Salmon River Greenway Corridor

Wetlands Biodiversity Inventory

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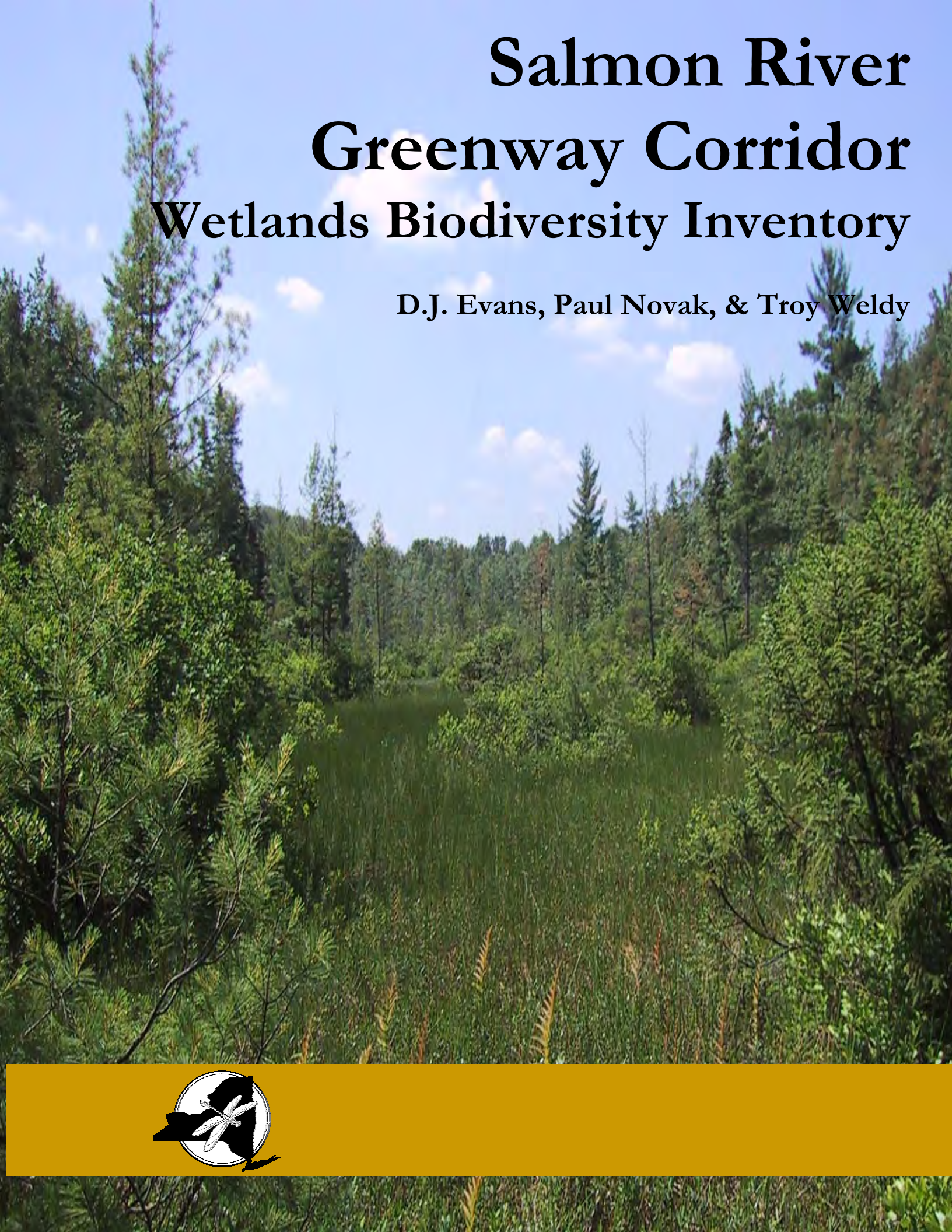

Cover photo: Hogsback Bog
Photo: NY Natural Heritage Program-D.J. Evans

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Report Summary

In 2003, the Oswego County Department of Planning & Community Development and the NY Natural Heritage Program partnered to gather information about rare animal, rare plants, and significant natural communities at selected wetlands within the Salmon River Greenway Corridor. The information from this project is important for county planners who must balance a range of objectives when making land-use decisions- or advising property managers on their land-use activities. Information obtained in this study also contributes to biodiversity knowledge that can be used to address biodiversity issues across New York. Funding for this project was provided by the NYS Department of Environmental Conservation through the Great Lakes Protection Fund.

NY Natural Heritage conducted this project with three foci. The first was an assessment of 15 wetland systems for rare animal and plant populations, and also for significant natural communities. The second involved mapping all of the natural community types within the 15 wetland systems to identify what communities were there, their condition, and how they might be affected by management activities. The third was a study of a larger landscape area to identify the locations of vernal pools.

A total of 16 sruvey areas, 15 wetland systems and a vernal pool study area, were selected by NY Natural Heritage in close consultation with Oswego County officials and local experts. NY Natural Heritage biologists visited private lands in these systems and the study area only after the Oswego County Department of Planning & Community Development had obtained permission from the landowners.

Throughout this project, NY Natural Heritage used a prioritized approach to data collection, focusing first on those species and communities of global significance and later on those of regional and state importance. Each wetland received a full natural community inventory to the extent possible given access limitations, and comprehensive natural community maps were produced for each wetland using a combination of aerial photo interpretation and ground-truthing. Each wetland system was also evaluated for the presence of, or potential for, rare species.

This project generated several notable findings:

- NY Natural Heritage documented four new significant natural communities within the study wetlands: [1 dwarf shrub bog, 2 inland poor fens, 1 red maple-tamarack peat swamp]. We also identified two vernal pools within the Esker Region of the Salmon River Corridor.

- We gathered current information to update our records on four significant natural communities that were already known to exist within the study wetlands.

- We discovered a new population of a rare plant - pod grass - in Hogsback Bog.

- When assessing the great blue heron rookery within Sloperville Fen in 2004, we counted 55 nests.

- Several intensive bog turtle surveys conducted over the course of two years identified plenty of suitable habitat for bog turtles (which are state-listed as endangered), but did not lead to the discovery of any new bog turtle populations.

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INTRODUCTION

PURPOSES AND GOALS

Biologists have long recognized the eastern shore of Lake Ontario as an important area for biodiversity conservation (Johnston Associates 1989, Wilson 1969). The Nature Conservancy has identified the region as an international "Priority Action Site" (TNC 1999) and lists it as one of its top 20 conservation sites in New York (TNC-CWNY 1996). Audubon New York has designated the region as an Important Bird Area, while the New York State Department of Environmental Conservation lists it as a Bird Conservation Area. The area's dunes and wetlands have been the foci of several scientific investigations, including a sand transport study (Woodrow *et al.* 2002), ecological modeling (Poneisinski 1994), and an air photo/GIS coastal trend analysis (McClennen *et al.* 2000). Comparatively little attention has been given to the upper reaches of the Salmon River, even though it is one of the largest rivers flowing into Eastern Lake Ontario and is often described as the Northeast's most popular and productive fishery (NYS DEC 2001, Oswego County 2005, NY Fisherman 2005).

The headwaters of the Salmon River begin on the Tug Hill Plateau, flow south and west to the Salmon River Reservoir, and finish the journey by flowing west into Lake Ontario at Port Ontario, NY, in the town of Richland. As already noted, the Salmon River is an extremely popular sport fishing river and the quality of the river as a natural system and as a premier sport fishing destination is entirely dependent on the tributaries and headwaters that feed the river. Previous to this study, there were 39 known occurrences of rare plants (18), rare animals (11), and significant natural communities (10) that are completely or partially in the Salmon River corridor. Of these, 29 were clustered in the last mile of the nearly 30 mile long corridor. This distribution of rare species and significant natural communities was believed to be a reflection of greater inventory efforts in the lower reaches of the Salmon River, rather than the naturally occurring distribution of rare species in the Salmon River Corridor.

In order for Oswego County to protect wetland quality and to conserve, and monitor the rare species and communities within their jurisdiction along the entire length of the popular Salmon River Corridor, planners must first know their identity, location, and relative quality. This information will help the county determine what resources to put toward further inventory, protection, restoration or management for these species and communities. County planners need to be able to make informed management decisions based on the status and trends of these species and natural communities using baseline data collected through inventory and continued through monitoring. To be used effectively, these data should be brought together in easily used maps and in databases that can be readily applied to analysis and interpretation.

In 2003, the Oswego County Department of Planning and Community Development contracted the NY Natural Heritage Program (NY Natural Heritage) to inventory selected wetlands along the nearly 30 mile portion of the Salmon River Corridor that bisects Oswego County. Fifteen study wetlands were selected by the Bio-Inventory Committee – a group of local and regional experts – for assessment and one additional area was identified in which to map and assess woodland vernal pools (Figure 1). The project goals were to gather biological and ecological information within all of the wetlands, with a particular emphasis on rare animals, rare plants, rare natural communities, and the state's best examples of common natural communities.

This report provides an overview of NY Natural Heritage's findings. The Methods section explains our approach to conservation and the techniques and procedures we used to conduct site inventories and species surveys. The Results and Discussion session provides a detailed overview of each study wetland, including descriptions of rare species and significant natural communities found, seamless maps of all natural communities, and maps of rare species populations. The General Threats and Management Considerations section notes potential threats to the long-term persistence of the study wetlands' rare species and significant natural communities, and outlines potential courses for protection. All of the data collected by NY Natural Heritage were geographically referenced, converted to a digital format, and stored in both the NY Natural Heritage database and a geographic information system.

NY Natural Heritage is a partnership between NYS DEC and The Nature Conservancy. Our mission is to enable and enhance conservation of rare animals, rare plants, and significant natural communities (which are basically different types of forests, wetlands, grasslands, etc.). We accomplish our mission by combining thorough field inventories, scientific analyses, expert interpretation, and the most comprehensive database on New York's distinctive biodiversity to deliver the highest quality information for natural resources planning, protection, and management. The NY Natural Heritage database contains information on the status and location of 166 natural community types, 755 rare plant species, and 417 rare animal species across New York, with more than 10,000 locations where these species and communities are found.

NY Natural Heritage is an active participant in NatureServe – a nonprofit organization that links the international network of biodiversity data centers. The Natural Heritage Network includes Natural Heritage Programs in all 50 states and several interstate regions. There are also 21 Conservation Data Centres, the international equivalent of Natural Heritage Programs, in Canada, Latin America, and the Caribbean. These programs work with NatureServe to develop biodiversity data, maintain compatible standards for data management, and provide information about rare species and natural communities that is consistent across many geographic scales – from ¼-acre wetland sites to the North American continent.

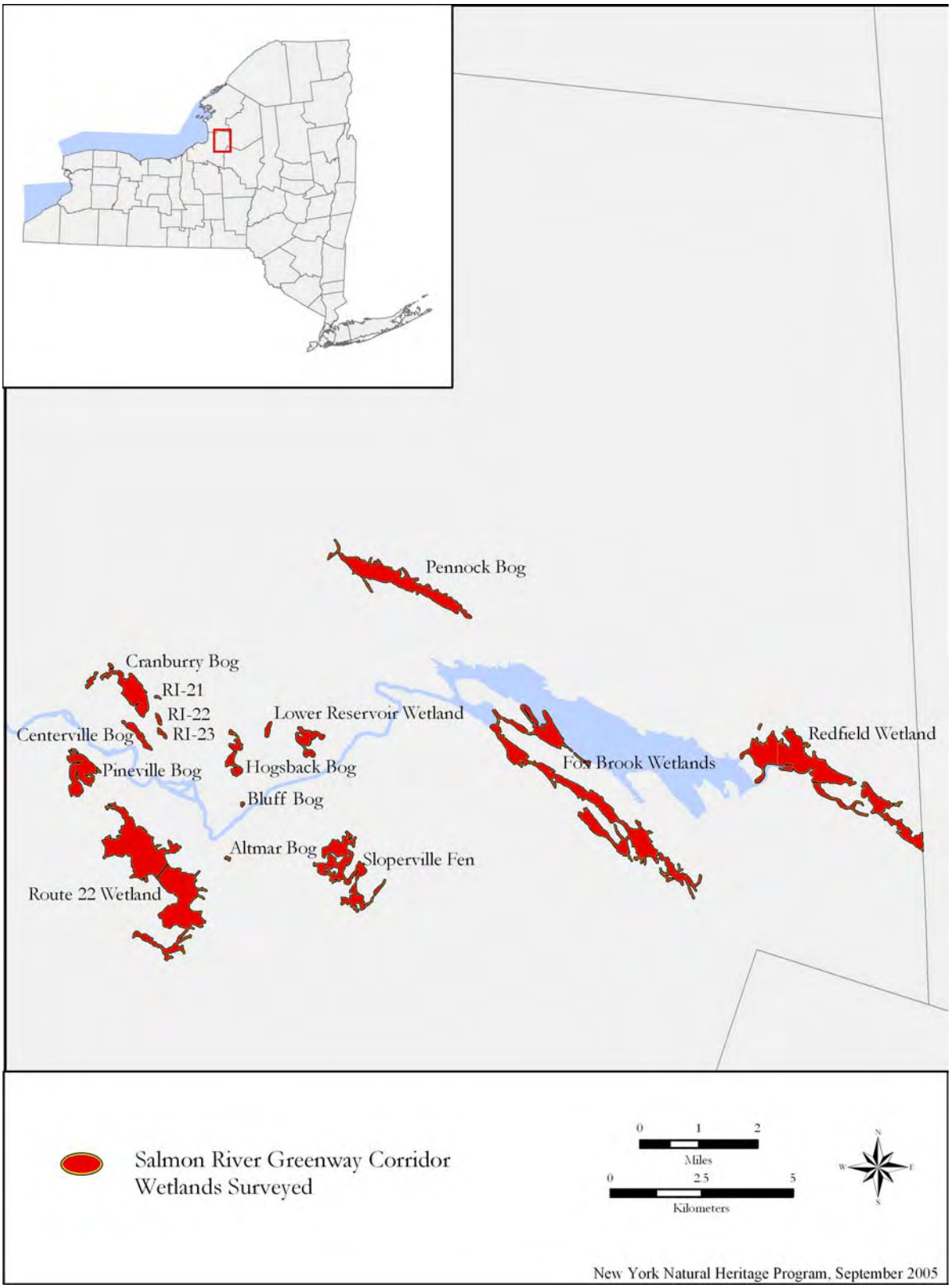

Figure 1. The fifteen areas selected for surveys