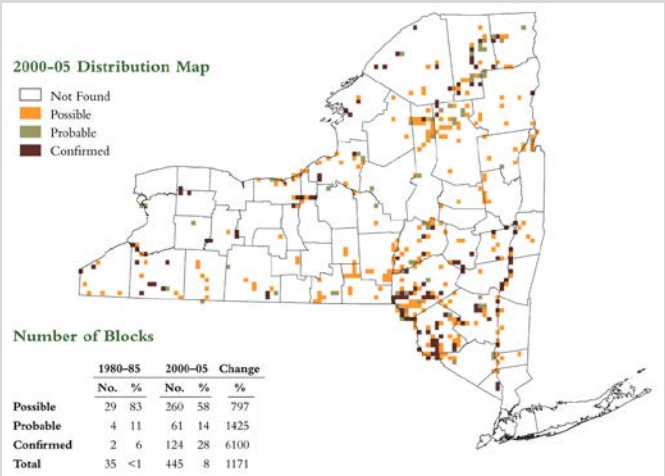


Figure 4. Location of New York State Bald Eagle Territories through 2014



	1980–85		2000–05		Change
	No.	%	No.	%	%
Possible	29	83	260	58	797
Probable	4	11	61	14	1425
Confirmed	2	6	124	28	6100
Total	35	<1	445	8	1171

Figure 5. New York State Breeding Bird Atlas 2000-2005: Species Distribution Map (Nye 2008a)

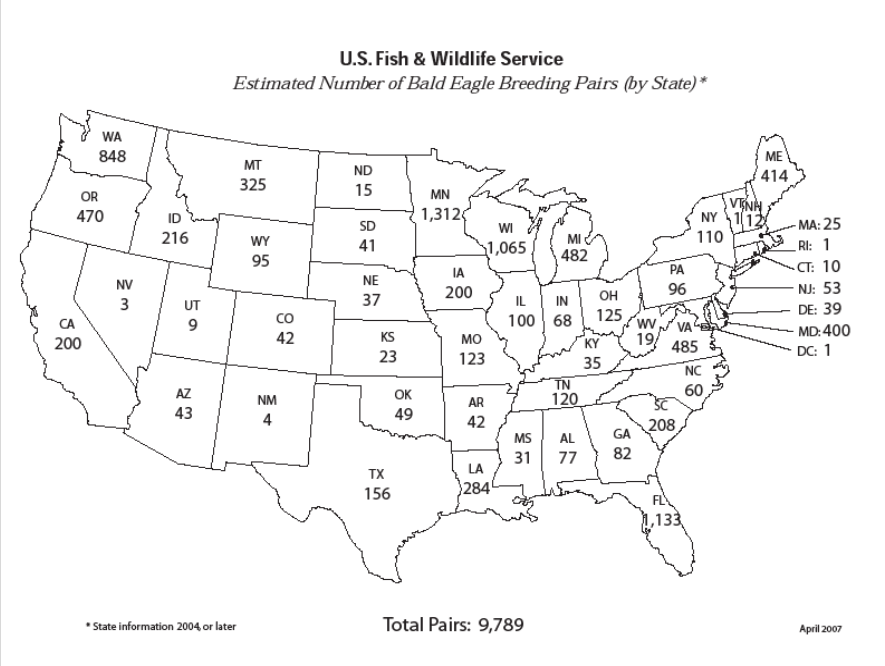


Figure 6. Estimated Number of Bald Eagle Breeding Pairs in the lower 48 states (USFWS 2007)

Relevant Contribution of New York to the Range-wide Status

In 2006, New York represented 1.1% (110 of 9,800 territorial pairs) of the total number of breeding pairs of bald eagles in the lower 48 states, and 15.2% (110 of 722 territorial pairs) of the total number of breeding pairs in the northeast (ME, VT, NH, MA, RI, CT, NY, NJ, PA) (USFWS 2007). During the first four years prior to breeding, immature bald eagles wander widely from their natal territory. Food availability, competition and weather may act as determining factors for the distance travelled. Once a bald eagle reaches maturity, they will find a mate and establish a breeding territory of their own, generally within 250 miles of their natal territory (Nye 1988). This wandering behavior offers ample opportunity for individual birds to choose mates from locations much farther than 250 miles away. Bald eagles fledged in New York have been documented nesting as adults in nine states outside of New York (Figure 7), as well as in the provinces of Quebec and Ontario, Canada.

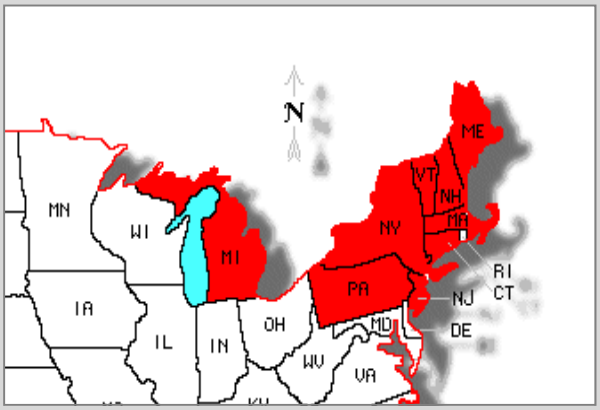


Figure 7. States in Red Include Nesting Locations of Bald Eagles Fledged In New York

Population and Productivity Trends

Based on an analysis of the annual Midwinter Bald Eagle Survey, coordinated by the U.S. Geological Survey (USGS) and the U.S. Army Corps of Engineers (USACE), counts of wintering bald eagles have increased on average 6% per year between 1986 and 2005 in the northeastern U.S. New York has seen a significantly higher increase of 8.2% per year during the same period (USACE 2011). In New York, wintering bald eagle numbers continue to rise, and in 2010 a record-high of 658 eagles was documented. This contrasts sharply with the 1979 Midwinter Bald Eagle Survey, when only 41 eagles were counted during New York's first year of participation (Nye 2010).

From a low of 487 pairs actively nesting in the lower 48 States in 1963, the number of breeding pairs increased to 9,789 by 2006 (USFWS 2010a). In New York, the bald eagle population has increased from one nesting pair in 1970 to 254 occupied pairs in 2014, with 331 nesting territories tracked. The breeding trend from 1965 through 2005, which includes the two New York Breeding Bird Atlas periods, is shown in Figure 8 (Nye 2008a). Productivity in New York also remains high, with 1.3 young fledged per occupied pair and 72% of all occupied pairs successful in fledging young. The definition of an occupied pair is the presence of a recently decorated nest and two potential breeding birds during the breeding season (Nye 2010).

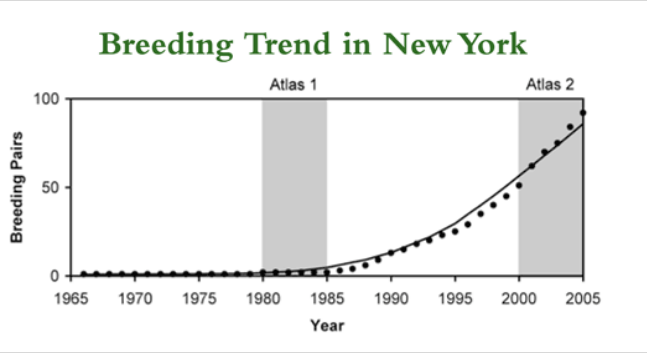


Figure 8. Breeding Trend in New York (Nye 2008a)

Comparison of Current Range to Historic Range

Comparison of current nest locations (Figure 4) with historic nest records (Figure 2) documents a change in the overall spatial distribution of breeding bald eagles. Although not complete, historic records of bald eagle nests in New York State indicate that the highest concentrations of nests were located in the Adirondacks and along Lake Ontario and Lake Erie shorelines. In contrast, bald eagle nest surveys in 2014 documented 331 nest locations with the highest concentration of nests occurring along the Hudson River, Upper Delaware River and in the Montezuma Wetlands Complex. Southeastern New York State, including extensive habitats associated with the New York City Reservoir system, is one of the densest breeding regions in New York State.

Threats to Species

Threats to bald eagles are factors that negatively influence bald eagle populations by causing displacement and/or mortality of individuals or by reducing survival or reproductive success (Table 2). Bald eagles have made an impressive recovery throughout New York State; however, threats to the species continue to exist. Habitat loss and alteration, along with human disturbance of breeding or wintering sites, constitute some of the major concerns for the future of bald eagle populations in New York State (Nye 2010; Nye 2006). In addition, collisions with vehicles and trains and poisoning from lead were the leading anthropogenic causes of injury or mortality to bald eagles recovered in New York between 2004-2013 (Nye 2008; Nye 2009; Nye 2010; Table 3). Many threats to bald eagles in New York have also been identified in other states (USFWS 2007, USFWS 2009) however; some of these are more acute in specific geographic areas of New York (Table 2). The main threats are discussed in the following sections. Identification of these threats has the potential to reduce their future impacts on the species. It should be noted that some mortality to eagles in New York results from intraspecific conflicts as eagles compete for the best breeding territories. These interactions are likely to increase in frequency as the population expands or if breeding habitats are lost.

Table 2. Alphabetical listing of threat categories to bald eagles in New York State

Threat Category	Threat	Geographic Area	Adverse Effect	Source
Climate Change	Nest failure due to cold weather	Statewide	Reduced Reproductive Success	Nesting earlier, cold spells in spring, less pronounced migration
Collisions	High speed trains	Hudson Valley	Mortality	Carrion on railway
	Vehicles	Statewide	Mortality	Carrion on roadway, flying
	Power lines, towers, wind generators	Statewide	Mortality	Electrocution, entrapment, or collision while flying or perching
Contaminants	Lead Bullet Fragments	Statewide	Mortality	Contaminated Carrion
	Poisons	Statewide	Mortality	Contaminated Carrion
	Mercury	Statewide/Catskills	Reduced Reproductive Success	Contaminated Prey from Mercury in the Environment
	PCB's and Organochlorine Pesticides	Statewide/Hudson Valley	Reduced Reproductive Success	Contaminated Prey from Chemicals in the Environment
Habitat Loss/Alteration	Commercial, Industrial and Residential Development	Statewide/Hudson Valley	Displacement/Reduced Reproduction	Development
	Timber Harvest of Mature Trees	Statewide/Hudson Valley	Displacement/Reduced Reproduction	Natural Resource Use
	Shoreline Development	Statewide	Displacement/Reduced Reproduction	Development
Human Activity/Disturbance	Nest Disturbance	Statewide	Displacement/Reduced Reproductive Success/Reduced Survival	Public/Private Land/Water Use
	Wintering Area Disturbance	Statewide	Displacement/Decreased Survival/Mortality	Public/Private Land/Water Use
	Feeding Eagles	Statewide	Source of Lead Poisoning/Mortality	Human decisions
	Persecution	Statewide	Mortality	Human decisions (e.g. shooting, poisoning)
Other Threats				
-Degraded Water Quality	Alteration in food webs/ prey availability and abundance	Statewide	Displacement	e.g. Flooding, Watershed Management, Agricultural Practices, Spills, Discharges
-Invasive Species	Aquatic Invasive Species Altering food webs	Statewide	Displacement/Mortality	e.g. Boats, Bilges, Release, Colonization
-Pathogens/Disease	Botulism (Type C and E)	Great Lakes	Mortality	Intoxicated prey and carrion
	Avian Pox	Statewide	Mortality	Viral infection
-Predation	Nest Predation	Statewide	Mortality/Reduced Reproductive Success	Predators

Climate Change

Bald eagles' broad range in North America makes climate change less of a concern than the more immediate threats of habitat loss, collisions and environmental contamination. That being said, increased frequency of severe weather due to climate change may negatively impact breeding success. Some apparent effects of climate change are already occurring. Bald eagles are breeding earlier in New York State and have been observed defending territories throughout the winter (Nye 2010). Intraspecific competition and climate change may play a role in this observed behavior.

Collisions

Bald eagles are killed or injured each year when they come in contact with high speed trains, vehicles, and planes (Nye 2010; Table 3). Collisions are the leading cause of bald eagle mortality among those animals recovered in New York during 2007-2013. As opportunistic foragers, eagles often feed on carcasses found on railways and roadways. In light of planned high-speed rail expansion, railways along the Hudson River are of particular concern in New York due to the high density of bald eagles, geography of the railway and frequency of trains using the railway. Direct mortality of bald eagles has also been caused by collisions with towers and wind turbines (Nye 2010). Wind farms are of particular concern, given the number of new projects proposed or currently under construction and the lack of research into potential impacts.

Contaminants

DDT contamination during the period 1950-1972 was a primary cause of population declines in bald eagles (USFWS 2007). Banned in the United States in 1972, DDT no longer poses a serious threat to bald eagles in New York as these populations rarely leave the northeastern United States and are not exposed to the continued use of DDT in Mexico, Central or South America. However, contaminants continue to cause mortality or reduce reproduction rates of bald eagles throughout their breeding range (Hunt *et al*. 2006, Lahner and Franson 2009, DeSorbo *et al*. 2008, Nye 2010). Accumulation of contaminants in bald eagles typically results from eagles feeding on carrion or prey containing heavy metals or toxic chemicals. In New York, 13% (31 of 235) of all bald eagles recovered between 2007 and 2013 died from contamination (Table 3).

Elevated mercury levels have been detected in bald eagles in the Catskills and concerns have been raised about the accumulation of mercury in a portion of the adult and nestling bald eagle population in New York (DeSorbo *et al.* 2008).

Polychlorinated biphenyls (PCB) are a widespread contaminant in New York, and have been associated with reduced reproductive success in bald eagles. Often PCB concentrations are closely correlated with other contaminants, in particular DDE, which are also associated with reduced productivity. However, measurements of egg shell thickness have returned to pre-1950 levels, suggesting that DDE is no longer the likely cause of

reductions in reproductive success (Best et al. 2010). In the Hudson River, PCB concentrations in bald eagle eggs when last monitored over a decade ago were at levels where significant reproductive effects are predicted - greater than 13 ppm (Wiemeyer et al. 1993). Recent research suggests that PCBs and related compounds have potential multi-generational effects on other species. Reproductive impairment or other negative effects may be directly related to *in* ovo or *in utero* exposure rather than dietary exposure (Steinberg et al. 2008, Eisenreich et al. 2009, Baker et al. 2014), As bald eagles continue to expand their range into areas of the Hudson with greater PCB contamination, measuring bald eagle exposure to PCBs is critical to understanding the effects these contaminants may have on bald eagle productivity.

Lead is a known hazard for a variety of wildlife, especially bird species that scavenge upon hunted species (Hunt et al. 2006, Laher and Franson 2009). Nine percent (22 of 235) of dead bald eagles recovered in New York between 2007 and 2013 died of lead poisoning (Table 3). Low doses of lead cause problems such as tremors, emaciation, lethargy, poor balance, and impaired vision. Higher doses often lead to mortality due to the inherent toxicity of lead. Bald eagles ingest lead from a myriad of sources, including lead pellets and bullet fragments found in hunter-shot game species.

Habitat Loss/Alteration

As populations of bald eagles increase, competition among eagles in some areas has resulted in increasing numbers of bald eagles killed or injured by other eagles (Table 3). This indicates that in some areas of the state we may be at or near carrying capacity. Available nesting and wintering habitat may be a limiting factor for bald eagle populations in the future.

Currently, habitat loss and alteration are considerations for bald eagle populations in New York State and especially in regions where human development is expanding rapidly (e.g. NYSDEC Region 3). Removal of mature forest along shorelines and increased human presence/development in these areas may result in loss of preferred nesting, foraging, and roosting sites for bald eagles.

Table 3. Causes of injury or death for eagles recovered in New York State 2007-2013									
Cause (% Total Recoveries)		2013	2012	2011	2010	2009	2008	2007	2007-2013
Collisions (38%)	Vehicle (20%)	2	8	4	14	7	3	8	46
	Train (14%)	6	6	3	2	10	3	2	32
	Other (4%)	7	3	0	0	0	0	0	10
	Plane <1%)	0	0	0	1	0	0	1	2
Unknown (20%)		6	5	8	11	7	8	3	48
Contaminants and Pathogens (13%)	Lead (9%)	4	7	4	4	2	1	0	22
	Poisoned (3%)	0	0	0	2	3	0	2	7
	Viral (<1%)	2	0	0	0	0	0	0	2
Fell From Nest (9%)		2	0	4	5	3	2	4	20
Weak/Emaciated (6%)		0	0	6	5	0	2	0	13
Killed by another eagle (6%)		3	3	2	0	5	0	1	14
Electrocuted (4%)		3	1	0	0	4	2	0	10
Human Persecution (2%)	Shot (2%)	0	1	0	2	1	0	1	5
	Trap (<1%)	0	0	0	0	1	0	0	1
Fishing Tackle (1%)		0	0	0	0	2	1	0	3
Total Recoveries		35	34	31	46	45	22	22	235

Human Activity/Disturbance

Some bald eagles are very sensitive to human activity and disturbance year-round, especially at nest sites, and others are much more tolerant. Motor traffic, persons too close on foot, frequent visits or tree removal can result in nest failure, nest abandonment, or abandonment of the nesting territory altogether. Airboats operating in the vicinity of winter roosts and foraging areas are also a concern. Direct persecution by humans is unlawful under the Bald and Golden Eagle Protection Act (BEGPA 1940), the Migratory Bird Treaty Act (MBTA 1918) and as a state protected species (Nye 2006). However, incidences of shot and trapped bald eagles and injuries and mortality associated with discarded fishing tackle continue to occur (Table 3).

Other Threats

Numerous other cases of death or injury have also been reported with no known cause. Some of these unknown deaths may be caused by Type E botulism. From the onset of Type E botulism in Lake Erie in 2000 through 2011, a total of seven bald eagles (3 during the

period of 2007-2011) were confirmed or suspected to have died from this strain of botulism in western New York (NYSDEC Region 9). Also during this period, eight other suspected eagle botulism cases were submitted to a western New York veterinary hospital/wildlife rehabilitation center for treatment and release.

In the Great Lakes, aquatic invasive species including zebra mussels (*Dreissena polymorpha*), quagga mussels (*Dreissena bugensis*) and round gobies (*Neogobius melanostomus*) are the primary source of botulism intoxication in water birds (Perez-Fuentetja *et al*. Undated). Intoxicated prey (e.g. round gobies) and carrion (e.g. dead birds) are suspected sources of botulism intoxication in bald eagles in western New York. As top predators, bald eagles are sensitive to changes in the overall condition of ecological systems. For example, aquatic invasive species (Spencer *et al.* 1991) and degradation of water quality can cause displacement of bald eagles as they search for higher quality foraging and nesting sites.

Direct mortality of bald eagles has also been caused by entanglement and electrocution in power lines and entanglement with fishing line (Nye 2010). Predation on eggs and chicks by a variety of avian and mammal species also occurs.

Confidence Level

The NYSDEC possesses high quality data sets, containing over 30 years of detailed information on breeding and wintering bald eagle populations in New York State. This information is recorded in annual reports and research papers produced by NYSDEC Wildlife staff. NYSDEC is highly confident that population and distribution data referenced in this report are accurate. Many of the threats identified in this plan have been well documented. However, the impact of these threats to eagle populations may not be accurately reflected by the frequency reported in table 3 because of the likelihood that only a small number of injured/killed eagles are recovered. The data discussed above is limited to eagles that were recovered within New York. For example, eagles hit by a car are much more likely to be found and submitted than an animal that dies from other causes in a remote area. We cannot be certain of climate change impacts, but we believe it is unlikely there will be significant negative impacts from climate change over the next ten years.

Current Recovery/Conservation Efforts

Federal Protection

The USFWS protects bald and golden eagles under three federal statutes. The Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA) and the Lacey Act protect the birds and parts thereof as well as the nest and eggs.

BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The

Act defines "take" as "also pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC 668c) and (50 CFR Part 22.3).

BGEPA also restricts human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, "upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment" (USFWS 1940). A violation of BGEPA can result in a fine, imprisonment for up to a year or both for a first offense, and not more than two years for a second conviction. USFWS has provided guidelines to help prevent violations of BGEPA. These guidelines can be found online. http://www.fws.gov/midwest/eagle/guidelines/bgepa.html

MBTA is a Federal law that carries out the United States' commitment to four international conventions with Canada, Japan, Mexico and Russia. Those conventions protect birds that migrate across international borders. http://www.fws.gov/laws/lawsdigest/migtrea.html

The Lacey Act was passed in 1900 and protects bald eagles by making it a federal offense to take, possess, transport, sell, import, or export their nests, eggs and parts that are taken in violation of any state, tribal or U.S. law. http://www.fws.gov/laws/lawsdigest/LACEY.HTML

Nesting eagles, winter concentrations, communal roost areas and migrating eagles receive protection. A permit from the federal government is required if an activity will cause a disturbance to feeding, breeding or sheltering sites, for physical removal of a nest or for lethal take. Post delisting, the USFWS Migratory Bird Program issues permits, rather than the Endangered and Threatened Species Program.
http://www.fws.gov/midwest/MidwestBird/EaglePermits/index.html

A nationwide ban on possession or use of lead shot for waterfowl hunting took effect in 1991. The lead shot ban is also beneficial to bald eagles, as it reduces the potential for lead shot ingestion. Waterfowl are a common prey source for bald eagles. Federal agencies provide species and habitat protection on lands in their ownership. In addition, conservation easements on private lands are offered through a variety of federal programs. These programs are developed to maintain or enhance the existing resource.

Certain activities involving habitat alteration require permits from the federal government. Project reviews by the USFWS and United States Army Corps of Engineers (USACE) provide an opportunity for staff to address bald eagle concerns.

Federal agencies also engage in outreach efforts such as providing school and camper programs, attending fairs and expos and developing educational displays. These efforts can foster greater understanding and increased protection.

NYSDEC Protection

Bald eagles are protected under the Environmental Conservation Law of New York, Sections 11-0103, 11-0535 and 11-0537. Section 11-0103 defines eagles as wild birds and protected wildlife and 11-0535 affords protection to eagles as a threatened species. Section 11-0537 protects bald and golden eagles and their nests and eggs. This law makes it illegal to take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or in any manner bald or golden eagles without a permit.

New York Code of Rules and Regulations (6NYCRR) Part 182.8 also prohibits the take of any species listed as endangered or threatened, except as authorized by an incidental take permit issued by the Department. In addition to eagles, nests and their eggs, this protection also extends to occupied habitat.

Articles 15, 24 and 25 of the Environmental Conservation Law provide additional habitat protections. Certain activities trigger review under these sections of law, providing opportunities for staff to evaluate proposed projects and avoid negative impacts to bald eagles and their habitats.

Since 1988, possession or use of lead shot for waterfowl hunting has been strictly prohibited throughout New York, this preceded the nationwide ban. A special detail conducted by NYSDEC law enforcement personnel between 2010 and 2011 demonstrated a compliance rate with non-toxic shot for waterfowl hunting, of over 99%.

In addition, other NYSDEC regulations help reduce certain mortalities in eagles, including the 2004 legislation prohibiting the sale of lead sinkers weighing one-half ounce or less and the 2010 trapping regulation requiring all fur trappers to cover their bait.

Habitat protection extending to bald eagles is provided on Wildlife Management Areas, State Forests and Forest Preserve lands as well as easements held by NYSDEC. Outright ownership and easements protect vast tracts of land from development.

In addition to habitat protection, NYSDEC staff is actively involved in outreach efforts throughout the state. These efforts include the development of educational displays, kiosks, web pages, handouts, articles and programs to inform the public. Ultimately education and protection should go hand in hand.

Non-Government Organizations and other group efforts

Local land trusts, municipalities such as New York City Department of Environmental Protection (NYCDEP), environmental groups, bird clubs, Eagle Institute, Inc., Delaware Highlands Conservancy, Bashakill Area Association and St. Lawrence Bald Eagle Working Group have been actively involved in habitat protection in many areas of the state. These groups conduct educational and outreach activities to involve and inform communities as a whole, and frequently work one on one with individual landowners. Many times these

groups are able to work with landowners to purchase property outright, purchase a conservation easement, or at the least gain the cooperation of the owner in making decisions on private property.

Conservation Strategy and Implementation

Goal: ***To ensure the perpetuation of a healthy bald eagle population, including its essential habitat and the ecosystems upon which it depends, in a cost effective manner.***

Objective 1: To maintain a statewide average breeding bald eagle population of at least 200 breeding pairs, geographically distributed throughout New York State

This objective was based on NYSDEC's assessment that a bald eagle population of this size and geographic distribution is sufficient to sustain a statewide population in quality habitat, recognizing that currently we exceed this level.

Actions:

1A. ***Participate in environmental review of projects potentially impacting eagles or eagle habitat.***

When activities occur near a bald eagle nest, roost or foraging area, the level of disturbance varies based upon several factors, including experience of individual eagles, existing topography and nature of disturbance. Some eagles are more tolerant than others. A key factor in determining the impact an activity will have is the presence or absence of a visual buffer. Bald eagles exhibit greater sensitivity to disturbance when activities occur within full view of a bird (Grubb and King 1991). The National Bald Eagle Management Guidelines (USFWS 2007) provide a "one size fits all" approach for the U.S., using a 330 foot primary buffer and a 660 foot secondary buffer for most activities, but these numbers are minimum recommendations with flexibility allowed for specific sites or activities. When eagles choose to nest in proximity to an existing source of disturbance buffers may be decreased. Eagle density also plays a role in tolerance levels of individual birds: eagles in very dense populations may tolerate greater levels of disturbance in order to secure a nesting territory. The federal guidelines will provide satisfactory protection for a majority of nests, but in some cases, it may be necessary to increase the secondary buffer to provide adequate nest, roost or forage site protection.

When the Department determines that the federal guidance will be insufficient in protecting nesting or wintering eagles from harm, additional protective measures may be warranted. The following recommendations will assist in avoiding impacts due to sensitivity of individual pairs or the unique nature of the disturbance, by either expanding buffer distances, providing time of year restrictions, or offering alternatives that augment the effectiveness of the federal guidelines.

Many disturbances can be avoided through the application of seasonal restrictions. The dates of restriction and size of buffers are general guidelines, based on over 30 years of NYSDEC experience. The guidelines can be used by knowledgeable staff on a

case by case basis to extend or reduce the time period and/or the buffer distance. If there is a question of possible disturbance within one mile of a known nest, winter roost and winter foraging area, a request should be made to NYSDEC for a determination and for recommendations.

Consistent with federal guidelines, unoccupied or alternate nest sites also need to be protected from long-term disturbance with buffers, and should be considered part of the breeding territory (Table 5). Alternate nests are frequently used in subsequent years. Intact nests will be considered active for a period of five years after the last use. When nests are destroyed by natural events, the area will continue to be protected for up to three complete breeding seasons. The dates and buffers adopted by NYSDEC may be altered if eagles have demonstrated a tolerance to an activity that is documented by NYSDEC and the proposed buffers are approved by the USFWS. Whenever possible, actions that might impact nesting eagles should be conducted outside of the breeding season which lasts approximately 7 months. Because of variability across the state, the breeding season may begin as early as January 1 and conclude as late as September 30. The period of January 1 – September 30 therefore encompasses the entire breeding period and is used as a general guideline. Within the breeding season, certain time periods are more critical than others for avoiding disturbance (Table 4).

Table 4. Nesting Bald Eagle Sensitivity to Human Activities (USFWS 2007)

Phase	Activity	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	Most sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg laying	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the breeding season.
III	Incubation and early nestling period (up to 4 weeks)	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to cooling, loss of moisture, overheating, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements somewhat decreases. However, nestlings may miss feedings, affecting their survival.
V	Nestlings 8 weeks through fledging	Very sensitive period	Gaining flight capability, nestlings 8 weeks and older may flush from the nest prematurely due to disruption and die.

Activity Type

New Construction

Construction of new buildings, roads, utilities or other permanent structures is not recommended within ¼ mile, or 1320 feet of an eagle nest, if there is no visual buffer. If a visual buffer exists and the activity/feature is not visible from the nest, such activities should not occur within 660 feet of the nest site. Wind towers should not be sited in areas where they will negatively affect daily foraging movements of bald eagles. Movements between both nests and foraging areas and winter roosts and foraging areas should be taken into consideration. Boat ramps and marinas should be located at least ¼ mile away from important eagle foraging and breeding areas, as heavy boat traffic can impede successful foraging. In every case, landowners should be encouraged to enhance the visual buffer existing between the feature and the nest rather than diminishing it. In addition to these distance buffers, consideration must also be given to temporal buffers (see tables 4 and 5).

Forestry Activities

Logging has frequently been reported as a cause of abandonment or loss of nesting sites and/or productivity (Broley 1947; Howell 1962; Grier et al 1983). No overstory trees should be removed within a 330-foot buffer surrounding the nest tree at any time of year. It is also recommended that forest harvest activities not occur within 660 feet of the nest during the breeding season, (January 1- September 30), or within ¼ mile of important deep-winter roost sites between December 1 and March 31.

When harvesting near shoreline or wetland areas, the largest native pines should be retained for use as potential roost or nest trees, as well as snags along shoreline areas. These trees may be important perches for eagles foraging along waterways. In addition, single trees in areas devoid of elevated perch sites should be retained.

Recreational Activities

Human activity can negatively affect bald eagle nesting success and cause wintering eagles to expend valuable energy unnecessarily, or to abandon foraging, when startled by recreationists approaching too closely. Motorized activity such as jet skis, motorized boats, vehicles, ATVs and snowmobiles, as well as non-motorized activities, such as hiking, hunting, bird watching, camping, fishing, photography and paddling, should all take place outside of the 330-foot buffer zone unless birds have demonstrated a tolerance for these activities. However in some cases, the NYSDEC may recommend a 660-foot buffer or larger for some activities (Table 5). For example, airboats are very disruptive and eagles have been observed flushing at much greater distances, up to one mile (Town unpublished). The impact of airboats on bald eagles should be studied further to determine if larger buffers than the current minimum of ¼ mile are warranted.

Aircraft and Unmanned Aerial Vehicle Use

When feasible, air traffic should be restricted to no closer than ¼ mile from and 1500 feet above ground level at nest and communal roost sites. Exceptions may be granted for authorized manned and unmanned flights conducted by biologists when surveying for eagles or where eagles have demonstrated tolerance for such activity.

Blasting, Fireworks or Other Extremely Loud Noises

Following the U.S. Fish and Wildlife Service National Bald Eagle Management Guidelines, avoid activities such as blasting and fireworks displays within ½ mile of nests during the breeding season, or within 1 mile of communal roosts and foraging sites in open areas when eagles are present.

Video-monitoring systems

Location and timing of video camera placement can disturb nesting eagles resulting in breeding failure, and may be considered an illegal "take" under federal and state laws protecting eagles. NYSDEC staff should review proposed video camera installations at breeding sites. If approved, installation should be completed between 1 October and 31 December. NYSDEC does not recommend return visits during the breeding season (1 January – 30 September) for any reason once a system is in place. Video cameras should not be allowed in the nest tree. Systems should be innocuous to the eagles (e.g. not visible, no ambient noise, reflection, etc.).

Habitat and Human Disturbance Abatement

1B. NYSDEC recommends the continued use of conservation easements or land management plans for individual landowners through working partnerships between NYSDEC, local land trusts, Audubon chapters and environmental groups.

Bald eagle habitat occurs on both public and private land. History has shown that development, especially along shorelines, can result in a decreasing bald eagle population. Protection of shorelines can benefit not only bald eagles, but a variety of other species. Development may sometimes not be important in a single instance, but the cumulative effect of many small, seemingly inconsequential actions on eagles may be significant (Grier et al. 1983). Conservation easements developed by local land trusts, Audubon chapters and environmental groups are in place across the state. They are beneficial to a broad range of wildlife species, including bald eagles.

1C. Posting around a nesting area to establish a buffer should be determined on a case-by-case basis, taking into consideration site conditions and existing activities.

Maintenance of existing visual, temporal and distance buffers will reduce disturbance at nest sites.

Mortality Abatement

1D. ***Restrict human activity close to nest sites to decrease mortality of young eagles. Buffers may need to be applied to reduce the likelihood of mortality at nest sites.***

Areas subject to intensive human use/activity may experience more nest failures than other areas. Human disturbance may lead to opportunistic predation of nests, nest abandonment, or may cause young eaglets to fall from or to leave the nest prematurely. Young eaglets that fledge prematurely may be vulnerable to predation by a variety of mammals while on the ground.

In some instances closing campsites or trails during the breeding season may be recommended to minimize disturbance at nest sites.

1E. Reduce predation at some nests.

Corvids, gulls, other raptors, raccoons and other mammals prey upon bald eagles (Buehler 2000). Raccoons climb trees and kill young in the nest.

Predator guards constructed by wrapping metal flashing around the trunk of the nest tree can protect the nest from raccoons In addition, it is important to prune or remove small trees and branches that would allow raccoons to access the nest from adjacent trees. To avoid advertising the nest tree, brown flashing is recommended rather than the standard reflective silver stock. This assists in camouflaging the nest tree and reducing human curiosity.

At the current population level, it is not necessary to place a predator guard on every nest tree. In a situation where each chick is critical to achieving a viable population, predator guards can be an important tool. NYSDEC may recommend the use of predator guards on nest trees in areas with a high density of raccoons.

1F. Continue public education and outreach activities to decrease persecution by humans.

From 2007 through September 2011, four eagles were recovered that had been shot in New York. Continued public education and outreach may help alleviate this problem.

1G. Encourage prompt removal of animal carcasses from transportation corridors to minimize the potential for collisions with eagles feeding on carrion.

Carrion can be a major and essential source of food for eagles and other wildlife. To reduce bald eagle mortality, NYSDEC recommends prompt removal of deer and other large animal carcasses from transit corridors in areas where collisions with eagles previously have been documented, or are highly probable. Eagles are large birds and are not extremely agile. They are particularly vulnerable to high-speed traffic. High-speed rail traffic is a known significant mortality factor that remains unresolved. One area of concern is the rail line between Rensselaer Station and Inwood Hill. NYSDEC will work with appropriate transportation agencies and railways to identify hot spots for carcass removal.

1H. Provide guidance for the siting and ongoing operation of wind turbines, communications towers, and high voltage lines.

To avoid collisions with stationary objects, careful consideration should be given to placement of these features. Siting of new towers near nests, foraging areas, communal roosts, migration or movement corridors should be avoided.

Wind projects should follow the study guidelines outlined in Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects (NYSDEC 2009). Wind towers should not be sited in areas where they will negatively affect nesting, roosting, daily foraging movements or migration of bald eagles. Movements between both nests and foraging areas and winter roosts and foraging areas should be taken into consideration.

Utility companies should develop Avian Protection Plans consistent with Avian Power Line Interaction Committee (APLIC) recommendations when modifying existing or constructing new power lines to reduce potential bird take.

Dead eagles need to be reported to USFWS Office of Law Enforcement so that an investigation can be conducted. A dead eagle should not be moved until USFWS Office of Law Enforcement directs such movement so as not to compromise any investigation.

Table 5. Recommended Buffers Based on Proposed Activity and Site Conditions to Prevent Disturbance

Activity	Restriction Period	Condition/Season	Distance Recommendation *
New building, roadway or utility construction	Year-round	Nest with visual buffer	No closer than 660' from nest
		Nest without visual buffer	No closer than ¼ mile ** from nest
Boat ramp and/or marina construction	Year-round	With or without visual buffer	No closer than ¼ mile from important foraging areas
Logging	Varies seasonally	During breeding season (Jan 01-Sept 30)	No harvest within 660' from nest
		During wintering period (Dec 01-March 31)	No harvest within ¼ mile from important deep winter roosts
	Year-round		Avoid removal of overstory trees within 330' from nest
Motorized recreation	Varies seasonally	During breeding season (Jan 01-Sept 30)	No closer than 660' from nest
		During wintering period(Dec 01-March 31)	No closer than 660' from communal roosts
Non-motorized recreation	Varies seasonally	During breeding season (Jan 01-Sept 30)	No closer than 330'from nest with visual buffer or 660' without visual buffer
		During wintering period(Dec 01-March 31)	No closer than 330' from communal roosts with visual buffer or 660' feet without visual buffer
Airboats	Varies seasonally	During breeding season (Jan 01-Sept 30)	No closer than ¼ mile from nests
		During wintering period(Dec 01-March 31)	No closer than ¼ mile from important deep winter roost sites
Aircraft, Unmanned Aerial Vehicles (drones)	Varies seasonally	During breeding season (Jan 1-Sept 30)	¼ mi or 1500' above ground level at nest
		During wintering period(Dec 01-March 31)	¼ mi or 1500' above ground level at communal roost sites
Blasting, Fireworks and other loud noises	Varies seasonally	During breeding season (Jan 01-Sept 30)	
		With visual buffer	No closer than ½ mile from nest
		W/out visual buffer	No closer than 1 mile from nest
		During wintering period (Dec 1-March 31) With buffer	No closer than ½ mile from communal roost and foraging sites
		W/out visual buffer	No closer than 1 mile from communal roost and foraging sites

*may vary based on landscape characteristics and type of activity
**¼ mile = 1320'

1I. Provide outreach regarding alternatives to lead ammunition for hunting.

The use of lead-free alternatives would reduce the frequency of lead contamination in upland wildlife species including eagles and other scavengers. NYSDEC will continue to promote programs to encourage upland game hunters to voluntarily use non-lead ammunition, especially in areas with known concentrations of wintering bald eagles. This includes direct outreach to experienced hunters and other opportunities, such as publication in the annual hunting guide and sportsman education programs. Along with this effort, it is important to continue to monitor disease and mortality of bald eagles caused by lead toxicity.

1J. Discourage the intentional feeding of bald eagles.

In some New York locations, people are intentionally feeding eagles to enhance viewing and/or photographic opportunities. These actions have led to concerns about feeding of inappropriate food items (e.g. lead-contaminated deer carcasses), potential habituation of eagles to human handouts, possible disease transmission, and the potential for increased vehicle collisions with eagles. NYSDEC strongly discourages intentional placement of carcasses to feed eagles for these reasons. It is unlawful to move a deer carcass to feed eagles without a permit from the Department.

1K. Continue to monitor contamination in bald eagles by collecting tissue samples from bald eagles, their eggs and prey.

Past and continuing discharges of PCBs have contaminated some areas of New York State. Continual and proper identification of the causes of mortality through pathological and chemical analysis is necessary for the conservation of many species, including bald eagles (NYSDEC 2006). This action will facilitate monitoring of individual eagles and their reproductive success. Such additional data will be necessary for any proper determination of potential effects of PCB's on bald eagles in New York.

In addition, exposure to mercury and other contaminants can lead to decreased reproductive success. Elevated levels have been identified in some eagles from the Catskill region of New York State. There is no evidence at this time that the levels are high enough to affect reproduction, but continued monitoring is warranted.

1L. Support and encourage the application of the latest industry standards for new electric generation facilities and transmission corridors, based on raptor research.

Staff should follow guidelines developed by the Avian Power Line Interaction Committee (http://www.aplic.org/) (APLIC 2006) to reduce electrocution risks associated with perching and nesting on transmission facilities.

1M. Encourage the removal of animal carcasses suspected of botulism intoxication to reduce potential exposure to botulism.

NYSDEC will encourage landowners (including municipalities) to remove animal carcasses in areas of significant botulism outbreaks within eagle foraging areas to reduce potential mortality. Carcasses left on the landscape can continue to expose wild and domestic animal species to botulism.

Distressed Bald Eagles

1N. Implement a program to address the handling of distressed bald eagles.

Concerned individuals that discover juvenile bald eagles on the ground near a nest contact NYSDEC each year. Most often, the juvenile eagles are uninjured but not fully capable of flight. Survival for young eagles decreases once they are out of the nest and on the ground. Mortality is higher for young birds that have not yet learned critical skills from adults. If one or more adults are present and caring for the young, our recommendation is to leave them in the wild. If there are no adults present, we recommend that anyone who finds an eagle on the ground should immediately contact the NYSDEC regional wildlife office. If outside of business hours a licensed wildlife rehabilitator should be contacted.

NYSDEC requests documentation of the specific locations and conditions for any eagle found and/or removed from the wild NYSDEC regional wildlife offices, working with the NYSDEC Special Licenses Unit, should maintain a list of veterinarians and wildlife rehabilitators who have the appropriate state and federal permits. We recommend that rehabilitators with considerable experience in handling, caring for and treating eagles should be used whenever possible. We encourage others who are properly licensed and interested in rehabilitating bald eagles to apprentice with an experienced rehabilitator to gain knowledge and proficiency.

In accordance with federal guidelines (http://www.gpo.gov/fdsys/pkg/CFR-2010-title50-vol6/pdf/CFR-2010-title50-vol6-sec21-31.pdf) eagles not suitable for release into the wild should be euthanized. Release of rehabilitated eagles should be coordinated with the regional wildlife office.

Recovery and Disposition of Bald Eagles from the Landscape

In cases of suspicious death or injury (such as electrocutions, poisonings, or shootings), USFWS Office of Law Enforcement or NYSDEC's Division of Law Enforcement should be contacted before collecting. Proper chain of custody procedures should then be followed. This will insure integrity of the crime scene, and facilitate both chain of custody, and human safety. NYSDEC Division of Fish, Wildlife and Marine Resources or Division of Law Enforcement should contact the USFWS Resident Agent in Charge Office for New York (516-825-3950 or http://www.fws.gov/northeast/le/valleystream/), and appropriate protocols followed. Bald eagles found dead on the landscape or

those who do not survive rehabilitation must be submitted to the Wildlife Health Unit in Delmar. The Lab will determine a cause of death where possible, allowing New York to continue to track mortality and current threats to the bald eagle population. Carcasses should be sent to the National Eagle Repository as soon as possible after necropsy reports are completed by the Wildlife Health Unit, or when USFWS Office of Law Enforcement or NYSDEC's Division of Law Enforcement no longer needs them as evidence.

Objective 2: Maintain protection of our significant wintering bald eagle population

Several areas in New York State including the Upper Delaware River Watershed, the Hudson River, the St. Lawrence River, the Mongaup River System, Allegheny River Reservoir, Lake Erie and Lake Champlain provide important over-wintering habitat for northern migrants and New York's resident eagles.

Figure 9. New York State Bald Eagle Wintering Areas

The majority of wintering eagles are drawn to open water, where fish, waterfowl and gulls are abundant. Others rely on prey which is easily caught or scavenged, including mammal carcasses left on the landscape by hunters and trappers. They will also take advantage of road-kill or rail-kill carrion, especially deer.

While prey may be the primary factor in determining winter use areas, other habitat features are also required by wintering eagles to make it through the critical winter months. During mild winter weather, eagles may roost close to primary foraging sites, regardless of the open landscape. However, during severe weather conditions, eagles require some degree of thermal protection, and they are likely to travel some distance to roost sites protected by vegetation and terrain. These sites are known as deep-winter roosts (Town and Nye 2001). These are commonly found on east or southeast facing slopes which buffer prevailing winds from the west and northwest, and are often vegetated with large white pine trees. These locations not only provide protection from the elements, they are also generally isolated from human activity. A lack of human disturbance is a key component of both breeding and wintering areas. While eaglets may live to fledging, survival of young eagles further depends on the conditions they are exposed to during the winter. Likewise, the physiological condition of adults at the beginning of the breeding season is influenced by winter conditions, in turn affects their reproductive success.

Disturbance to wintering birds can be especially detrimental because it may deplete the birds' energy reserves. Bald eagles spend most of the winter sedentary (approximately 99%); energy is reserved for foraging, feeding, thermoregulation, and other essential activities (Nye 1994). Depleted energy may result in a drop in an individual's reproductive rate for the year, or death (Nye 1994). In addition, if a feeding bald eagle is disturbed it may abandon its food and most likely will not return to the area for the rest of the day. Continued disturbances at feeding or roosting areas can cause permanent evacuation.

Actions:

2A. Identify and protect important wintering areas.

Disturbance of wintering eagles may result in eagles abandoning their food or roost, either for the day or permanently. Important wintering areas should be identified and protected.

2B. Reduce human disturbance through posting and public education.

The need for posting around a wintering area to establish a buffer should be determined on a case-by-case basis, taking into consideration site conditions and existing activities. Public outreach can also contribute to a reduction in human disturbance.

Objective 3: Monitor breeding and wintering bald eagles in New York State at a level necessary to detect significant trends in their populations (or track status of species in the state).

Surveys are necessary for the purposes of meeting New York's obligations for monitoring pursuant to the USFWS delisting, for periodic status assessments, to guide management activities and to assist in in environmental reviews of proposed projects.

Breeding Surveys

The USFWS *Post-delisting Monitoring Plan for Bald Eagles (Haliaeetus leucocphalus) In the Contiguous 48 States*, recommends monitoring bald eagle nesting populations at five year intervals, for four generations or a total of 20 years (until 2027) (USFWS 2009). A five year interval is recommended because it follows the development cycle to maturity for one generation of eagles.

In order to successfully monitor eagles post-delisting, the USFWS recommends that states maintain their lists of known nest sites and periodically census all nests on the list.

Actions:

3A. Provide nest lists at five year intervals, until 2027, to meet the federal recommendations.

Following federal delisting recommendations, New York will continue to cooperate with the USFWS by providing data for the post-delisting monitoring plan. NYSDEC will maintain a statewide list of nests, survey for activity, and share the survey results with USFWS.

3B. Conduct breeding surveys.

Annual monitoring of known nests will continue statewide through the 2016 breeding season. A population monitoring plan will be developed and implemented beginning in 2017. The plan will be capable of detecting a 20% decline in the population over five years) and ensure that the nest information is accurate and deliverable at five year intervals to meet the needs of the U.S. Fish and Wildlife Service.

To standardize data collection and reporting we recommend using the reproductive terminology laid out in the post-delisting monitoring plan (USFWS 2009). This will ensure better communication between NYSDEC regions, NYSDEC central office and federal agencies.

3C*. Conduct productivity surveys for specific projects or to detect population declines.*

Currently, there is no need to collect productivity data on a statewide basis, but it may be necessary at specific locations. Examples may include nest locations at heavily contaminated sites or nests that are near proposed or operating wind farms. The preliminary visit is needed to determine nest status. If the nest is active, a second visit later in the breeding season may be needed to document breeding success or failure.

3D. Incorporate newly discovered nests reported to wildlife staff, into the monitoring plan.

Site visits allow NYSDEC to identify threats, collect Global Positioning System coordinates, and provide an opportunity to meet with and educate landowners. If nests are remote or have not yet been pinpointed on the ground, then these nests can be incorporated into the next aerial survey.

3E. Encourage the public to report bald eagle nests by establishing an online reporting form.

Develop and post to the NYSDEC public website an online reporting form to report new eagle nests.

Wintering Surveys

Wintering Surveys provide valuable information; including the numbers of wintering eagles, eagle behavior and critical habitats.

3F. Provide involvement as appropriate in the National Midwinter Bald Eagle Survey.

In some areas of the state, DEC may continue with limited midwinter surveys based on need, perceived threats, accessibility and the ability to collect accurate survey results.

3G. Continue to facilitate volunteer survey efforts conducted as part of the National Midwinter Bald Eagle Survey.

NYSDEC will continue to provide volunteers with contact information for the federal coordinator, acceptable survey dates, the survey protocol and other reporting information. This will be accomplished through its distribution of the annual survey letter to participants.

3G. Add newly documented wintering areas and deep winter roost sites to the Natural Heritage database.

Wintering areas are extremely important to resident and migrant eagle populations and protection of these areas is vital to maintaining a stable or increasing eagle population in New York.

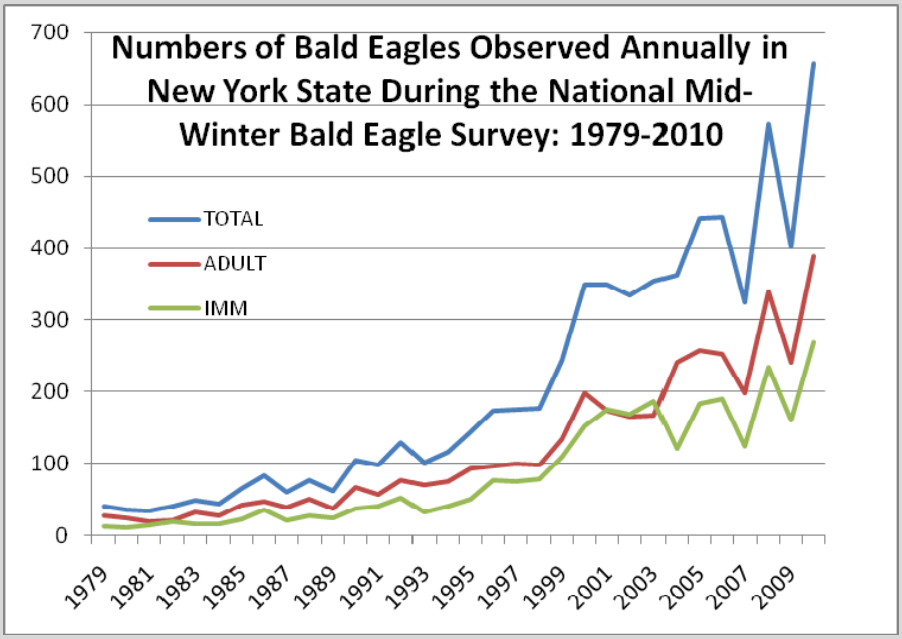


Figure 10. Numbers of Bald Eagles Observed on Mid-Winter Surveys (Nye 2010)

Research

A great deal of research on bald eagles has been conducted over the last four decades as part of the bald eagle recovery efforts in the lower 48 states. Results from research projects

have enabled wildlife biologists to make empirically based decisions when reviewing projects and providing guidance to individuals and government agencies. Additional research needs are listed below.

-Research methods to reduce mortality from rail collisions.

The rail corridor along the Hudson River has been identified as a hot spot for bald eagle fatalities. Research into reducing rail collisions in the Hudson Valley along the high-speed rail corridor is needed. The actual level of bald eagle mortality along this route has yet to be determined, but is assumed to be greater than currently reported. Research into a warning system, carcass removal or other methods to reduce mortality is recommended.

-Conduct research to evaluate impacts of wind farms on bald eagles.

Additional research to determine the effects that wind farms may have on bald eagles, both the potential for mortality and for displacement, is needed. The lack of knowledge in this area makes it difficult to predict impacts or recommend buffers necessary to protect nesting and wintering bald eagles from wind turbine construction and operation. Pre and post construction monitoring of nesting and wintering habitat at or near wind farms would provide valuable information for project reviews. Radio telemetry studies of nesting or wintering eagles near proposed projects may be warranted in some situations. This research would provide a greater understanding of bald eagles use of airspace in and around wind farms.

-Determine the impact of PCB's and other contaminants on bald eagles.

Collection and analysis of tissue samples from recovered bald eagles, unhatched eggs and prey, as well as the selective banding of nestlings hatched near the St. Lawrence River, Grasse River, Hudson River, Lake Erie, and Onondaga Lake is recommended. Such banding efforts must occur concurrently with monitoring to identify specific breeding individuals, so that origins and reproductive performance can be identified and linked. This will assist in detecting any potential negative impacts on bald eagles caused by PCB's or other contaminants.

- Determine the impacts of disturbances (e.g. air boats, hovercrafts) on wintering eagles.

Winter ecotourism involving the use of air boats or hovercrafts in close proximity to bald eagle wintering areas may have a negative impact on wintering birds. Eagles often winter in areas which are inaccessible to humans during the winter months. They commonly forage along the ice edge or perch and roost on islands or remote shorelines which are surrounded by unstable ice and/or open water. These areas are unapproachable by humans except via air boat or hovercraft.

Disturbance to wintering birds can deplete the birds' energy reserves, resulting in a drop in an individual's reproductive rate for the year, or death. Research to determine the extent of the

disturbance caused by these activities and potential solutions to mitigate the disturbances is recommended.

Outreach

-Landowners with nesting or wintering eagles should be contacted in person, by letter, or both, in an effort to develop a positive collaboration and working relationship with them. This is an opportunity to begin a dialog which can include a discussion of the biological needs of eagles and legal restrictions which may apply.

An important aspect to ensuring that the bald eagle population continues to flourish in New York is the implementation of an outreach and education program. Private landowners, local governmental organizations and other non-governmental organizations play a key role in protecting and conserving critical bald eagle habitat. It is essential that these entities have the background necessary to make informed decisions regarding activities that might affect bald eagle habitat or improve the likelihood of success in raising young during the nesting season.

For an outreach program to be successful, NYSDEC needs to educate landowners, volunteers, the public and local governments, outlining proper "eagle etiquette" and how certain actions and activities can adversely affect eagles. It is important to convey that human disturbance within a nesting or wintering territory can have a serious negative impact on bald eagles (http://www.dec.ny.gov/animals/9378.html).

There are a number of ways to achieve this goal. One important method is through direct contact with landowners. This outreach should also include adjacent landowners, if their properties fall within the 660-foot buffer of the nest. In some cases, local land trusts or environmental groups may be better suited to conduct this outreach. Often they have developed a rapport with the local landowners. NYSDEC should make efforts to work closely with these entities to implement best management practices where possible. While initial contact may be made by NYSDEC Wildlife staff, in some cases contact by a private group may be advantageous.

Presentations given by NYSDEC Wildlife staff and trained volunteers, outlining eagle biology, nesting requirements and human impacts on bald eagles can also assist in achieving educational goals. Results of eagle surveys, research and monitoring may be disseminated to organized groups and interested individuals. Venues for these presentations can include schools, bird club or environmental group meetings, planning board or local government meetings and other settings where there is an interest or need to educate the public. Presentations have proven to be a valuable educational tool in the past and every effort should be made to continue this outreach in the future.

-Develop and provide educational kiosks in concentration and nesting areas with substantial opportunity to safely view eagle activity.

Some nest sites and wintering areas provide wonderful viewing opportunities. These are perfect areas for displaying educational materials that convey the biological needs of eagles, as well as detailed information about the potential impact of disturbance on eagles.

-Update the NYSDEC public website with pertinent information about the status and management of eagles in New York.

General information about breeding and biology of eagles as well as recommended buffers and restrictions should be added to the NYSDEC website and reviewed for accuracy on an annual basis. Links to supplemental information can be found at http://www.dec.ny.gov/animals/7068.html.

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Appendix 1. List of terms used in the Bald Eagle Conservation Plan

Breeding pair: a pair of birds within a nesting territory where evidence indicates that eggs were laid (such as eggs, young, incubation, or eggshell fragments).

Breeding territory: comprised of nesting and foraging areas, it is focused on the active nest and may include alternate nests that are maintained but not used for nesting in a given year.

Communal roost site: an area where bald eagles gather & perch overnight - and sometimes during the day in the event of inclement weather. Communal roost sites are usually in large trees (live or dead) that are relatively sheltered from wind and are generally in close proximity to foraging areas. These roosts may also serve a social purpose for pair bond formation and communication among eagles. Many roost sites are used year after year. (NBEMG May 2007)

Communal roost trees: trees that provide some natural shelter from wind, rain, and snow making up a communal roost site.

Deep winter roost: communal roost site located in a coniferous stand which offers protection from prevailing winds and severe weather conditions.

Natal territory: the breeding territory from which an eagle fledged.

Occupied pair: presence of a recently decorated nest and two potential breeding birds during the breeding season.

Occupied territory: area that is the potential breeding territory for an occupied pair.

Satellite roost: alternate roost location that provides shelter from wind not coming from the prevailing direction.

Territorial pair: presence of two potential breeding birds within suitable nesting habitat during the breeding season where some sign of pair bonding or nesting is also evident (copulation, stick-carrying, nest building, etc.).

Wintertime congregation: a group of eagles that has congregated in an open water area.

Appendix 2. Links to Bald Eagle References and Recommended Reading

Title: National Bald Eagle Management Guidelines

http://www.fws.gov/pacific/eagle/NationalBaldEagleManagementGuidelines.pdf

Title: Post-delisting Monitoring Plan for the Bald Eagle (*Haliaeetus leucocephalus*) in the Contiguous 48 States

http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BySpecies/FINAL%20BEPDM%2005-11-2010_for%20posting.pdf

Title: The Bald and Golden Eagle Protection Act

http://www.fws.gov/midwest/eagle/guidelines/bgepa.html

Title: Migratory Bird Treaty Act of 1918

http://www.fws.gov/laws/lawsdigest/migtrea.html

Title: NYSDEC Bald Eagle Program

http://www.dec.ny.gov/animals/9381.html

Title: National Wildlife Rehabilitators Association Minimum Standards

http://www.nwrawildlife.org/content/minimum-standards

Title: Conserving Lake Ontario and Upper St. Lawrence River Bald Eagle Habitats

http://www.epa.gov/greatlakes/lakeont/reports/lo_baldeagle1.pdf

Title: *Draft Bald Eagle Plan Guidance U.S. Fish and Wildlife Service January 2011*

http://www.fws.gov/windenergy/docs/ECP_draft_guidance_2_10_final_clean_omb.pdf

Title: Avian Power Line Interaction Committee Guidelines

http://www.aplic.org/

Public Comment Responsiveness Summary

For the Conservation Plan for Bald Eagles in New York State

Prepared by: Blanche E. Town NYSDEC Bureau of Wildlife Region 6

General Summary:

The public comment period for the Conservation Plan for Bald Eagles in New York State began on February 23, 2015 and concluded April 10, 2015. The public comment period was announced through a press release and electronic mediums including the Department website. Additionally, the public comment period was announced through the Environmental Notice Bulletin. Methods for submitting comments included telephone and electronic and postal mail.

During the approximate 45 day public comment period a total of one-hundred eighteen (118) comments were received. Respondents seeking information or clarification on a particular topic will be contacted directly with a follow up email.

Comment Summary:

Comments were received from individuals and organizations. Comments could be generally classified as positive. Of the negative comments received, the majority addressed the topics of lead and wind power development as discussed in the threats section. Also of concern were buffers around eagle nests, particularly the impact they might have on boating and tourism, and unmanned aerial vehicles (drones).

Some comments were written in opposition to a ban on lead and others were received in support of it. The intent of this plan is not to ban lead ammunition, but rather to identify continuing threats to the bald eagle population. DEC will continue to conduct outreach efforts to educate hunters about the harmful effects of lead in the environment and the effectiveness of lead free ammunition alternatives.

Wind power comments were in opposition to establishing wind farms in the vicinity of important bald eagle breeding or wintering areas.

Many of those commenting on the plan expressed concern that they would no longer be able to boat along a waterway because of the presence of a bald eagle nest.

Unmanned aerial vehicles were of concern to some. It was requested that they be included along with manned aircraft in the threats section. Although they are not currently in wide use, they are gaining in popularity and may pose a threat to bald eagles in the future.

Response to Comments:

Modifications were made to some sections of the plan. The wording was altered in some sections to make it clear that the plan does not ban lead or ignore the impacts of lead on bald eagles. Although only a small percentage of bald eagles are recovered, the cause of death of a significant percentage of those recovered can be attributed to lead poisoning.

Wind and stationary towers were separated in the text and a revision was made referencing *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects.*

Drones have been included in the text along with manned aircraft.