

## NYS Department of Environmental Conservation

### **Distribution by County of Breeding Birds, Reptiles and Amphibians, Rare Animals and Plants, and Significant Natural Communities in New York**

The NYS Department of Environmental Conservation (DEC), as part of its mission to conserve, improve, and protect New York's natural resources, collects and maintains several datasets on the locations, distribution and status of species of plants and animals. Information on distribution by county from the following three databases was extracted and compiled into this dataset.

- New York Natural Heritage Program biodiversity database: **Rare animals, rare plants, and significant natural communities**. Significant natural communities are rare or high-quality wetlands, forests, grasslands, ponds, streams, and other types of habitats, ecosystems, and ecological areas.
- The 2<sup>nd</sup> NYS Breeding Bird Atlas Project database: **Birds** documented as breeding during the atlas project from 2000-2005.
- DEC's NYS Reptile and Amphibian Database: **Reptiles and amphibians**; most records are from the NYS Amphibian & Reptile Atlas Project (Herp Atlas) from 1990-1999.

While information on the precise locations of many rare species of plants and animals is considered sensitive, due to the risk of disturbance or illegal collection should the locations be made public, the county level is a sufficiently coarse geographic scale that information at that level should pose no risk to vulnerable species.

More details about each database follow below.

#### **New York Natural Heritage Biodiversity Database**

[www.nynhp.org](http://www.nynhp.org) or [www.dec.ny.gov/animals/29338.html](http://www.dec.ny.gov/animals/29338.html)

The New York Natural Heritage Program facilitates the conservation of New York's biodiversity by providing comprehensive information and scientific expertise on rare species and natural ecosystems to resource managers and other conservation partners. Through a MOU with the State University of New York College of Environmental Science and Forestry, NY Natural Heritage maintains the most comprehensive database on the locations and status of New York's rare and imperiled animals and plants, and on the locations and status of significant natural communities in New York State. This database is dynamic, with new and updated information entered daily. From NY Natural Heritage's database, information on county distribution of rare species and significant natural communities can be compiled, both from a table of county distribution and from records of individual occurrences of these species and community types.

**Rare animals and plants** included in NY Natural Heritage's database:

- All animals listed by NYS as Endangered or Threatened
- All plants listed by NYS as Endangered or Threatened
- Some animals listed by NYS as Special Concern
- Some plants listed by NYS as Rare

- Some species not officially listed by NYS, but which are ranked as rare or imperiled in New York by NY Natural Heritage. These unlisted species, while not afforded the same level of regulatory protection under New York State law as species listed as Endangered or Threatened, are nevertheless a vulnerable natural resource of conservation concern.

Animal groups represented in the NY Natural Heritage database are mammals, birds, reptiles, amphibians, fish, butterflies and moths, dragonflies and damselflies, beetles, mayflies, crayfish, freshwater mussels, and snails. The database also includes records of significant animal concentration areas or assemblages, such as anadromous fish concentration areas, raptor concentration areas, and bat colonies. A list of animals whose locations are tracked in the NY Natural Heritage database is at [www.dec.ny.gov/docs/wildlife\\_pdf/rareanimal514.pdf](http://www.dec.ny.gov/docs/wildlife_pdf/rareanimal514.pdf).

Plant groups represented in the NY Natural Heritage database are flowering plants, conifers, ferns and “fern allies”, and mosses. A list of plants (except mosses) whose locations are tracked in the NY Natural Heritage database is at [www.dec.ny.gov/docs/fish\\_marine\\_pdf/2010rareplantstatus.pdf](http://www.dec.ny.gov/docs/fish_marine_pdf/2010rareplantstatus.pdf). A list of rare mosses is at [http://www.dec.ny.gov/docs/fish\\_marine\\_pdf/2008revraremoss.pdf](http://www.dec.ny.gov/docs/fish_marine_pdf/2008revraremoss.pdf).

Information about many of the rare animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage’s Conservation Guides at [www.guides.nynhp.org](http://www.guides.nynhp.org). Information about many of the New York’s listed animals is also available from NYSDEC at <http://www.dec.ny.gov/animals/7494.html>.

The sources of the records of rare plants and animals in NY Natural Heritage’s database are data and maps from field surveys (by Heritage staff, NYS DEC staff, private conservation groups, scientific researchers, and others), museum specimens, project reports, contributions from interested parties, and other secondary sources. These records are compiled by NY Natural Heritage. The information is not necessarily the result of comprehensive or site-specific field investigations; in some cases locations have been derived from literature or museum searches or historic records.

**Significant natural communities** are rare or high-quality wetlands, forests, grasslands, ponds, streams, and other types of habitats, ecosystems, and ecological areas. NY Natural Heritage calls these different types of habitats or ecosystems “natural ecological communities.” NY Natural Heritage’s classification of natural communities recognizes 180 distinct natural community types. NY Natural Heritage documents only those locations of natural communities where the community type is rare in New York State; or, for more common community types, where the community at that location is a high-quality example and meets specific, documented criteria for state significance in terms of size, undisturbed and intact condition (such as the presence of a full range of native species, and few exotic species), and the quality of the surrounding landscape.

NY Natural Heritage keeps track of locations of significant natural communities because they serve as habitat for a wide range of plants and animals, both rare and common; and because natural communities in good condition provide ecological value and services. The conservation of high-quality examples of all the natural community types in each region of New York State will help ensure that all New York State’s plants and animals are preserved.

A natural ecological community is defined as an assemblage of interacting plant and animal populations that share a common environment; the particular assemblage of plant and animal species occurs across the landscape in areas with similar environmental conditions. Freshwater wetland,

estuarine, and upland natural communities are classified according to their dominant vegetation and their physical setting; aquatic, marine, and cave natural communities are classified according to their physical setting and their dominant flora and fauna. Examples of community types include deep emergent marsh, red maple-hardwood swamp, dwarf shrub bog, hemlock-northern hardwood forest, and tidal creek.

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at [www.guides.nynhp.org](http://www.guides.nynhp.org). More technical descriptions of all community types are at [www.dec.ny.gov/animals/29384.html](http://www.dec.ny.gov/animals/29384.html); click on Draft Ecological Communities of New York State.

The sources of natural community records in the NY Natural Heritage's database are data and maps from field surveys and from aerial photo interpretation by Heritage staff.

### **2<sup>nd</sup> NYS Breeding Bird Atlas Project** [www.dec.ny.gov/animals/7312.html](http://www.dec.ny.gov/animals/7312.html)

The Breeding Bird Atlas is a comprehensive, statewide survey designed to reveal the distribution of breeding birds in New York. This second Atlas project in New York was conducted from 2000-2005, and resulted in the new publication *The Second Atlas of Breeding Birds in New York State*, edited by Kevin J. McGowan and Kimberley Corwin (released in December 2008), and in the associated database. The recently completed project used the same methodology as the first Atlas to document striking changes in bird distribution that occurred in the ensuing twenty years. Over half of our 253 breeding bird species showed a significant change in their distribution, with 70 species showing increases and 58 species showing declines.

Five years of fieldwork by more than 1,200 contributors provided the data for the second Breeding Bird Atlas. Each Breeding Bird Atlas survey block measures 5 x 5 km (3 x 3 mi); there are 5,332 blocks in the entire state. Atlas volunteers visited various habitats within their assigned block(s) and recorded evidence of breeding behavior for the birds they see, using defined Breeding Codes. Breeding Codes were assigned to one of three categories to indicate the certainty of breeding: Confirmed, Probable, or Possible breeding. (This dataset reports all birds documented in a county regardless of breeding category.)

The New York State Ornithological Association and the Department of Environmental Conservation sponsored this project in cooperation with New York Cooperative Fish and Wildlife Research Unit at Cornell University, Cornell University Department of Natural Resources, the Cornell Lab of Ornithology, and Audubon New York.

### **NYS Reptile and Amphibian Database (NY Herp Atlas)** [www.dec.ny.gov/animals/7140.html](http://www.dec.ny.gov/animals/7140.html)

The Herp Atlas Project was a ten-year survey, sponsored by the NYS Department of Environmental Conservation with support from many other agencies and organizations, designed to document the geographic distribution of the approximately 70 amphibians and reptiles of New York

State. The survey information is used to monitor changes in reptile and amphibian populations, guiding habitat and wildlife management decisions. A publication on the results of the Herp Atlas Project is forthcoming.

The survey began in 1990 and continued through the end of 1999. The unit of measurement for collecting atlas data is the USGS 7.5 minute topographic quadrangle. Volunteers reported their observations of herps within each topographic quadrangle on “blue cards”, and the information was entered into the NYS Reptile and Amphibian Database. Since the Herp Atlas ended in 1999, the NYS Reptile and Amphibian Database has been updated with selected new reports of reptile and amphibian species.

### **Limits to data**

For a given species or community type, the dataset includes only counties where the species has been observed, reported, and entered into one of the source databases. However, that species or community type may also be found in other counties in New York. Survey effort and observer ability vary, and many sites in New York State have not been surveyed at all, so even if a species or community type is not listed for a particular county, it cannot be definitively concluded that it does not occur in that county; it can only be said that none of the source databases has that species documented from that county.

Regarding the Breeding Bird Atlas in particular, the Atlas is a presence/absence survey. While a record of a species in a block is highly suggestive of its breeding presence there, the lack of a record does not guarantee absence of the species as a breeder in the block. Atlas volunteers were directed to work in a block until 76 species had been recorded; therefore, the list of species reported breeding within a block was not intended to be comprehensive.