Extent and Condition of Habitats for New York's Species of Greatest Conservation Need

New York
Natural Heritage
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Cover photos (clockwise from upper left): Saltwater tidal creek at Jamaica Bay National Wildlife Refuge, Queens County (Gregory J. Edinger), West Stony Creek, Fulton County (Matthew D. Schlesinger), Dwarf shrub bog, Bloomingdale, Essex County (Matthew D. Schlesinger), Appalachian oak-hickory forest in the southern Shawangunk Mountains, Sullivan County (Timothy G. Howard).

Table of Contents

Table of Figures

Table of Tables

Introduction

Animals need habitat, pure and simple. How much habitat, and of what configuration and quality, is the subject of a tremendous amount of research. How to classify and define habitat types has similarly been keeping scientists busy for many decades, with “lumpers” and “splitters” at odds like the Hatfields and McCoys. This report represents but a single version of a description of available habitat for New York’s Species of Greatest Conservation Need (SGCN)—the animals deemed to be most at risk of extirpation from the state.

We developed the information herein in the context of the revision to New York’s State Wildlife Action Plan (SWAP). Revisions to SWAPs have eight “required elements” to be approved by the U.S. Fish and Wildlife Service (see, for example. Association of Fish and Wildlife Agencies 2012). Element 2 is a description of “the extent and condition of key habitats and community types essential to the conservation of Species of Greatest Conservation Need.” This report is intended to provide this required element of the SWAP. Within, we use “SGCN” to mean categories 1-4: high-priority SGCN, SGCN, and Species of Potential Conservation Need.

We worked closely with NYS DEC staff to determine the appropriate assessment regions (i.e., ecoregions, watersheds) and the level of habitat classification for which to assess extent and condition (i.e., Formation, Macrogroup). Biologists from NYS DEC and the New York Natural Heritage Program drafted “species assessments” to guide SGCN categorization. As part of these assessments, the biologists documented key habitat associations, which were subsequently databased and exported for our use here.

Our report provides an abundance of data and maps but not much interpretation and analysis. Our charge was solely to provide the information for further needed discussion about SGCN habitats in New York.

Changes in Land Use and Land Cover

Here we document changes in land cover from 1996 to 2010 as depicted by the Coastal Change Analysis Program (CCAP) (Dobson et al. 1995). A full discussion of the extent and causes of these changes is beyond the scope of this report, but we wish to set the stage for the finer-scale discussions of habitat types.

Statewide Trends

New York State saw increased development, decreased forest cover, and increased open cover (grassland and scrub/shrub) from 1996 to 2010 (Table 1). Percent change values for some of the less common estuarine and palustrine types are likely inflated resulting from changes in mapping methodology.

Combined Land Cover Categories by County

The maps below represent relative proportional change in gross land cover categories by county. In the 15-year period from 1996 to 2010, forest cover declined statewide, with declines most pronounced in Clinton, Saratoga, Monroe, Orange, Suffolk, and New York City counties (Figure 1). Different processes, including urbanization and pine barrens restoration, are likely causing these forest declines in different areas.

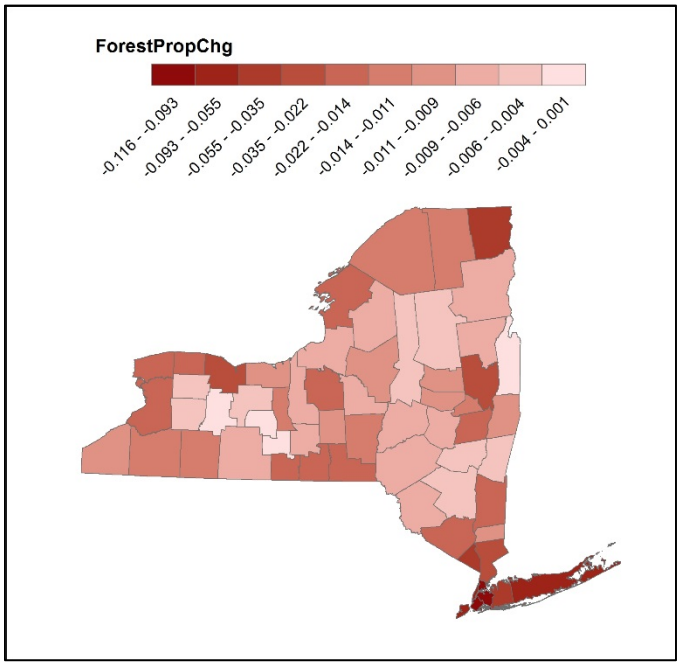

Figure 1. Proportional change in forest cover between 1996 and 2010 by county, based on the CCAP land cover dataset (Dobson et al. 1995).

Developed land increased throughout New York, with notable increases in Erie, Monroe, Westchester, and New York City counties (Figure 2).

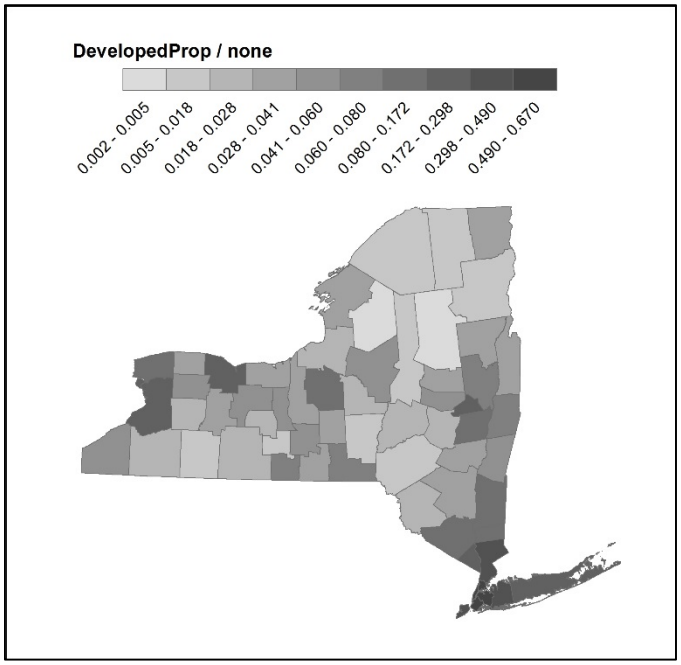

Figure 2. Proportional change in developed cover between 1996 and 2010 by county, based on the CCAP land cover dataset (Dobson et al. 1995).

Open land cover (e.g., shrubland, agriculture, grassland) increased in the more rural parts of the state while declining in the more developed areas (Figure 3).

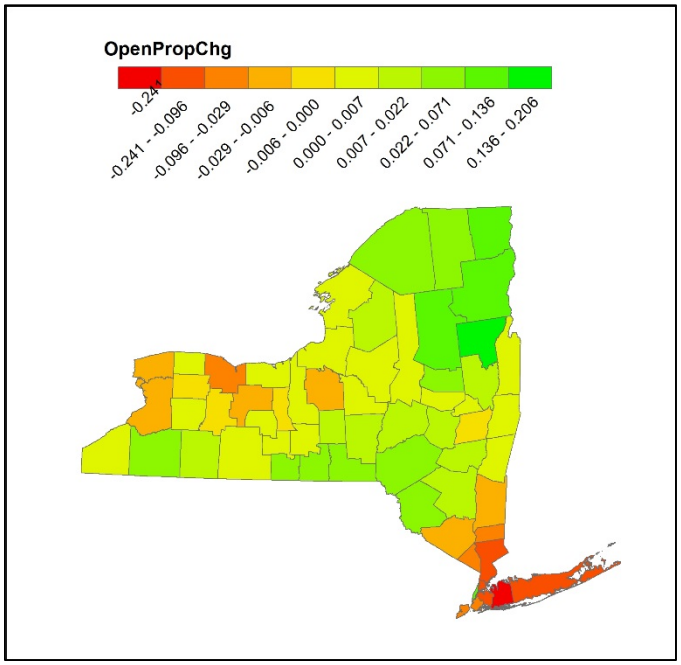

Figure 3. Proportional change in open cover between 1996 and 2010 by county, based on the CCAP land cover dataset (Dobson et al. 1995).