

SPECIES PROFILE

Great Blue Heron

Ardea herodias

Federal Listing: Not listed

State Listing: Not listed

Global Rank: G5

State Rank: S4B

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ELEMENT 1: DISTRIBUTION AND HABITAT

1.1 Habitat Description

Great blue herons breed and nest in fresh and saltwater habitats that include marshes, beaver impoundments, wet meadows, estuaries, tidal flats, sandbars, shallow bays and the margins of lakes, ponds, streams and rivers (DeGraaf and Yamasaki 2001). **Nests are commonly found in riparian swamps in dead trees** 5 to 15 m above ground (NatureServe 2005, Ogden 1978, McAloney 1973, Vermeer 1969). Great blue herons often nest in colonies or rookeries.

Great blue heron foraging habitat includes freshwater and brackish marsh lakeshores, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows (NatureServe 2005). Herons commonly feed on aquatic and terrestrial insects, fish, amphibians, reptiles, crustaceans, and occasionally on small birds and mammals (Short and Cooper 1985).

1.2 Justification

Great blue herons are sensitive to habitat loss and disturbance. For example, loss of nesting habitat, deterioration of water quality, and loss of wetlands can threaten herons (Short and Cooper 1985, Thompson 1979, Kelsall and Simpson 1980, McCrimmon 1981). Thus, herons can indicate changes in the environment. Specifically, heron populations can provide an indication of water quality and wetland health. Because pesticides and heavy metals accumulate in

herons' primary prey, contaminated herons can indicate wider contamination of amphibians and fish.

Development and associated human disturbance also threaten great blue heron populations. For example, fledgling success depends on the success of the parents in providing sufficient food when nestlings are 2-6 weeks old (NatureServe 2005). Therefore, extensive disturbance, or loss of foraging habitat, directly reduces heron productivity.

Maintaining habitat for herons will also benefit animals such as osprey (*Pandion haliaetus*), great horned owls (*Bubo virginianus*), amphibians, and fish. For example, heron rookeries are associated with potential nesting location of the state threatened osprey. Therefore, monitoring heron rookery locations can aid in identifying present and potential osprey nesting locations.

1.3 Protection and Regulatory Status

- Migratory Bird Treaty Act (1918).
- State wetlands regulations (see Marsh and Shrub Wetland habitat profile).

1.4 Population and Habitat Distribution

The great blue heron is the most common of New Hampshire's herons and occurs throughout the state (Elkins and Swift 1994). Based on the number of documented occurrences in the Breeding Bird Atlas, herons appear to be more numerous in southern New Hampshire than in the White Mountains and northern New Hampshire.

Because great blue herons often nest and forage in beaver (*Castor canadensis*) impoundments, local heron populations may fluctuate with beaver populations. For example, heron use of beaver ponds is now rebounding from the extirpation of beavers in the nineteenth century (Elkins and Swift 1994). The

heron recolonization of beaver impoundments since the 1930s suggests that herons may be more numerous now than 50 or 100 years ago (Elkins and Swift 1994). During the 1990s, it was estimated that New Hampshire had approximately 200 heron rookeries, supporting around 1,600 pairs of herons (Hunt 2005). Great blue heron populations are believed to be increasing or stable in New Hampshire (Hunt 2005).

1.5 Town Distribution Map

Not completed for this species.

1.6 Habitat Map

See Marsh and Shrub Wetlands habitat profile element 1.6.

1.7 Sources of Information

Sources of information include the NatureServe database (2005), literature review, expert review and consultation (M. Marchand, Wetlands Biologist, NHFG), and the rare species and natural community database maintained by NHHNB.

1.8 Extent and Quality of Data

Data on the distribution of great blue heron in New Hampshire are limited, as is local and statewide information on population trends. Many records are missing from occurrence data collected as part of the Breeding Bird Atlas and maintained in the New Hampshire rare species database (Elkins and Swift in Foss 1994, C. Martin, NHA, personal communication).

1.9 Distribution Research

More information is needed on habitat use and population fluctuations at known rookeries (e.g., long term monitoring of identified large rookeries). More information on rookeries would also help in monitoring populations and identifying new osprey nesting locations. Newly identified rookeries should be incorporated into NHDES wetland permit reviews.

ELEMENT 3: SPECIES THREAT ASSESSMENT

See Marsh and Shrub Wetlands habitat profile for habitat-based threats.

ELEMENT 4: CONSERVATION ACTIONS

See Marsh and Shrub Wetlands habitat profile for habitat-based conservation strategies.

ELEMENT 5: REFERENCES

5.1 Literature Cited

- DeGraaf R. M., and M. Yamasaki. 2001. New England wildlife habitats, natural history, and distribution. University Press of New England, Hanover, New Hampshire, USA.
- Elkins, K.C., and Swift, E.F. 1994. Great blue heron (*Ardea herodias*). Page 8 in Atlas of breeding birds in New Hampshire, C.R. Foss, editor. Arcadia. Dover, New Hampshire, USA.
- Hunt, P. 2005. A Regional Perspective on New Hampshire's Birds of Conservation Priority: Objectives, Threats, Research Needs, and Conservation Strategies. New Hampshire Audubon, Concord, New Hampshire, USA.
- Kelsall, J.P., and K. Simpson. 1980. A three-year study of the great blue heron in southwestern British Columbia. Proceedings 1979 Conference. Colonial Waterbird Group 3:69-74.
- McAloney, K. 1973. The breeding biology of the great blue heron on Tobacco Island, Nova Scotia. Canadian Field Naturalist. 87:137-140.
- McCrimmon, D.A. 1981. The status and distribution of the great blue heron (*Ardea herodias*) in New York State: Results of a two-year census effort. Colonial Waterbirds 4:85-90.
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life (web application). Version 4.2 NatureServe, Arlington, Virginia. <http://www.natureserve.org/explorer>. Accessed 11 February 2005.
- Ogden, J.C. 1978. Recent population trends of colonial wading birds on Atlantic and Gulf coastal plains. Wading birds. National Audubon Society research report. 7:137-153.
- Short, H.L., and R.J. Cooper. 1985. Habitat suitability index models: Great blue heron. U.S. Fish Wildlife Service Biological Report. 82(10.99).
- Thompson, D.H. 1979. Declines in populations of great blue herons and great egrets in five Midwestern states. Proceedings of 1978 Conference Colonial Waterbird Group 2:114-127.
- Vermeer, K. 1969. Great blue heron colonies in Al-

berta. *Canadian Field-Naturalist* 83:237-242.

5.2 Data Sources

NH Natural Heritage Bureau. 2005. Database of Rare Species and Exemplary Natural Community Occurrences in New Hampshire. Department of Resources and Economic Development, Division of Forests and Lands. Concord, New Hampshire, USA.

Distribution of Great Blue Heron Rookeries in New Hampshire

Distribution
Known



Known = confirmed locations of rookeries as reported in the
NH Natural Heritage Bureau's Element Occurrence Database.

