Species Status Assessment

Class: Birds
Family: Accipitridae
Scientific Name: *Aquila chrysaetos*
Common Name: Golden Eagle

Species synopsis:

The golden eagle is extirpated as a breeder in New York, with the last known successful nesting occurring in 1970. Summer records occur occasionally and there are two known, regularly-used wintering areas. Numbers of migrating individuals at the hawk watches at Derby Hill, Braddock Bay, and Franklin Mountain have been increasing since the 1980s.

The golden eagle inhabits a wide range of latitudes throughout the Northern Hemisphere and uses a variety of habitats ranging from arctic to desert. It historically nested throughout North America (Bent 1937), but is now primarily a western species, where it has always been more common. The most recent nesting in the Northeast was in Maine in 1999.

Golden eagles nest on rugged land features in open country, placing the nest on cliffs or bluffs. Heavily forested areas are avoided.

I. Status

a. Current Legal Protected Status

i. Federal Not Listed **Candidate:** No

ii. New York Endangered; SGCN

b. Natural Heritage Program Rank

i. Global G5

ii. New York SHB, S1N **Tracked by NYNHP?** Yes

Other Rank:

IUCN Red List Category: LC - Least concern
Species of Northeast Regional Conservation Concern (Therres 1999)

Status Discussion:

Golden eagle is extirpated as a breeder in New York. Uncommon migrant, mostly inland. Rare winter visitant.

II. Abundance and Distribution Trends

a. North America

i. Abundance

____ declining ____increasing __X__ stable ____unknown

ii. Distribution:

____ declining ____increasing __X__ stable ____unknown
Time frame considered: ____Since 1980s_____

b. Regional

i. Abundance

____ declining __X__ increasing ____stable ____unknown

ii. Distribution:

____ declining __X__ increasing ____stable ____unknown

Regional Unit Considered: _____Northeast_____
Time frame considered: _____Since 2000_____

c. Adjacent States and Provinces

CONNECTICUT **Not Present _____** **No data __X___**

i. Abundance

____ declining ____increasing ____stable __X__ unknown

ii. Distribution:

____ declining ____increasing ____stable __X__ unknown

Time frame considered: _____
Listing Status: _____Not Listed_____ SGCN? __No___

MASSACHUSETTS **Not Present _____** **No data __X___**

i. Abundance

____ declining ____increasing ____stable __X__ unknown

ii. Distribution:

____ declining ____increasing ____stable __X__ unknown

Time frame considered: _____
Listing Status: _____Not Listed_____ SGCN? __No____

NEW JERSEY **Not Present _____** **No data _____**

i. Abundance

____ declining ____increasing ____stable __X__ unknown

ii. Distribution:

____ declining ____increasing ____stable __X__ unknown

Time frame considered: _____
Listing Status: _____Not Listed_____ SGCN? ___No___

ONTARIO **Not Present _____** **No data _____**

i. Abundance

____ declining __X__ increasing ____stable ____ unknown

ii. Distribution:

____ declining __X__ increasing ____stable ____ unknown

Time frame considered: ____1977-2010_____
Listing Status: _____Endangered_____

PENNSYLVANIA **Not Present _____** **No data _____**

i. Abundance

____ declining __X__ increasing ____ stable ____ unknown

ii. Distribution:

____ declining __X__ increasing ____ stable ____ unknown

Time frame considered: ____1960-2010_____
Listing Status: _____Not Listed_____ SGCN? ___Yes___

QUEBEC **Not Present _____** **No data _____**

i. Abundance

____ declining __X__ increasing ____stable ____ unknown

ii. Distribution:

____ declining __X__ increasing ____stable ____ unknown

Time frame considered: ____1984-89 to 2012_____
Listing Status: _____Candidate for Threatened or Special Concern____

VERMONT **Not Present _____** **No data __X___**

i. Abundance

____ declining ____increasing ____stable __X__ unknown

ii. Distribution:

____ declining ____increasing ____stable __X__ unknown

Time frame considered: _____
Listing Status: _____Not Listed_____ SGCN? ___No___

d. NEW YORK **No data _____**

i. Abundance

____ declining __X__ increasing ____stable ____ unknown

ii. Distribution:

____ declining __X__ increasing ____stable ____ unknown

Time frame considered: ____Since 2000_____

Monitoring in New York.

None, though hawk watches at Derby Hill, Braddock Bay, and Franklin Mountain record migrants annually.

Trends Discussion:

Population status and trends are difficult to assess because of the remote nature of nesting areas. There were as many as 100,000 individuals in North America during the 1970s (Braun et al. 1975). Between 2,000 and 10,000 breeding pairs are estimated in Canada (Kirk and Hyslop 1998). Few data on abundance in U.S. is available since mid-1980s.

Nesting was confirmed historically in Maine, New Hampshire, New York, and Vermont (Todd 1989). The last known successful nesting in New York was in 1970 in Hamilton County. In 1979, a pair laid eggs at the Hamilton County site, but the nest failed. A pair of golden eagles was reported in Hamilton County in June 1992, but no nest was found (Peterson 1992). In Maine, two pairs nested in 1983, only one pair between 1984 and 1998, and two in 1999 (Todd 1989, C. Todd pers. comm.). Historical nesting is suspected in Pennsylvania, Massachusetts, N. Carolina, Tennessee, Kentucky, W. Virginia, Virginia, S. Carolina, and Georgia (Smith 1982, Palmer 1988, Todd 1989, C. Todd pers.

comm.). Migration counts in the eastern U.S. and eastern Canada suggest a decline in Golden Eagle passage rates from the 1930s to early 1970s, with stable or increasing trends since the early 1970s (Bednarz et al. 1990, Titus and Fuller 1990, Hussell and Brown 1992, Hawk Mountain Sanctuary unpubl., L. Goodrich pers. comm.). From 1987-1999, trends at Hawk Mountain, PA have been stable or increasing (Hawk Mountain Sanctuary, unpublished data). Hawk watch sites at Derby Hill, Braddock Bay, and Franklin Mountain in New York show increasing or slightly increasing trends since 1989.

Of the 11 hawk watch sites in the East reporting sufficient numbers of golden eagles for analysis, five sites showed significant long-term increases and six showed no significant change. In the last 10 years, most eastern sites display stable numbers of this species, although Cape May, NJ showed recent significant declines. The stable or declining numbers at watch sites in recent years suggest that eastern eagle increases may be stabilizing.

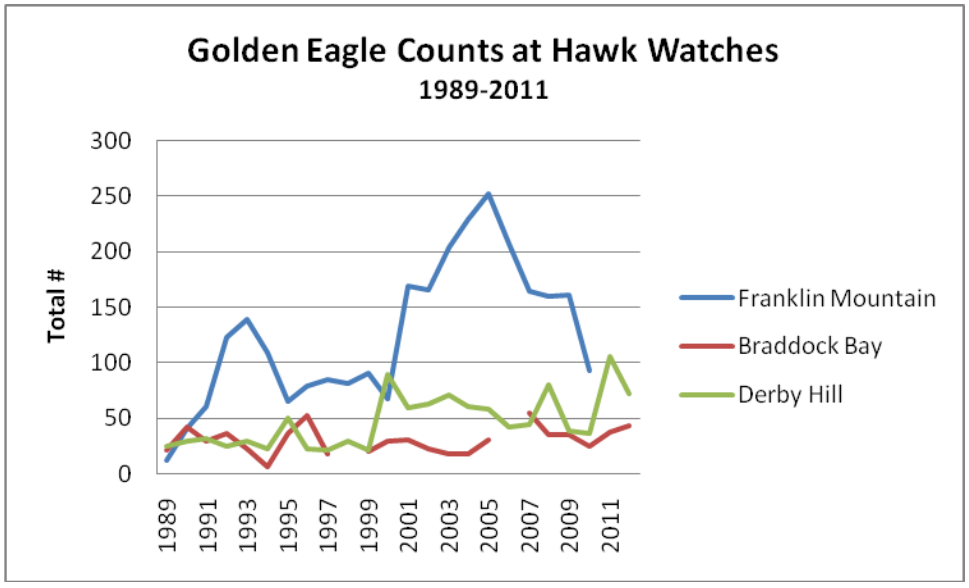

Figure 1. Count numbers of golden eagle at three Hawk Watch sites.

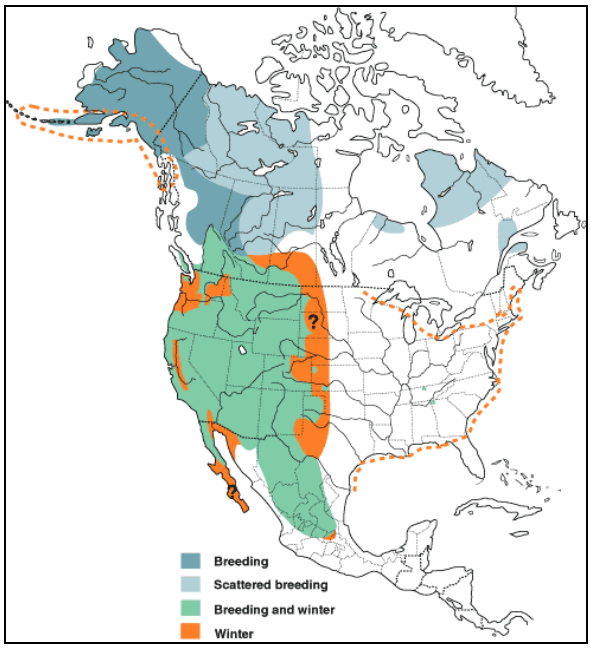

Figure 2. Distribution of golden eagle in North America (Birds of North America Online).

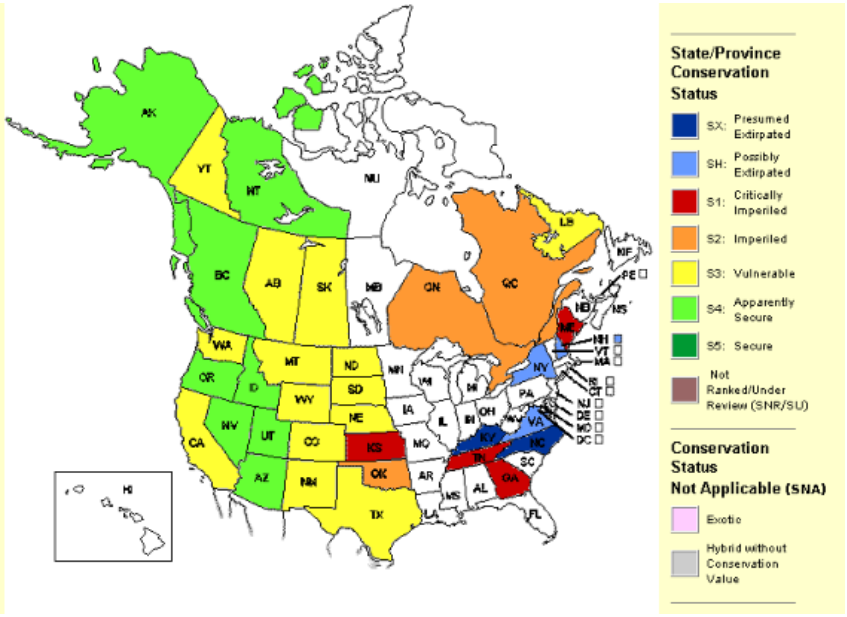

Figure 3. Conservation status of the golden eagle in North America (NatureServe 2012).

III. New York Rarity, if known:

Historic	# of Animals	# of Locations	% of State
prior to 1970	_____	___1___	_____
prior to 1980	_____	_____	_____
prior to 1990	_____	_____	_____

Details of historic occurrence:

The last known successful breeding in New York occurred in 1970 in Hamilton County; and unsuccessful attempt (eggs laid) was made in 1979 at the same site (Nye 1998).

Current	# of Animals	# of Locations	% of State
	_____	___2___	_____

Details of current occurrence:

Golden eagle is extirpated as a breeder in New York. Wintering occurs with some regularity in Dutchess County and Delaware County (Nye 2008).

New York's Contribution to Species North American Range:

Distribution (percent of NY where species occurs)

_X_ 0-5%

___ 6-10%

___ 11-25%

___ 26-50%

___ >50%

Abundance (within NY distribution)

___ abundant

___ common

___ fairly common

___ uncommon

_X_ rare

NY's Contribution to North American range

_X_ 0-5%

___ 6-10%

___ 11-25%

___ 26-50%

___ >50%

Classification of New York Range

___ Core

____ Peripheral

__X__ **Disjunct**

Distance to core population:

__~ 1,600____

IV. Primary Habitat or Community Type:

1. Native Barrens and Savanna

2. Rocky Outcrop

3. Old Field Managed Grasslands

Habitat or Community Type Trend in New York:

__X_ **Declining** ____ **Stable** ____ **Increasing** ____**Unknown**

Time frame of decline/increase: ____Since 1960s_____

Habitat Specialist? _____ **Yes** __X___ **No**

Indicator Species? _____ **Yes** __X___ **No**

Habitat Discussion:

Golden eagles are traditionally associated with rugged land features in open country. They often nest on cliffs in mountains, foothills, canyons, and open rangelands (Brown and Amadon 1968). The species breeds in open and semi-open habitats from near sea level to 3,630 m (Poole and Bromley 1988) - tundra, shrublands, grasslands, woodland-brushlands, and coniferous forests (Kochert 1986). Golden eagles avoid heavily forested areas.

Six nesting sites are known in New York from the 20th century. All were within the Adirondack region. Four were on cliff edges, mostly overlooking mountain lakes; two were in white pine trees (Nye 2008).

V. New York Species Demographics and Life History

_____ Breeder in New York

_____ Summer Resident

_____ Winter Resident

_____ Anadromous

__X__ Non-breeder in New York

_____ Summer Resident

__X__ Winter Resident

_____ Catadromous

_____ Migratory only

_____Unknown

Species Demographics and Life History Discussion:

The golden eagle generally breeds after attaining adult plumage, which is usually acquired in fifth summer, but individuals are capable of breeding earlier. The nesting season is prolonged, extending more than six months from the time eggs are laid until the young reach independence. A typical golden eagle raises an average of only 1 young per year and up to 15 young over its lifetime. Pairs commonly refrain from laying eggs in some years, particularly when prey is scarce. The number of young that golden eagles produce each year depends on a combination of weather and prey conditions.

Reproductive rates fluctuate with prey densities and weather conditions. The longevity record in North America, determined via banding encounters, is 23 years, 10 months (Klimkiewicz 1997).

Humans cause >70% of recorded deaths, directly or indirectly (Franson et al. 1995). Accidental trauma (collisions with vehicles, power lines, or other structures) is the leading cause of death (27%), followed by electrocution (25%), gunshot (15%), and poisoning (6%) (Franson et al. 1995).

VI. Threats:

Golden eagles are killed by collisions with cars, fences, wires, and wind turbines. Nearly 1,000 were killed on highways near Rock Springs, WY, in the winter of 1984–1985 (Phillips 1986). At least 28–43 are killed annually by turbine blade strikes in the Altamont Pass Wind Resource Area, CA.

Humans kill golden eagles both intentionally and accidentally by trapping, shooting, poisoning, and electrocution. Eagles were traditionally shot in parts of North America where depredation of domestic sheep was suspected. As recently as 1971, >500 were killed in Colorado and Wyoming by helicopter gunmen hired by sheep ranchers (Beans 1996). This is not currently an issue in the Northeast.

Should a nest occur in New York, there is potential for disturbance by rock-climbers. Loss of remoteness is a common theme portrayed as cause for abandonment of eagle nests. Vacancies at three golden nests in Maine more or less coincided with nearby passage of new roads (Spofford 1971). An incubating eagle readily leaves its nest in response to nearby intrusions (Bent 1937).

Reasons for decline in New York are not clear, but various factors seem to be involved including loss of essential open hunting habitat due to succession and fire control, and possibly pesticide contamination (NYSDEC 2005). Urbanization, wildfires and agricultural development have encroached on this eagle's habitat in many portions of its range as well.

Are there regulatory mechanisms that protect the species or its habitat in New York?

_____ No **____ Unknown**

__X__ Yes

Golden eagles are protected by the Bald and Golden Eagle Protection Act.

The golden eagle is listed as an endangered species in New York and is protected by Environmental Conservation Law (ECL) section 11-0535 and the New York Code of Rules and Regulations (6 NYCRR Part 182). A permit is required for any proposed project that may result in a take of a species listed as Threatened or Endangered, including, but not limited to, actions that may kill or harm individual animals or result in the adverse modification, degradation or destruction of habitat occupied by the listed species.

Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:

Conservation actions following IUCN taxonomy are categorized in the table below.

Conservation Actions	
Action Category	**Action**
Land/Water Protection	Site/Area Protection
Land/Water Protection	Resource/Habitat Protection
Land/Water Management	Site/Area Management
Land/Water Management	Habitat/Natural Process Restoration

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for forest breeding raptors, which includes golden eagles.

Habitat management:

___ Habitat management for all these species (except the golden eagle, which is effectively extirpated as a breeder) is largely unknown and it is therefore important to experiment with different techniques. Examples include different cutting regimes and different buffer distances (and potentially fire management where appropriate), in both hardwoods and conifers (plantations and native).

Life history research:

___ Initiate a live-trapping/radio-tagging program for golden eagles in NYS to determine migratory pathways, site fidelity, and essential habitats.

VII. References

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