

**GOAL 1. Through a Strategic Habitat Conservation approach, recover populations of federally listed species (endangered, threatened and critical habitat) and conserve at risk species (as listed in the NC Natural Heritage Program documents referenced below) such that their listing is unnecessary in the North Carolina Piedmont, Sandhills and Coastal Plain.**

Maintaining biological diversity is essential to restoring and sustaining healthy ecosystems, which are in turn essential to our own survival and quality of life. The welfare of the rarest members of an ecosystem is an important indicator of its overall health, and increased rates of extinction and species decline are important signals of environmental stress and degradation. The Endangered Species Act (ESA) was enacted in recognition of the increasing role of humans in the loss of biodiversity and the importance of conserving rare species to a healthy human environment. As such, the conservation of rare species is a fundamental component of our mission. There are 33 federally listed species in the RFO work area, and many at-risk species (Table 1). Because we view increases in the number of species at risk of extinction as a symptom of ecosystem degradation, the RFO works throughout the Piedmont, Sandhills and Coastal Plain of North Carolina to protect at-risk and other rare species by conserving the ecosystems upon they depend. While the authority and tools afforded through the ESA form the core of our efforts to protect rare species and their habitats, the RFO brings the full range of our capabilities to bear on these issues, and actively involves a broad array of partners and stakeholders. The objectives under this goal are designed to use appropriate provisions of the ESA and other applicable laws and our staff's expertise, in cooperation with our partners, to advance our goal of ultimately recovering populations of listed species in the RFO work area and to implement landscape-scale protection and management actions to prevent at-risk species from being listed.

The desired future condition relative to this goal would be that all federally listed species are meeting the recovery criteria identified in their respective recovery plans within the RFO work area. Further, there would be no species identified as candidates for federal listing based on their status within the RFO work area.

Achieving the above-identified desired future condition is well beyond the scope of this five-year plan. As such, for the purposes of this five-year plan we have narrowed our focus relative to listed and at-risk species to three specific areas: 1) listed species under imminent threat of extinction (or extirpation from our work area); 2) listed species for which recovery is achievable in the near term; 3) at-risk species for which conservation actions in the near term could make federal listing unnecessary. For species in these categories we have identified the following intermediate goals, which we believe are achievable within the timeframe of this plan.

- 1) Ensure that the Tar River spiny mussel is not under imminent threat of extinction;
- 2) Meet the recovery criteria for down-listing of the Cape Fear shiner in at least the Rocky and Deep Rivers;
- 3) Meet the recovery criteria for delisting of golden sedge;

- 4) Achieve continued population growth in the Coastal NC Primary Core population of RCW such that there are at least 40 potential breeding groups by 2017;
- 5) Implement conservation actions that lessen the need to list the magnificent ramshorn.

The Raleigh Field Office has identified the following objectives related to federally protected and at-risk species based on our legal responsibilities, the degree of rarity and geographic range of the species, and the expertise and strengths of our staff and our partners. The following objectives and strategies reflect our SHC approach for achieving the above intermediate goals over the next five years. The objectives are arranged in order of relative priority.

Objective 1.1: Promote the recovery of **listed species endemic** to the Raleigh Field Office work area by working with our partners to implement all elements of Strategic Habitat Conservation.

For the Cape Fear shiner, Tar River spiny mussel, Saint Francis satyr, and golden sedge the RFO will:

Strategy 1.1.1: Lead our partners in *biological planning* for the species by collecting and/or compiling scientific knowledge about the species biology and habitat requirements, and management of its habitat.

Strategy 1.1.2: Take a lead role in developing an appropriate scale *conservation design* for the species by determining which populations and their supporting habitat are important to the survival of the species.

Strategy 1.1.3: Facilitate *conservation delivery* for the species by implementing on-the-ground management actions through our Partners for Fish and Wildlife and Coastal Programs and other partner's programs with the goal of efficiently affecting populations.

Strategy 1.1.4: Direct *assumption-driven research* by evaluating and refining biological planning assumptions.

Strategy 1.1.5: Guide outcome-based monitoring to assess the effects of management on habitats and individuals in order to influence future management decisions.

Objective 1.2: Conduct appropriate planning and initiate conservation actions for **priority non-listed endemic species** in the RFO work area by working with partners through Strategic Habitat Conservation.

For the Neuse River waterdog, Carolina madtom, Magnificent ramshorn, and *Lampsilis* sp. the RFO will:

- Strategy 1.2.1: Lead biological planning for these species by collecting and/or compiling scientific knowledge about the species biology and habitat requirements, and management of its habitat.
- Strategy 1.2.2: Take a lead role in developing an appropriate scale *conservation design* for the species by determining which populations and their supporting habitat are important to the survival of the species.
- Strategy 1.2.3: Facilitate *conservation delivery* for the species by implementing on-the-ground management actions through our Partners for Fish and Wildlife, Coastal, Candidate Conservation and other programs with the goal of positively affecting populations in order that federal listing may be avoided.
- Strategy 1.2.4: Direct *assumption-driven research* by evaluating and refining biological planning assumptions.
- Strategy 1.2.5: Guide outcome-based monitoring to assess the effects of management on habitats and individuals in order to influence future management decisions.

Objective 1.3: Contribute to the recovery of **listed species having a broad geographic range** (extending beyond the RFO work area, but with significant populations within the RFO work area) by working with partners to recover populations in the RFO work area by implementing all the elements of Strategic Habitat Conservation.

For the dwarf wedgemussel, Roanoke logperch, James River spiny mussel, shortnose sturgeon\*, red-cockaded woodpecker, Bermuda petrel\*, Michaux's sumac, smooth coneflower, seabeach amaranth, Cooley's meadowrue and rough-leaf loosestrife the RFO will:

- Strategy 1.3.1: Contribute to *biological planning* done by species' lead biologists by providing scientific knowledge about a species and its habitat requirements within the RFO work area.
- Strategy 1.3.2: Participate in developing and implementing a spatially-explicit *conservation design* for the species by prioritizing the selection and protection of management areas in the RFO work area.
- Strategy 1.3.2: Collaborate with our partners to implement on-the-ground *conservation delivery* by promoting priority management activities within specific landscapes

throughout the RFO work area such that the recovery criteria for these species will ultimately be met within the RFO work area.

Strategy 1.3.4: Provide technical assistance to identify *assumption-driven research* questions/needs /gaps that must be addressed to refine biological planning assumptions relevant to the RFO work area.

Strategy 1.3.5: Further *outcome-based monitoring* by commenting on the effects of applied management actions on habitats and species in order to influence future management decisions within the RFO work area.

Objective 1.4: Support the recovery of **other listed species having a broad geographic range** (with populations or habitats in the RFO that do not significantly contribute to recovery) by working with our partners to implement conservation delivery.

For the piping plover, West Indian manatee, sensitive joint vetch, loggerhead sea turtle, green sea turtle, leatherback sea turtle, Kemp's Ridley sea turtle, and hawksbill turtle the RFO will:

Strategy 1.4.1: Manage Section 7 (of the Endangered Species Act) responsibilities.

Objective 1.5: Work with others to conserve **at-risk species** and their habitats such that their listing is unnecessary (RFO focal at-risk species will be guided by priority at-risk species listed in the NC Natural Heritage Program and NC Wildlife Resources Commission documents referenced below).

Strategy 1.5.1: Participate in councils, committees, and professional societies tracking the status and trends of at risk species in North Carolina.

Strategy 1.5.2: Maintain and enhance staff expertise and proficiency in ecology of taxa of conservation concern (plants, freshwater fish and invertebrates, terrestrial invertebrates, birds, reptiles and amphibians) to support biological planning and conservation design actions at landscape scales.

Strategy 1.5.3: Be receptive to considering conservation delivery opportunities for at risk species, especially those that leverage partnerships advancing our priority species and habitat objectives (goal 1, objectives 1, 2, and 3 above).