**U.S. Fish and Wildlife Service**

**Representative Species Steering Committee**

**The Representative Species Process: Objectives and Criteria**

**Project Overview**

The mission of the U.S. Fish and Wildlife Service (Service) is to manage and conserve trust species, often with emphasis placed on species deemed a priority. However, limiting work to even a priority set of trust species can exceed the resources and time available for moving forward with Strategic Habitat Conservation and Landscape Conservation Cooperative planning efforts. Therefore, the USFWS Northeast Region (Region 5) is assessing methods to identify a subset of species, known as “representative species,” to serve as proxies for landscape-scale conservation and management actions. Conservation planning with representative species provides a better understanding of likely conservation and management outcomes in the face of land use and climate change, and support for making strategic conservation decisions.

Specifically, representative species are species whose habitat needs, ecosystem function, or management responses are similar to a logical grouping of other species. The assumption is that conservation planning and actions based on representative species will also address the needs of other species in that grouping. Conservation planning and actions for individual species with more specialized needs may also be needed to complement those taken for representative species.

The goal of representative species process is to develop and apply protocols and tools for determining the optimum suite of species that can represent federal trust species and state Species of Greatest Conservation Need based upon habitat use, ecosystem function, or management needs and response for the Northeast Region, initially in the North Atlantic LCC. The selected representative species will be used for detailed conservation planning as part of an overall approach to biological planning and conservation design. The process is occurring in a transparent and objective manner; will allow the representative species list to be modified to adapt to future conditions, management needs, or partner input; and will be transferable to other geographic areas.

**Problem Statement**

Identify a list of representative species for designing conservation and management strategies that will most effectively sustain fish and wildlife populations at desired levels in the face of land use change, climate change, and other stressors occurring within the North Atlantic LCC.

**Fundamental Objectives**

1. Represent as large as group of species as possible by the fewest number of total species
2. Cover all parts of the LCC (maximize geographic coverage) by the geographic distribution of the representative species
3. Select species that occur across many habitat systems in the LCC based the Northeast Aquatic and Terrestrial Habitat Classifications and Maps

**Criteria to Select Representative Species to Achieve Fundamental Objectives *(with Worksheet Criteria)***

1. Habitat and geographic representation

* The group of representative species collectively occur over a large geographic area in the region and represent a wide range of habitat types

***Worksheet Criteria***

* + ***NALCC is peripheral to range or range very restricted within NALCC***
  + ***ALL Zone species?***

2. Help us understand effects of land use change, climate change & other stressors

* The species is sensitive to landscape configuration (area, dispersal, or resource limited)
* The species is sensitive to disturbance (fire, hydrologic regime, forest management, invasive species, etc.)
* Climate change impacts (scope and severity) are expected to be high for the species (e.g., temperature, moisture, barriers, sea level rise)

***Worksheet Criteria***

* ***Area Sensitive?***
* ***Sensitive to landscape configuration***
* ***Sensitive to disturbance/management***

3. Species listed can be effectively monitored

* There are existing monitoring programs with well-documented, scientifically sound, regional monitoring protocols OR it is feasible to implement new monitoring programs for the species given constraints such sample size required to detect change, sampling duration and frequency, personnel and training, and site accessibility
* The species is highly detectable across time and space, allowing for precise estimates of population status (presence-absence or abundance)
* The species population status and habitat exhibit low, naturally occurring variability

***Worksheet Criteria***

* ***Feasibility of Monitoring***

4. Population/habitat objectives can be feasibly developed

* Ecology, life history and demography are sufficiently “known” to allow direct or indirect estimates of relative abundance and spatial distribution.

***Worksheet Criteria***

* ***Life History & Population Dynamics Well known***

5. Baseline data relating species-habitat associations, ecological processes and other limiting factors are available

* The species’ ecological relationships and responses to ecological processes are sufficiently “known” to allow development or refinement of species-habitat models of species distribution and their response to environmental change
* Baseline data is available on population abundance/habitat trends
* Baseline data is available at a spatial scale suitable to develop spatial models

***Worksheet Criteria***

* ***Modeling and mapping data availability***

6. Species are useful for guiding conservation/management decisions

* The species is of high ecological importance (e.g. ecosystem engineer, keystone predator, critical food web link)
* The responses of the species to specific management actions are sufficiently “known” for evaluating the effectiveness of past and future management decisions
* The conservation of the species is of special interest to the public