



New Jersey Conservation Focal Areas



Overview

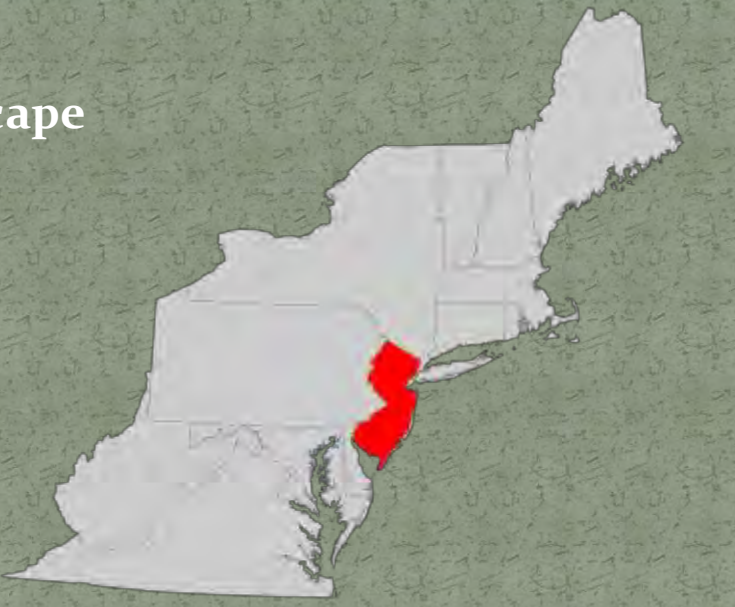
The identification of **Conservation Focal Areas** is one of two main components of New Jersey's revision of the **State Wildlife Action Plan** (<http://www.nj.gov/dep/fgw/ensp/waphome.htm>) that aims to identify and address the highest priorities of NJ's fish and wildlife resources. The existing plan's focus will be narrowed by establishing and prioritizing focal species, identifying the areas that provide good conservation opportunities and then target the greatest threats to those species and habitats. Implementable conservation actions will then be linked to those threats, creating a blueprint for conservation of NJ's wildlife. Conservation Focal Areas represent the second of a two-part approach to identifying threats to New Jersey's Species of Greatest Conservation Need (SGCN), as well as to develop actions which will address these threats. In addition to identifying "Focal Species" (a priority subset of SGCN), specific geographic areas of NJ's landscape are recognized as presenting greater opportunities for effective conservation action. Conservation Focal Areas are where the conservation community can undertake actions to improve the conditions not only of the focal species but of a wider set of species relying on the same habitats.

Objectives

- Provide a data-driven approach for geographically focusing conservation action within New Jersey's Landscape Regions that incorporates metrics of **landscape condition/ecological integrity**, existing **conservation infrastructure**, existing **wildlife habitats**, **biodiversity**, and **negative human influences**.
- Incorporate a **regional perspective/context** that addresses ecosystems of importance to the **Northeast Region** that are found in New Jersey.
- Emphasize **riparian corridors** that serve to **connect** larger tracts of habitat in an otherwise fragmented landscape.

Next Steps

Identify the threats in each Conservation Focal Area and develop conservation actions that will guide the conservation community and land-use decision makers that are able to undertake actions to improve the conditions of New Jersey's highest priority fish and wildlife resources.



Process - Phase I

- Compiled ~40 inputs spanning terrestrial, freshwater aquatic and marine environments from state and regional sources
- Performed conversion, re-scaling and reclassification so that each input was standardized into 30' cells
- Categorized data into five geodatabases: Condition/Integrity, Conservation Infrastructure, Wildlife Habitats, Biodiversity and Negative Influences
- Assigned relative importance (weights) to each input

Process - Phase II

- Performed weighted co-occurrence analysis that combines inputs to identify areas where several different qualities are present ("resource-rich" areas).
- Stratified by Landscape Regions (calculated percentile ranks relative to each region) in order to have even distribution of areas between regions

Process - Phase III

- Extracted percentile ≥ 70 in each Landscape Region
- Applied minimum size criteria to identify core areas
- Applied connectivity rules to select key connections between high value areas
- Ran basic generalization/simplification processes to smooth boundaries of areas

BIODIVERSITY

- Natural Heritage Priority Sites
- Species Richness Indices (4)
- Submerged Aquatic Vegetation (Rutgers)
- Artificial Reef Sites
- Seal Haul-out Areas
- Marine Waterbody Access Areas
- Ocean Trawl Species Rich Areas
- Seabird Annual Average Abundance (NOAA)
- Shellfish Areas
- Sportfishing Areas
- Shipwreck Dense Areas (NOAA/AWOIS)
- Trout Production Waters
- Freshwater Mussel Habitat
- Streams Weighted by species
- Odonate Habitat
- Diadromous Fish Habitat (TNC)

CONDITION/INTEGRITY

- Category 1 Streams
- Pinelands Streams
- Permeability - Regional Flow (TNC)
- Local Connectedness (TNC)
- Landscape Complexity (TNC)
- Landscape Context Index (TNC)
- NE Index of Ecological Integrity (UMass)
- Impervious Surface
- Riparian Landcover
- Ambient Biomonitoring Network

CONSERVATION INFRASTRUCTURE

- Preserved Lands
- Natural Areas
- Marine Protected Areas Inventory (NOAA)

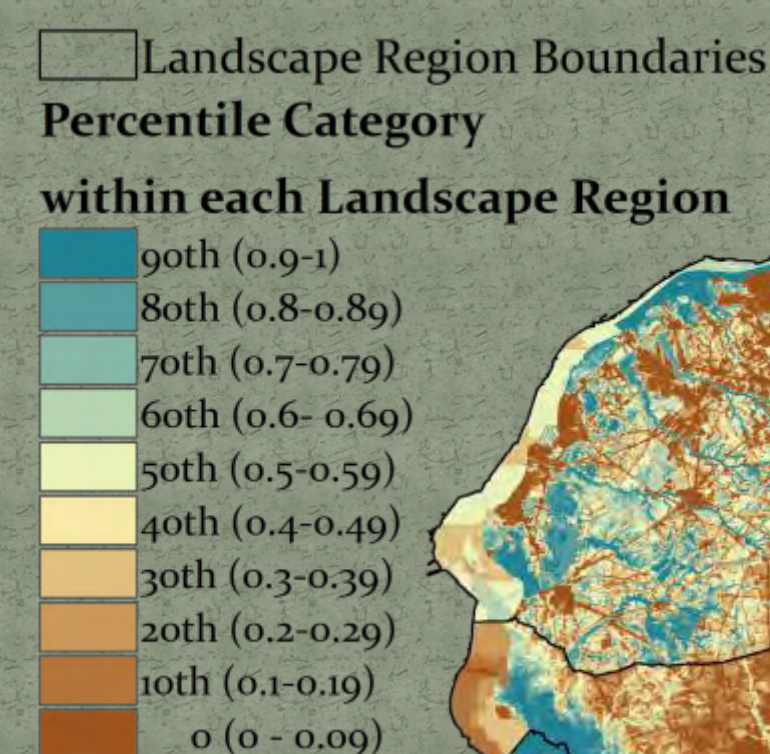
WILDLIFE HABITATS

- All habitats
- Vernal
- Habitats of High Regional Responsibility for NJ (TNC)

NEGATIVE INFLUENCES

- Developed Lands
- Roads
- Shipping Density (NOAA/USCG)
- Aquaculture Lease Lots

Weighted Co-occurrence Analysis & Calculate Percentile Rank



Extract $\geq 70^{\text{th}}$ Percentile & Run Generalization Routines

- Landscape Regions
- Skylands
 - Piedmont Plains
 - Atlantic Coastal
 - Pinelands
 - Delaware Bay
 - Marine

Regional Conservation Focal Area Insets

The datasets used in the analysis were provided by the following partner organizations in landscape conservation:



Map prepared by P. Woerner and J. Ding 4/21/2016

