Species Status Assessment

Common Name: Ruffed grouse **Date Updated:** January 8, 2024

Scientific Name: *Bonasa umbellus* **Updated By:** Evan Wills, Beth Cooper

Class: Birds

Family: Phasianidae

Species Synopsis *(a short paragraph which describes species taxonomy, distribution, recent trends, and habitat in New York):*

A popular and important game bird, the ruffed grouse is found in deciduous and coniferous forests of North America, occurring most abundantly in a mosaic of habitats that includes regenerating forests and shrub habitat. The range extends coast-to-coast across central Canada, and in the East as far southward as North Carolina. New York is well within this distribution and ruffed grouse are present year-round.

As many as 15 subspecies of ruffed grouse are recognized in North America; three, and possibly a fourth occur in New York. *B. u. umbellus* is the dominant subspecies present, while *togata* and *helmei* are recognized in central parts of the state, and Long Island respectively. A fourth subspecies, *monticola*, is the grouse of the Appalachians and occurs in the southwestern corner of New York.

Ruffed grouse are known to have cyclic population trends at approximately 10-year intervals (Bump et al. 1947), primarily in response to increased pressure from avian predators during periods of low snowshoe hare populations. However, these cycles are somewhat less prevalent in the Northeast than in midwestern and northern populations. Data from NYSDEC hunter surveys over the past two decades do not illustrate 10-year cycles in New York. Whether this is because declining habitat quantity and quality have disrupted the cycle, or whether these habitat factors are "masking" a cycle that would normally occur during optimal habitat conditions is not known. Alternately, there may be population cycles operating at a geographic scale larger (e.g., the northeastern U.S.) or smaller (e.g., the St. Lawrence Valley) than currently being measured. Northeastern populations have declined in the past 20 years.

In New York, the second Breeding Bird Atlas showed a change of -18% from 1980-85 to 2000-05. The five-year average take/hunter from the New York State Small Game Hunter Survey declined from 2.8 birds/hunter in 1982-86 to 1.8 birds/hunter in 2006-10 (-36%).

I. Status

a. Current legal protected Status

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

ii. **New York:** Not listed

b. Natural Heritage Program

i. **Global:** G5

ii. **New York:** S5 **Tracked by NYNHP?:** No

Other Ranks:

-NYS 2025 SGCN Status: Species of Greatest Conservation Need

-IUCN Red List: Least Concern

Status Discussion:

Ruffed grouse is a common resident throughout New York except in metropolitan areas and in agricultural areas in the Great Lakes Plain.

II. Abundance and Distribution Trends

Region	Present?	Abundance	Distribution	Time Frame	Listing status	SGCN?
North America	Yes	Declining	Declining	1980-2023		Yes
Northeastern US	Yes	Declining	Declining	1980-2023		Yes
New York	Yes	Declining	Declining	1980-2023		Yes
Connecticut	Yes	Declining	Declining	1980-2015		Yes
Massachusetts	Yes	Declining	Declining	1980-2023		No
New Jersey	Yes	Declining	Declining	1980-2019		Yes
Pennsylvania	Yes	Declining	Declining	1980-2015		Yes
Vermont	Yes	Declining	Declining	1989-2023		Yes
Ontario	Yes	Stable	Stable	1970-2021		No
Quebec	Yes	Stable	Stable	1984-2012		No

Column options
Present?: Yes; No; Unknown; No data; (blank) or Choose an Item
Abundance and Distribution: Declining; Increasing; Stable; Unknown; Extirpated; N/A; (blank) or Choose an item
SGCN?: Yes; No; Unknown; (blank) or Choose an item

Monitoring in New York *(specify any monitoring activities or regular surveys that are conducted in New York):*

DEC coordinates two surveys and collects grouse parts from hunter-killed birds. The Cooperator Ruffed Grouse Hunting Log asks grouse hunters to record the number of birds flushed per hour of hunting effort. The Ruffed Grouse Drumming Survey asks turkey hunters to record all drumming male grouse observed while they are afield during the month of May. We hope that, when viewed over time and various spatial scales, both of these surveys will help us identify trends in grouse distribution and abundance. The grouse parts collection allows us to evaluate the age and sex composition of the harvest and estimate recruitment (number of young per adult female) for different regions of the state.

In 2007, DEC initiated a cooperative research project with SUNY Environmental Science & Forestry to determine fall-winter survival and mortality of ruffed grouse in two areas of New York State with relatively high hunting pressure and different degrees of habitat fragmentation. This study was the first assessment of ruffed grouse survival and harvest mortality in New York in more than 50 years. We monitored fall-winter survival of 169 radio-marked ruffed grouse at two study areas in New York differing in forest age and composition.

Trends Discussion*:*

Breeding Bird Survey data for New York show a nonsignificant increase of 0.73% per year from 1980 to 2010 and a nonsignificant increase of 0.65% per year from 1966 to 2010. Rangewide, BBS data show a nonsignificant trend of 0.85% per year from 1980 to 2010, and a nonsignificant trend of 0.24% per year from 1966 to 2010.

The Breeding Bird Atlas documented the disappearance of ruffed grouse from Long Island since 1980-85; only one survey block was reported to have ruffed grouse. Occupancy dropped notably from the Hudson Valley and surrounding highlands as well. These changes are thought to be the result of increased development and reforestation.

Figure 1. Range of the ruffed grouse in North America (The Cornell Lab of Ornithology, All about Birds 2023)

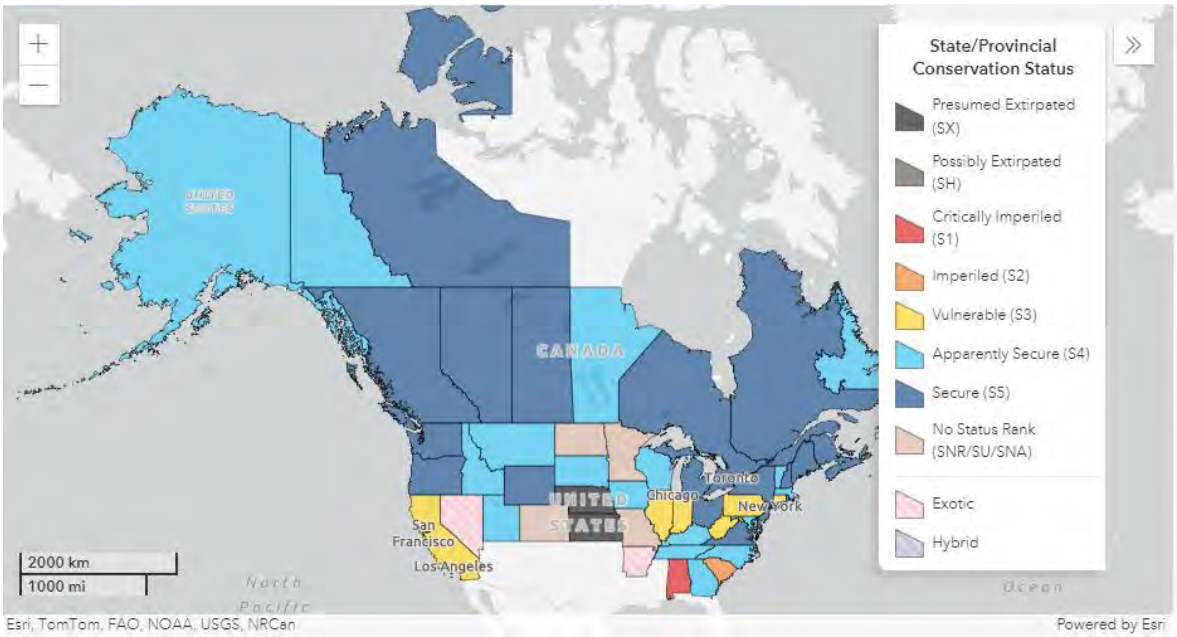

Figure 2. Conservation status of the ruffed grouse in North America (NatureServe 2024).

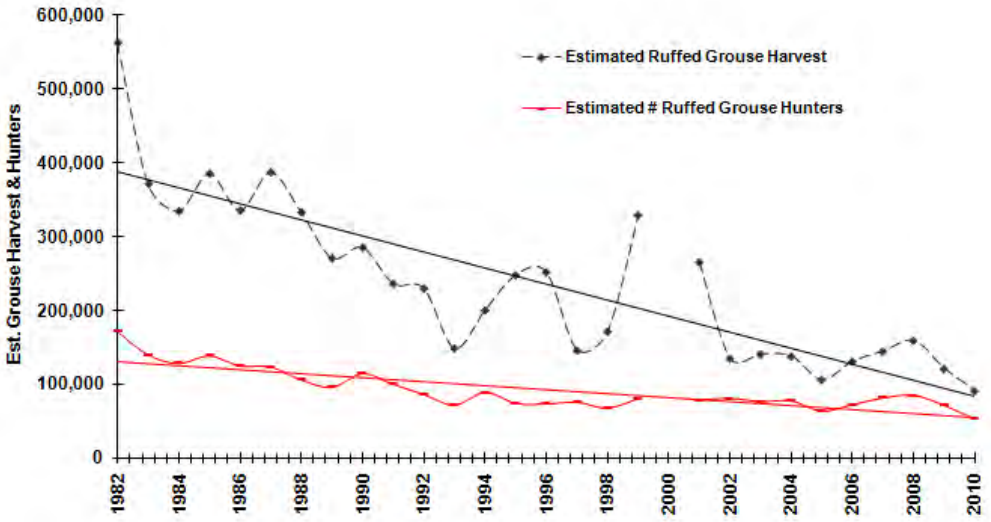

Figure 3. Estimated number of grouse harvested and number of hunters in New York (NYSDEC files).

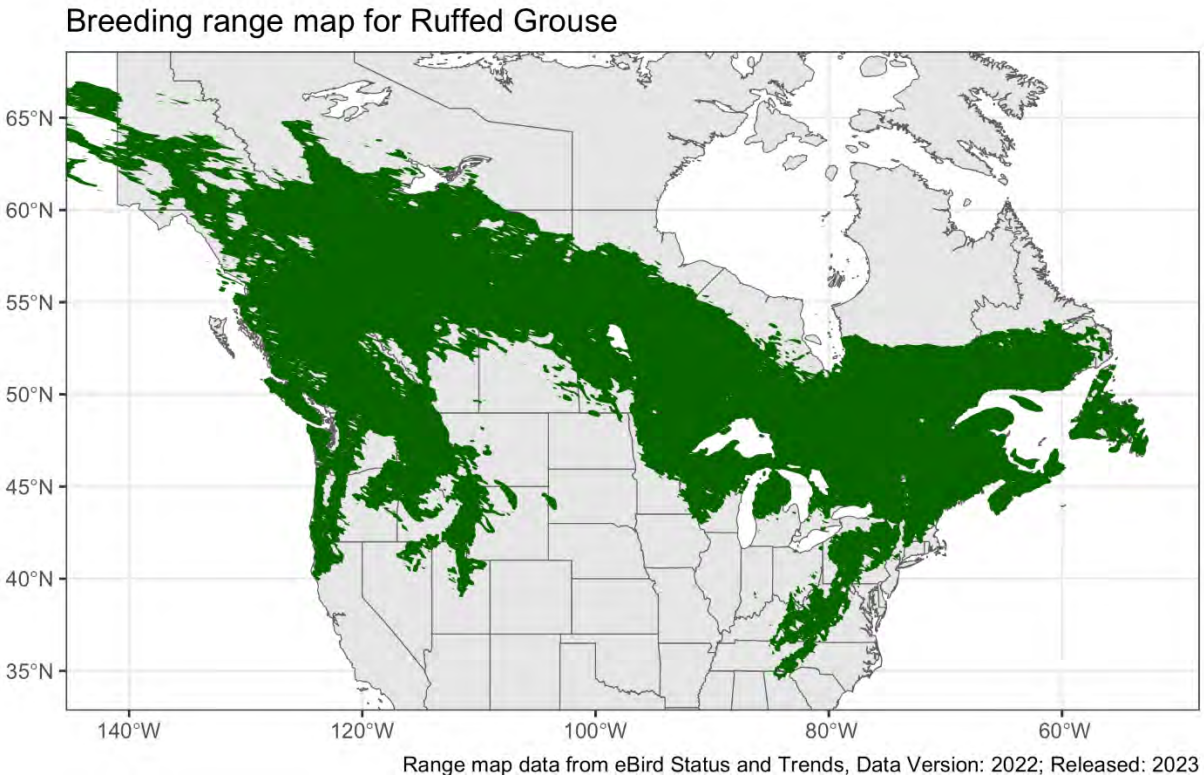

Figure 4. Breeding range of ruffed grouse (eBird).

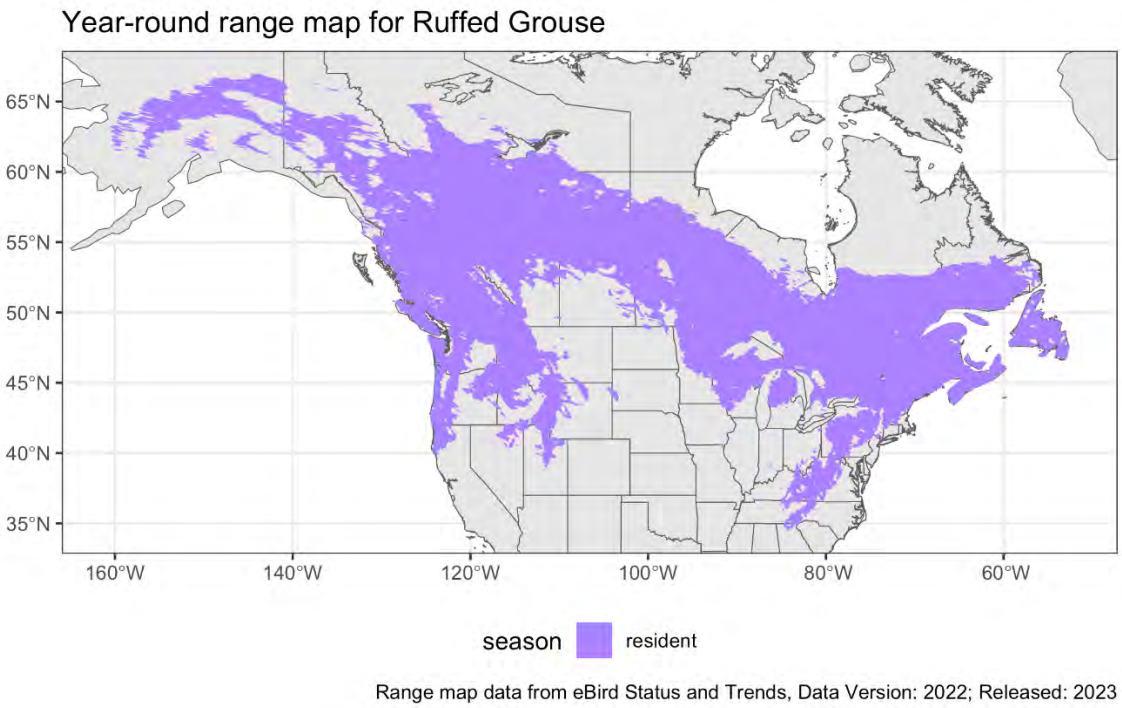

Figure 5. Year-round range of ruffed grouse (eBird).

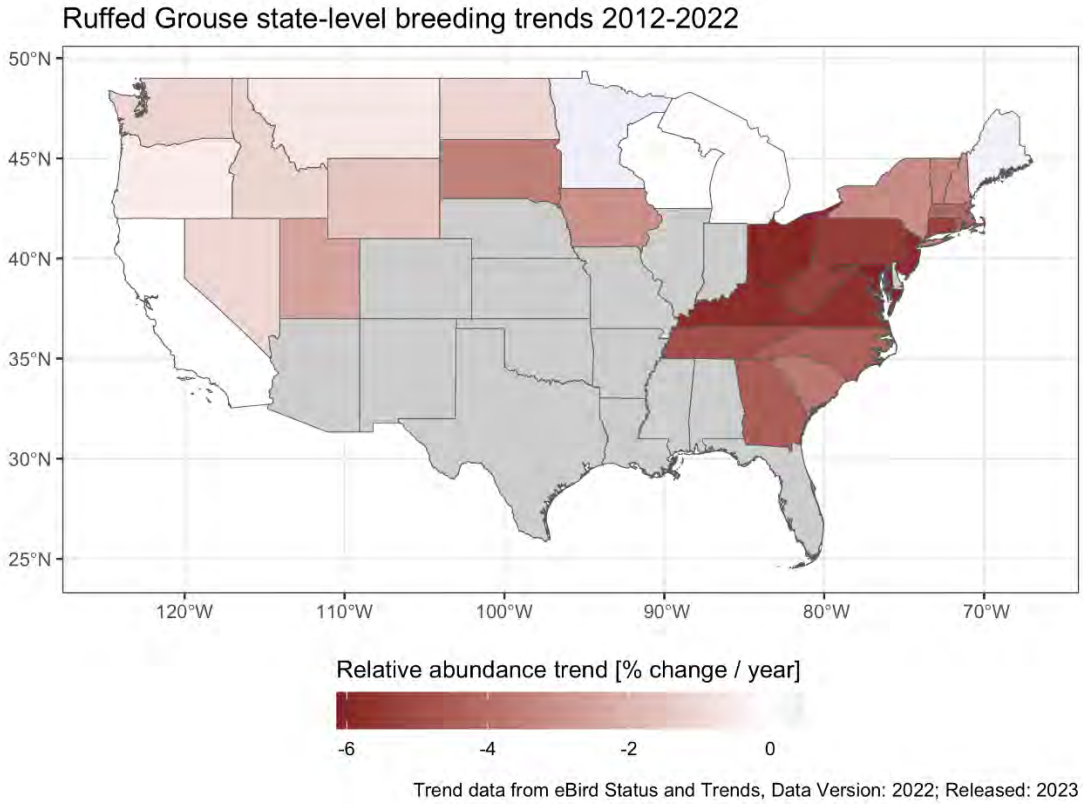

Figure 6. Breeding trends, by state, of ruffed grouse (eBird).

III. **New York Rarity** *(provide map, numbers, and percent of state occupied)*

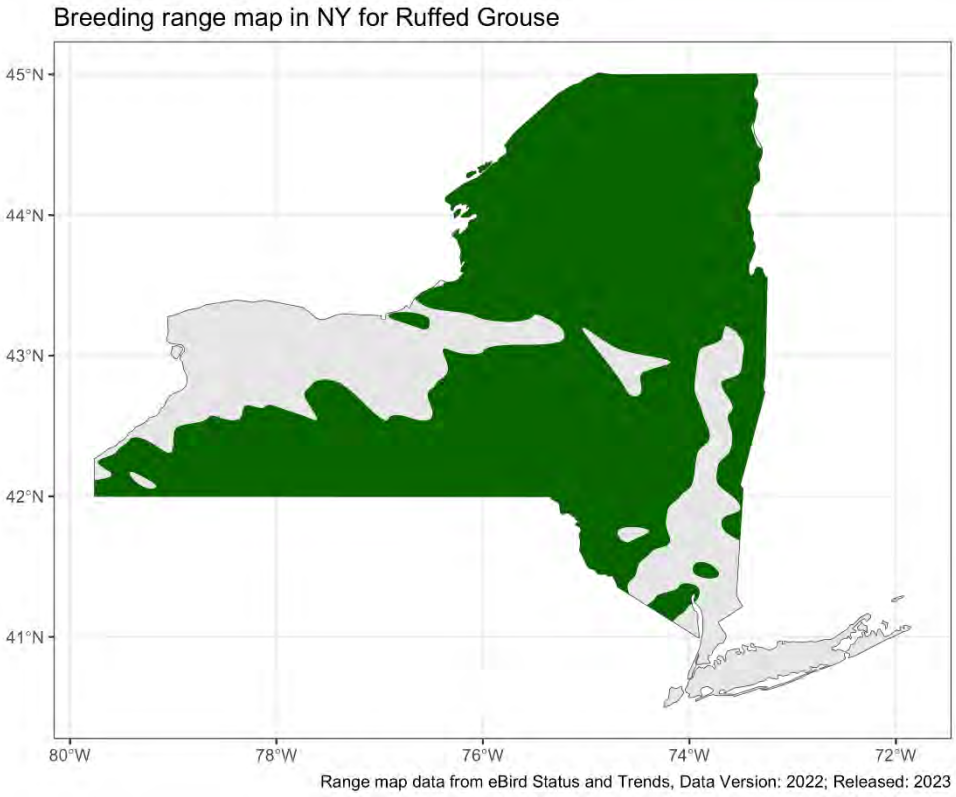

Figure 7. New York breeding range of ruffed grouse (eBird).

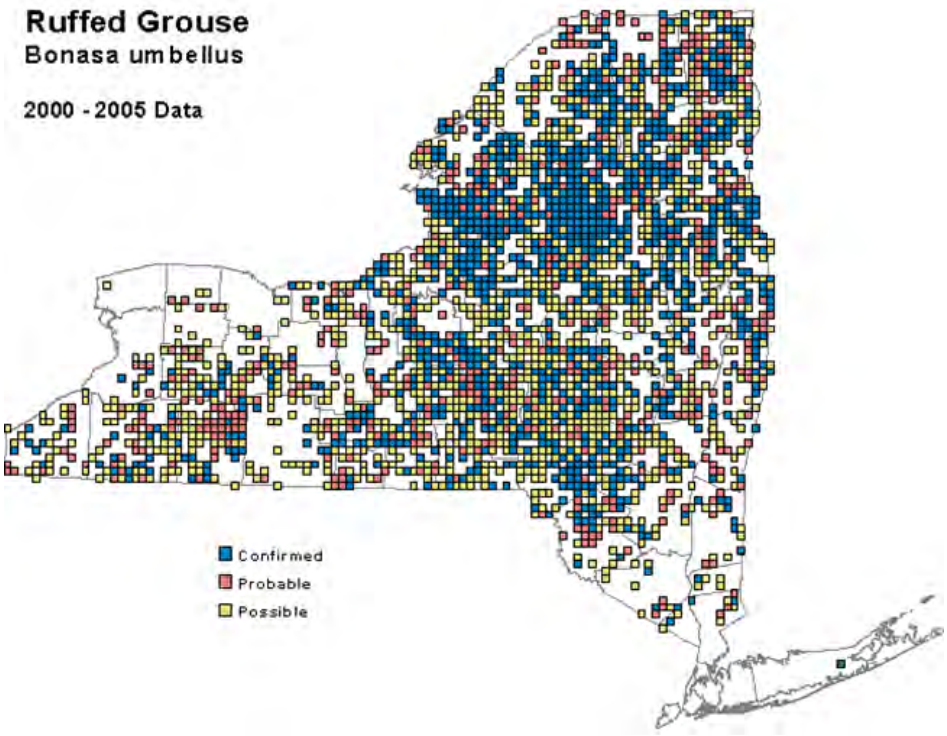

Figure 8. Ruffed grouse occurrence in New York State during the second Breeding Bird Atlas (NYSDEC 2023)

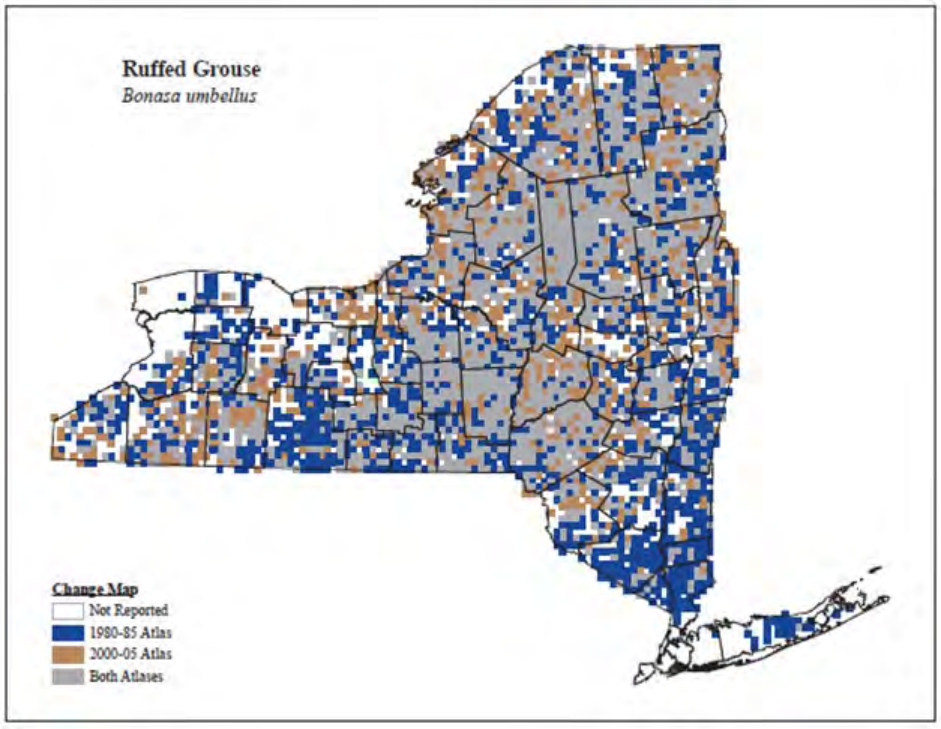

Figure 9. Change in ruffed grouse occurrence in New York State between the first Breeding Bird Atlas and the second Breeding Bird Atlas (McGowan and Corwin 2008).

Details of historic and current occurrence:

Ruffed grouse reached their peak numbers in New York during in the mid-1960s through the mid-1970s (M. Schiavone, pers. comm.). The first Breeding Bird Atlas (1980-85) documented occupancy in 3,152 survey blocks statewide. Ruffed grouse have essentially disappeared from Long Island and the Hudson Valley and surrounding highlands.

The first Breeding Bird Atlas (BBA) (1980-85) documented occupancy in 3151 blocks, 59% of the survey blocks statewide (Andrle and Carroll 1988). The second BBA (2000-05) documented occupancy in 2579 blocks, 48.4% of the survey blocks statewide, a decline of 10.6% since the first atlas (McGowan and Corwin 2008).

The third BBA (2020-25) is currently underway and utilizes a different number and layout of survey blocks across New York, making direct comparison with the first two Atlases difficult. There were 5,333 blocks in the first and second BBAs, and there are 5,710 blocks in the current BBA, of which 1,815 are considered priority blocks. To date, ruffed grouse has been documented in 721 priority blocks, 39.7% of all priority blocks statewide during the third BBA (NY BBA III Overview, 2024).

New York's Contribution to Species North American Range:

Percent of North American Range in NY	Classification of NY Range	Distance to core population, if not in NY
1-25%	Core	

Column options
Percent of North American Range in NY: 100% (endemic); 76-99%; 51-75%; 26-50%; 1-25%; 0%; Choose an item
Classification of NY Range: Core; Peripheral; Disjunct; (blank) or Choose an item

IV. Primary Habitat or Community Type *(from NY crosswalk of NE Aquatic, Marine, or Terrestrial Habitat Classification Systems):*

1. Oak-Pine Forest
2. Oak Forest
3. Mixed Northern Hardwoods
4. Plantation and Disturbed Land Pioneer Forests
5. Powerline
6. Old Field Managed Grasslands

Habitat or Community Type Trend in New York

Habitat Specialist?	Indicator Species?	Habitat/ Community Trend	Time frame of Decline/Increase
No	No	Declining	Since 1950s (early successional habitats)

Column options
Habitat Specialist and Indicator Species: Yes; No; Unknown; (blank) or Choose an item
Habitat/Community Trend: Declining; Stable; Increasing; Unknown; (blank) or Choose an item

Habitat Discussion:

Ruffed grouse prefer a mix of regenerating forest and shrub habitat. Maturing forest habitats are used for nesting, sapling/pole stage hardwood forest habitats are used for breeding, and very young regenerating forests are used for brood rearing. A mosaic of these habitat types adjacent to each other results in greatest productivity and survival. The availability of drumming logs is an important component of the habitat for male breeding displays.

V. Species Demographic, and Life History:

Breeder in NY?	Non-breeder in NY?	Migratory Only?	Summer Resident?	Winter Resident?	Anadromous/ Catadromous?
Yes	-	-	Yes	Yes	-

Column options
First 5 fields: Yes; No; Unknown; (blank) or Choose an item
Anadromous/Catadromous: Anadromous; Catadromous; (blank) or Choose an item

Species Demographics and Life History Discussion *(include information about species life span, reproductive longevity, reproductive capacity, age to maturity, and ability to disperse and colonize):*

Females nest at one year of age and every spring afterwards. About half of males nest do not hold a territory or drum. Success of first nests varies by year and location; apparent success, i.e., proportion of nests found already under way that hatched, was 61.4% in New York (range 38.9–75.4%, *n* = 1,431) (Bump et al. 1947). Mean lifetime reproductive success (based on 20 radio-marked hens in Wisconsin) has been estimated at 9.3 chicks. Average annual survival rates of adult males rangewide is about 34% but varies by age class, region, habitat, and phase of population cycle (Rusch et al. 2000).

Predation, including hunting by humans, is the largest source of mortality. Avian predation increases during periods when snowshoe hare populations are low. Males are usually faithful to breeding territory among years; the female does not defend a territory nor is faithful to a breeding site. Females are also resident but are more likely to shift breeding sites or winter home ranges (Rusch et al. 2000).

A recent study in New York found that fewer than 11% of radio-marked grouse (Skrip et al. 2011) were killed by hunters. Predation, particularly by raptors, was the largest source of mortality. Seasonal survival (fall to spring) ranged from almost 40% to slightly over 50% (Rusch et al. 2000).

VI. Threats *(from NY 2015 SWAP or newly described):*

Threat Level 1	Threat Level 2	Threat Level 3	Spatial Extent	Severity	Immediacy	Trend	Certainty
1. Residential and Commercial	1.1 Housing & Urban Areas	(habitat loss/ development)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
2. Agriculture & Aquaculture	2.1 Annual & Perennial Non-Timber Crops	(habitat loss to agriculture)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
5. Biological Resource Use	5.1 Hunting & Collecting Terrestrial Animals	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.1 Fire & Fire Suppression	7.1.2 Suppression in the fire regime	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
7. Natural System Modifications	7.3 Other Ecosystem Modifications	7.3.2 Vegetation succession	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.1 Invasive Non-Native Plants & Animals	-	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.
8. Invasive & Other Problematic Species	8.2 Problematic Native Plants & Animals	(predation by cooper's hawk, goshawk, great-horned owl, fox, coyote)	Choose an item.	Choose an item.	Choose an item.	Choose an item.	Choose an item.

Table 1. Threats to ruffed grouse.

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

Yes: X **No:** _____ **Unknown:** _____

If yes, describe mechanism and whether adequate to protect species/habitat:

Ruffed grouse is a popular game bird with an open hunting season. Bag limits can be manipulated in response to population changes. However, recent research indicates that current harvest levels are quite low and it is unlikely that restricting hunting seasons would result in significant increases in abundance (Skrip et al. 2011).

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

Wildlife managers are encouraged to work with foresters and conservation groups to harvest small blocks of timber (2-4 hectares; 5-10 acres) that will encourage reproduction of aspen and other early-successional plants in a mosaic pattern. The Ruffed Grouse Recovery Plan states a goal of returning populations to 1980 levels by 2025. Conservation actions following IUCN taxonomy are categorized in the table below.

Action Category	Action	Description
A.1 Direct Habitat Management	A.1.0.0.0 Direct habitat management	Site/Area management
A.1 Direct Habitat Management	A.1.1.0.0 Manage plants, animals, fungi, or bacteria	Invasive/Problematic species control
B.3 Outreach	B.3.1.4.0 Public outreach and information	Awareness & Communications
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Site/Area Protection
C.6 Design and Plan Conservation	C.6.5.0.0 Conservation planning	Resource/Habitat Protection
C.6 Design and Plan Conservation	C.6.5.1.3 Develop a conservation, management, or restoration plan for protected private lands	Habitat/Natural process restoration
C.7 Legislative and Regulatory Framework or Tools	C.7.1.3.0 Create, amend, or influence regulation	

Action Category	Action	Description
C.7 Legislative and Regulatory Framework or Tools	C.7.2.1.0 Create or amend policies	
C.9 Education and Training	C.9.2.0.0 Training and individual skill development	Training

Table 2. Recommended conservation actions for ruffed grouse

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for early-successional forest/shrubland birds, which includes ruffed grouse.

Curriculum development:

____ Educate public to the benefits and need for early successional habitat including even-aged management.

Easement acquisition:

____ Implement a Landowner Incentive Project for early successional birds that will direct $600,000 per year at conserving and creating habitat for early successional forest/shrub birds.

Habitat management:

____ Work with Utilities to manage ROWs in a manner that will provide for maximum benefit to early successional species.

____ Double the amount of early successional forest and shrub habitat on public and private land through sound planned management.

____ Increase early successional management on public and private lands.

____ Maintain, restore, and enhance fire adapted ecosystems. Increase use of prescribed fire in fire adapted ecosystems.

____ Promote management of Utility ROWs that will provide the maximum benefit to shrub bird species.

Habitat monitoring:

____ Precisely monitor trends of all species, in particular those that are not currently adequately monitored.

____ Complete an inventory and analysis for high priority focus species that identifies core habitats (highest abundance) and geographic areas (where appropriate).

Habitat research:

____ Determine effects of viburnam leaf beetle on early successional forest/shrub habitats and species utilizing them.

Population monitoring:

____ Encourage full completion of BBS routes.

Statewide management plan:

____ Develop a management plan that provides guidance on maintaining, enhancing and restoring early successional forest/shrub bird species.

Other actions:

____ Develop better mechanisms for directing federal (NRCS and USFWS) funding programs into early successional forest/shrub habitats.

____ Develop BMPs for forest management in riparian areas that recognize the critical need maintain, enhance and restore early successional forest/shrub habitat in these areas.

VII. References

Bump, G., R. W. Darrow, F. C. Edminster, and W. F. Crissey. 1947. The Ruffed Grouse: life history, propagation, management. New York State Conserv. Dep. Albany.

Fink, D., T. Auer, A. Johnston, M. Strimas-Mackey, S. Ligocki, O. Robinson, W. Hochachka, L. Jaromczyk, C. Crowley, K. Dunham, A. Stillman, I. Davies, A. Rodewald, V. Ruiz-Gutierrez, C. Wood. 2023. eBird Status and Trends, Data Version: 2022; Released: 2023. Cornell Lab of Ornithology, Ithaca, New York. https://doi.org/10.2173/ebirdst.2022

NatureServe. 2012. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. Accessed 2 July 2013.

NatureServe. 2025. NatureServe Explorer. Page last published 2/28/25. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102687/Bonasa_umbellus . Accessed April 1, 2025.

New York State Department of Environmental Conservation (NYSDEC). 2005. New York State Comprehensive Wildlife Conservation Strategy. <http://www.dec.ny.gov/index.html>. Accessed 2 July 2013.

Skrip, M.M., W.F. Porter, B.L. Swift, and M. Schiavone. 2011. Fall-Winter Survival of Ruffed Grouse in New York State. Northeastern Naturalist 18(4):395-410.

Rusch, D. H., S. Destefano, M. C. Reynolds and D. Lauten. 2000. Ruffed Grouse (*Bonasa umbellus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/515 doi:10.2173/bna.515

https://extapps.dec.ny.gov/cfmx/extapps/bba/bbaMaps.cfm?bndcode=RUGR&order=2&year=2000&comp=1

https://dec.ny.gov/things-to-do/hunting/small-game/ruffed-grouse