4. Key Wildlife Habitats

4.1. Ecological Framework

The Natural Communities of Delaware, developed in 2000, served as the starting point for establishing a wildlife habitat classification. Although the vegetation communities described in that document do not always correspond directly to wildlife "habitats" in the classic sense, they are an acceptable substitute pending the creation of a more appropriate classification.

Since *The Natural Communities of Delaware* is based on the National Vegetation Classification System, it does not include aquatic habitats, which are best described by their physical characteristics. These were added, as were early successional habitats and several anthropogenic habitats. Although the community classification contains some groupings of similar types, further grouping was added to provide a more complete hierarchy of increasingly detailed habitat levels. The resulting Wildlife Habitat Classification appears in Figure 1, following page 4-2.

In the absence of maps for most SGCN (see discussion in Section 3.2), surrogates for Key Wildlife Habitats were developed from two sources. Habitats of Conservation Concern are highlighted in yellow in the Classification. These habitats are rare, have special significance in Delaware, are particularly sensitive to disturbance, and/or have a high diversity of rare plants. Because of these factors, they are known – or expected – to harbor SGCN, especially insects that are often dependent on specific host plants.

Large blocks of unfragmented forests and wetlands were also considered to be Key Wildlife Habitats because of their importance to area-sensitive species, particularly vertebrates. A minimum size of 250 acres was used for selecting these blocks. This patch size conserves viable populations of at least 80% of forest interior-dwelling bird species, based on work done in similar habitats in Maryland. The same threshold was set for wetland blocks, following the methodology used for the Delmarva Conservation Corridor Demonstration Program.

Thus, Key Wildlife Habitats in total consist of SGCN Occurrences (where spatial extent has been mapped), Habitats of Conservation Concern, and Forest Blocks and Wetland Blocks.

Again, lack of knowledge about some Delaware wildlife habitats has influenced the structure of the classification. In particular, aquatic communities have not been well studied, and the very simple characterization of them in the classification needs considerable work. Early Successional Upland Habitats are also poorly understood, and further study will probably yield more distinct types than are currently listed.

4.2. Location and Relative Condition

4.2.1. Habitat Mapping

A variety of data sources were used to develop both general wildlife habitat maps – from the "red" and "blue" levels in the Classification – and the maps of Key Wildlife Habitats. In some

cases, maps of red and blue level habitats were developed by combining several habitats from the next lowest level. In others, they were derived from parsing larger data sets, such as state maps of wetlands, forests and land use/land cover, or by intersecting these with each other or with additional data. In the end, nearly all red and blue level habitats were successfully mapped. The blue levels under Early Successional Upland Habitats were not mapped because of inconsistencies in the attributes used to distinguish them. Also, no attempt was made to map either Nearshore or Offshore Habitats because of a lack of information.

General wildlife habitats – from the red and blue levels in the Classification – are shown in Figures 2 through 9 in Appendix D.

For Key Wildlife Habitats, SGCN Occurrences and most Habitats of Conservation Concern were digitized by Natural Heritage staff based on field surveys. Twisted Sedge Sandbar was not mapped because of the transitory nature of the habitat, nor was Sea Level Fen due to concerns about vulnerability to disturbance. Spartina Low Salt Marsh was also not mapped because of the difficulty of distinguishing it in aerial photographs; however, this habitat is entirely included within the Wetland Blocks. The Forest and Wetland Blocks were extracted from the respective state maps mentioned above.

Key Wildlife Habitats are shown in Figures 10 through 17 in Appendix E.

4.2.2. Relative Condition

The Natural Heritage Program tracks rare natural communities – equivalent to habitats in the context of the Plan – in much the same way it does species, including assigning ranks for conservation status. However, too few community occurrences are currently entered in the Natural Heritage database to make this information useful for directing conservation efforts.

For this first iteration of the Plan, relative condition was determined largely qualitatively, utilizing the expert opinion of biologists from the Key Conservation Partners. Quantitative data was taken into account in those few cases where it was available. Condition was based primarily on trends, with some consideration of the scope and severity of current impacts and inherent habitat resiliency (i.e., sensitivity to disturbance). Information on trends, impacts and resiliency were summarized in Present Condition ratings as follows:

- Good = Currently relatively stable in quantity and quality (some fluctuation possible), with only minor historical decline in quantity and/or quality. Typically subject to minor current impacts and possessing good resiliency.
- Fair = Currently experiencing moderate decline in quantity and/or quality, and/or having experienced moderate historical decline in quantity and/or quality. Typically subject to moderate current impacts and/or possessing moderate resiliency.
- Poor = Currently experiencing major decline in quantity and/or quality, and/or having experienced major historical decline in quantity and/or quality. Typically subject to major current impacts and/or possessing poor resiliency.

Present Condition is provided for each Key Wildlife Habitat in Section 6.1.