

## **Appendix D: Landscape/Habitat Indicator Guilds**

For ranking combinations of overlapping core areas or connectors, an additive approach is used instead of the maximal value rule used to rank SNHAs.

S-Rank: First, each core area is assigned a numeric value corresponding to the S-Rank of the guild it belongs to. These values follow an exponential curve, as used by NatureServe, TNC and the NHP network to assign S-Ranks based on the number of occurrences (populations) for a species element that have been recorded within a state (or other subnational unit). However, the slope of the curve – as measured on a log plot – is lower than is used for traditional NHP S-Ranks: whereas there is four-fold difference in rarity between each rank in the traditional curve, there is only a 1.78-fold difference in the curve used for calculating scores for LHI guild core areas. This, in effect, devalues the importance of rarity in the final score.

Occurrence Rank: Next, the occurrence rank of the Core Area is used as an additional weighting factor, following a simple linear function for assigning significance ranks:

- An A-ranked occurrence (the best in terms of quality) has 75-100 percent of the guild members present within a core area
- a B-ranked occurrence between 50-74 percent
- a C-ranked occurrence between 25-49 percent
- a D-ranked occurrence between 10-24 percent

For a given core area, the final numeric score is simply the product of the S-Rank-based score and the (rounded) upper limit in terms of percentage of guild members.

Overlapping Guilds: For overlapping guilds, these scores are then summed and transformed into S-Rank equivalents. A combination of an A-ranked, S2 guild and an A-ranked occurrence of an S3 guild would produce a score of 88, which falls within the range of values for a single S2 guild.

Score Conversion: To convert these scores to the 10 point scale used by Biodiversity Wildlife Habitat Assessment, a value of 10 was assigned to all core area combinations resulting in a score equivalent to an S1. Scores of this magnitude were recorded in the Lower Roanoke Floodplain, the Albemarle-Pamlico Peninsula, and other areas that we regard as having state-level significance as landscape units. At the other end of the scale, we assigned a value of 1 to any combination of core areas equivalent to an S5. Although units with these scores may be relatively common, the assignment of at least a minimal value reflects their importance as intact landscape units for at least one guild.