

Mapping Habitat for Imperiled Species in Virginia's Comprehensive Wildlife Conservation Strategy (CWCS)

To satisfy requirements of federal funding to state fish and wildlife conservation programs, and to follow the direction of Governor Warner's Natural Resources Leadership Summit, DGIF has developed a Comprehensive Wildlife Conservation Strategy (CWCS).

One aspect of the CWCS involves describing the location of key habitats essential to the most imperiled, or Tier 1 species. This process involved a review of the literature and coordination with experts to identify essential habitat. Then, where possible, assembling the necessary data to create habitat maps for these species in Virginia.

For terrestrial species, the variables used to map habitats included elevation, land cover, slope, and aspect, among others. In the example of the Shenandoah salamander (*Plethodon shenandoah*), the literature and expert review indicated that it preferred deep pockets of soil within the talus on the north and northwestern faces of three mountain slopes in Shenandoah National Park that consist of mixed-conifer forest. To create a map of this species' habitat, we identified forested areas within the known mountain slopes with elevation over 800m and a northerly aspect (Figure 1).

To create the maps of aquatic Tier I species, we examined patterns of habitat use for confirmed records of each species, using DGIF's aquatic habitat classification. Specific ranges of variables were then used to identify potential habitats within the known range of the species. For example, in the Roanoke drainage, the Roanoke logperch (*Percina rex*) occupies warm, moderate to large streams and small rivers with very low to low gradient and elevations between 175 and 500m. These variables were used to create a map of potential logperch habitats in the Roanoke drainage (Figure 2).

Once all mapping efforts were complete, we overlaid all confirmed and potential habitat layers available for Tier I species (Figure 3) to highlight areas that are likely to be important for one or more Tier I species. This map includes all Tier I species for which we were able to map confirmed or potential habitat. It is essential to understand that areas with the potential to support even a single Tier I species are important for conservation. However, this map reveals some extraordinary conservation opportunities by identifying areas containing a large extent of Tier I species habitat (e.g., wetlands in southeastern Virginia) as well as areas supporting habitat of many Tier I species within the same location (e.g., the Clinch River).

For more information on Virginia's Comprehensive Wildlife Conservation Strategy (CWCS) and to read the draft document visit:

<http://www.vawildlifestrategies.org>

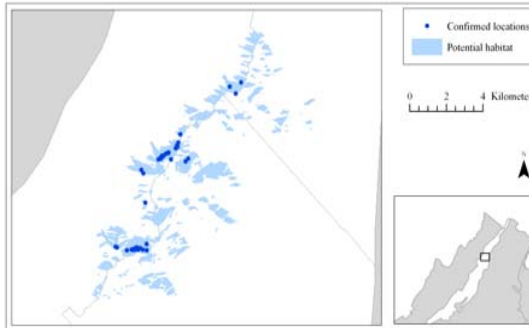


Figure 1. Location of confirmed locations and potential habitat for the Shenandoah salamander.

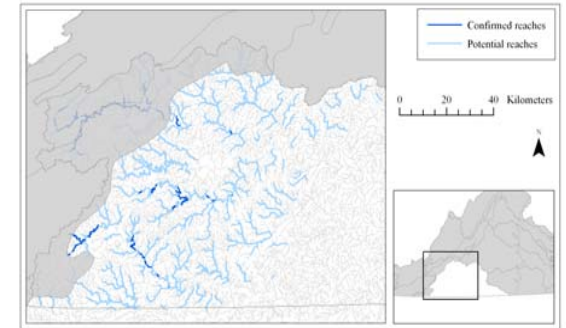


Figure 2. Locations of confirmed and potential habitat for the Roanoke logperch in the Roanoke drainage.

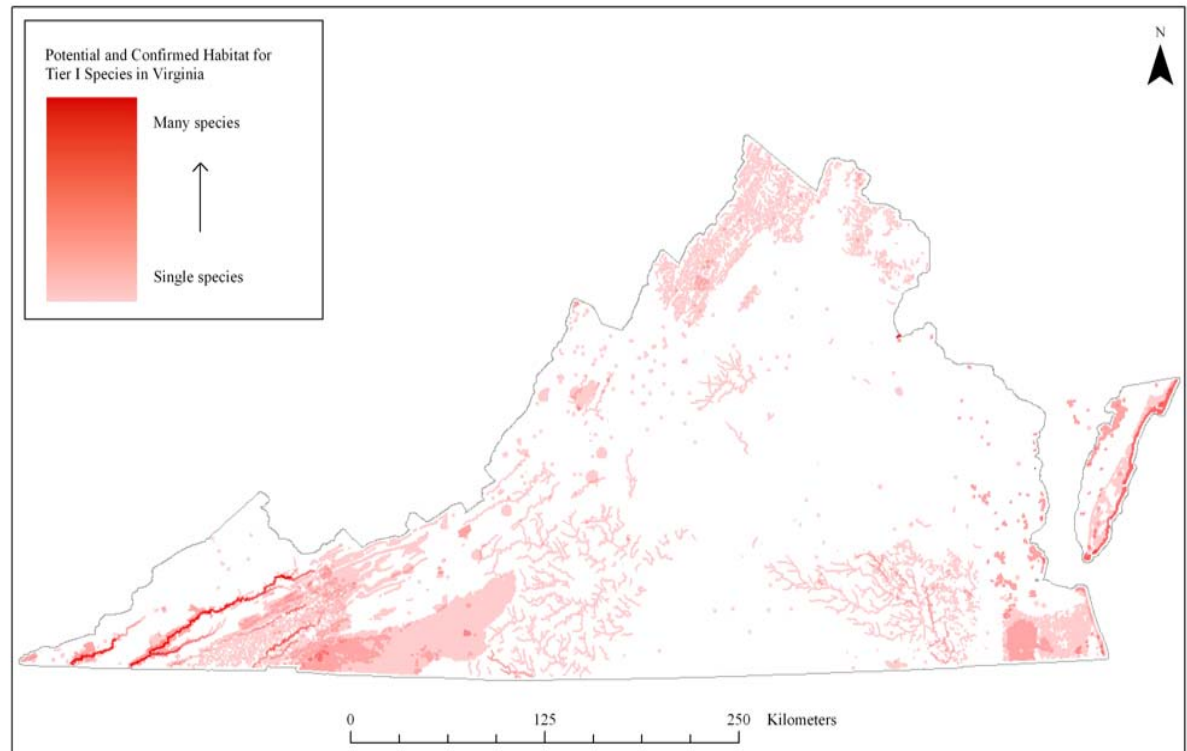


Figure 3. Potential and confirmed habitat for Tier I species. Darker shades represent areas with a higher co-occurrence of these habitats.