

3. Species of Greatest Conservation Need

3.1. Selection Criteria

More than 1000 species of wildlife are known to presently occur in Delaware, or to have occurred here in the past. The primary repository for this information is the Delaware Natural Heritage Program, which tracks rare species distribution and abundance using the methodologies of the international network of Natural Heritage Programs. This methodology is unique in allowing for comparison of species status across all taxa, and for this reason it was chosen as the foundation for determining Species of Greatest Conservation Need (SGCN).

Not all of Delaware's species are currently tracked by the Natural Heritage Program due to staff and funding limitations, most notably estuarine and marine fish and invertebrates. To compensate for this, other schemes for assessing species status for particular taxa were utilized. Also, several national and regional schemes were included to broaden the ecological context for determining SGCN. Ultimately, the following schemes (in alphabetical order) were used to choose SGCN because they were developed with original methods, rather than being derived from other schemes, and because they were especially relevant to Delaware:

- American Fisheries Society – Marine, Estuarine, and Diadromous Fish Stocks at Risk of Extinction in North America (Exclusive of Pacific Salmonids)
- Delaware legal status
- Delaware populations with special significance or sensitivity
- Federal legal status
- Mid-Atlantic Bird Conservation Initiative, ranks for Bird Conservation Region 30
- National Marine Fisheries Service – Highly Migratory Species Fisheries Management Plans for western Atlantic stocks
- Natural Heritage state and global ranks
- Northeast Endangered Species and Wildlife Diversity Technical Committee – Wildlife Species of Regional Conservation Concern in the Northeastern United States

These were applied according to a standard set of rules based on a species' presence, absence or priority in a particular scheme.

Other schemes were not used in the determination because they were subsumed under one of the above, they were derived from other work, or their global perspective was not relevant to Delaware:

- Atlantic States Marine Fisheries Commission – list of managed species
- Audubon Watchlist
- BirdLife International – list of globally threatened species
- Convention on International Trade in Endangered Species – Appendices I, II, III
- International Union for the Conservation of Nature – Red List
- Mid-Atlantic Fishery Management Council – list of managed species
- North American Waterbird Conservation Plan – ranks for the mid-Atlantic region
- North American Waterfowl Management Plan – list of managed species for the Atlantic flyway

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- Northern Bobwhite Conservation Initiative
- Partners in Flight – ranks for Region 44
- The Nature Conservancy North Atlantic Coast, Lower New England-Northern Piedmont, and Chesapeake Bay Lowlands ecoregional plans – conservation targets
- U.S. Shorebird Conservation Plan – ranks for the northern Atlantic region

The list of Delaware SGCN appears in Appendix B. The report includes a header that explains the specific criteria used to derive the list and footer with a key to abbreviations. In addition to the schemes used to select SGCN (under the “Criteria” heading), the report also includes most of the schemes that were not used (under “Cross-Reference”).

In a broad sense, SGCN, as defined for this Plan, are indicative of the overall diversity and health of the State’s wildlife resources. Some may be rare or declining, others may be vital components of certain habitats, and still others may have a significant portion of their population in Delaware. The SGCN list is divided into two tiers based on the criteria shown in the report header. The tiers are defined as follows:

Tier 1 species are those that are most in need of conservation action in order to sustain or restore their populations. They are the focus of the Plan, which is based on analyzing issues that impact their populations and their habitats, and on developing conservation actions to eliminate, minimize or compensate for these issues.

Tier 2 species are also in need of conservation action, although not with the urgency of Tier 1 species. Their distribution across the landscape will help determine where conservation actions will be implemented on the ground.

Subsequent to the development of this tiered approach, it became apparent that, due to current limitations in the mapping of SGCN, the original intent for the use of tiers could not be realized in this first iteration of the Plan. Thus, for now all SGCN are treated as being in equal need of conservation. As mapping capabilities improve, it will become possible to use the tiers as first envisioned. See Section 4.2.1 for more information about mapping.

Composition of the SGCN list is based on the present state of knowledge of species distribution and abundance in Delaware. Some taxa have been thoroughly studied – birds, for instance – while others less so, such as the estuarine and marine species noted earlier. In other words, in some cases inclusion on, or exclusion from, the list may be a function of knowledge limitations rather than a reflection of the actual status of a species. As knowledge about species is constantly changing, the makeup of SGCN will change also.

One particular aspect of knowledge limitations is an artifact of a recent change in the Natural Heritage methodology for state ranking of species rarity. For administrative reasons, several previous ranks that were more descriptive of status were combined into the rank of SNA, short for “not applicable.” This perhaps unfortunate choice of terms implies that, although a species occurs here, it has little or no conservation value in the state. This may or may not be the case,

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and further review of these species is needed to evaluate the appropriateness of this new rank. For now, all species ranked SNA that meet other criteria are included as SGCN.

3.2. Abundance and Distribution

The ranks assigned to species using Natural Heritage methodology are influenced by several factors, but are most often based on abundance. Therefore, the numerical state ranks in the SGCN report (Appendix B) usually indicate the abundance of species as follows (a species “occurrence” is typically a local population):

- S1 = 1-5 occurrences or fewer than 1,000 individuals in the state
- S2 = 6-20 occurrences or 1,000-3,000 individuals in the state
- S3 = 21-100 occurrences or 3,000-10,000 individuals in the state
- S4 = more than 100 occurrences or 10,000 individuals in the state
- S5 = considerably more than 100 occurrences or 10,000 individuals in the state

Other sources for abundance information exist for many SGCN, but each has significant limitations in terms of quantification, limited geographical coverage, or single-taxa focus. With their statewide application and consistency across taxa, heritage ranks remain the best gauge of statewide species abundance from a conservation standpoint.

Information on the distribution of many SGCN also resides in the Natural Heritage Program’s database. However, the software application that was used to manage the data until recently could represent SGCN locations only as points. Such data has very limited value for comprehensive wildlife conservation planning. A new application that was installed in 2004 incorporates GIS to allow the true spatial extent of distribution – based on occupied habitat – to be represented. Re-mapping of points to show actual spatial extent is a time-consuming process, though, and only a small portion of the records have been re-mapped to date.

In lieu of being able to directly map the distribution of most SGCN, species-habitat associations (Appendix C) were developed for use with habitat maps in order to show generalized potential distribution. Habitats are organized hierarchically, allowing association with varying levels of habitat detail. Note that some SGCN can be associated only with very broad habitat levels at this time. See Section 4.2.1 for more information about habitat mapping.

As with the SGCN list, species abundance and distribution information is a reflection of current knowledge. State heritage ranks are periodically updated in light of new field work showing changes in abundance. Significant portions of the State have not been systematically surveyed for rare species, so that the distribution of many SGCN is not well established. Also, continued re-mapping of point data will provide an increasingly accurate picture of distribution.

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