

## **LIMITED RESOURCES? LET THE HABITAT PRIORITY PLANNER HELP!**

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### **Introduction**

In this time of scarce resources, coastal resource managers must find ways to prioritize conservation, land use, and restoration efforts. The Habitat Priority Planner (HPP) is a free geospatial tool created by the National Oceanic and Atmospheric Administration's Coastal Services Center that has received wide praise for its ease of use and broad applicability to conservation strategic planning, restoration, climate change scenarios, and other natural resource management actions. Not a geographic information system (GIS) user? Don't worry—this tool was designed to be used in a team setting. One intermediate-level GIS user can push the buttons to show quick results while a roomful of resource managers and stakeholders provide input criteria that determine the results. The Habitat Priority Planner is a toolbar for ESRI's ArcGIS platform that is composed of three modules: Habitat Classification, Habitat Analysis, and Data Explorer. The tool calculates basic ecological statistics that are used to examine how habitats function within a landscape. The tool pre-packages several common landscape metrics into a user-friendly interface for intermediate GIS users. In addition, HPP allows the user to build queries interactively using a graphical interface for demonstrating criteria selections quickly in a visual manner that is useful in stakeholder interactions. Tool advocates and users include land trusts, conservation alliances, nonprofit organizations, and select National Estuarine Research Reserves and refuges of the U.S. Fish and Wildlife Service. Participants in this session will learn the basic requirements for HPP use and the multiple ways the HPP has been applied to geographies nationwide.

### **Case studies**

#### **Impacting Comprehensive Planning in Coastal South Carolina**

The mission of the Edisto Island Preservation Alliance (EIPA) is to “preserve Edisto Island’s rural and agricultural way of life through community driven growth management and proactive initiatives to preserve its historical and cultural heritage and its natural beauty.” To meet this goal, EIPA is implementing numerous conservation initiatives and working to improve the county’s comprehensive plan. The alliance is made up of several Edisto Island protection groups, including the Edisto Island Open Land Trust, Historic Preservation Society, and local government officials.

The Edisto Island Preservation Alliance set goals to conserve 50 percent of the island’s area and to have a positive influence on the county’s comprehensive planning efforts during 2008. Over the next two years, EIPA worked through the county comprehensive planning process to abolish laws that allowed subdividing of parcels without a public process, which could lead to increased development. In addition, EIPA worked on numerous conservation strategies, including both outright land purchases and innovative methods such as a large effort to gain National Scenic Byways designation for the main highway onto the island, route 174.

The Habitat Priority Planner was used to visualize the location of existing conserved areas and the lands that were at risk of being subdivided into parcels. Reviewing the spatial data for conserved lands helped determine the quantity of land conserved on Edisto Island and helped to identify inconsistencies in available spatial data. From these analyses, key members of EIPA also learned participatory mapping techniques, which empowered the group to perform the extensive data collection necessary for the National Scenic Byways designation.

These visualizations and participatory mapping techniques were integral in helping the group abolish the parcel division laws mentioned above. EIPA also achieved the goals of conserving more than 50 percent of Edisto Island and attaining the National Scenic Byways designation for Highway 174 on Edisto Island (Figure 1).

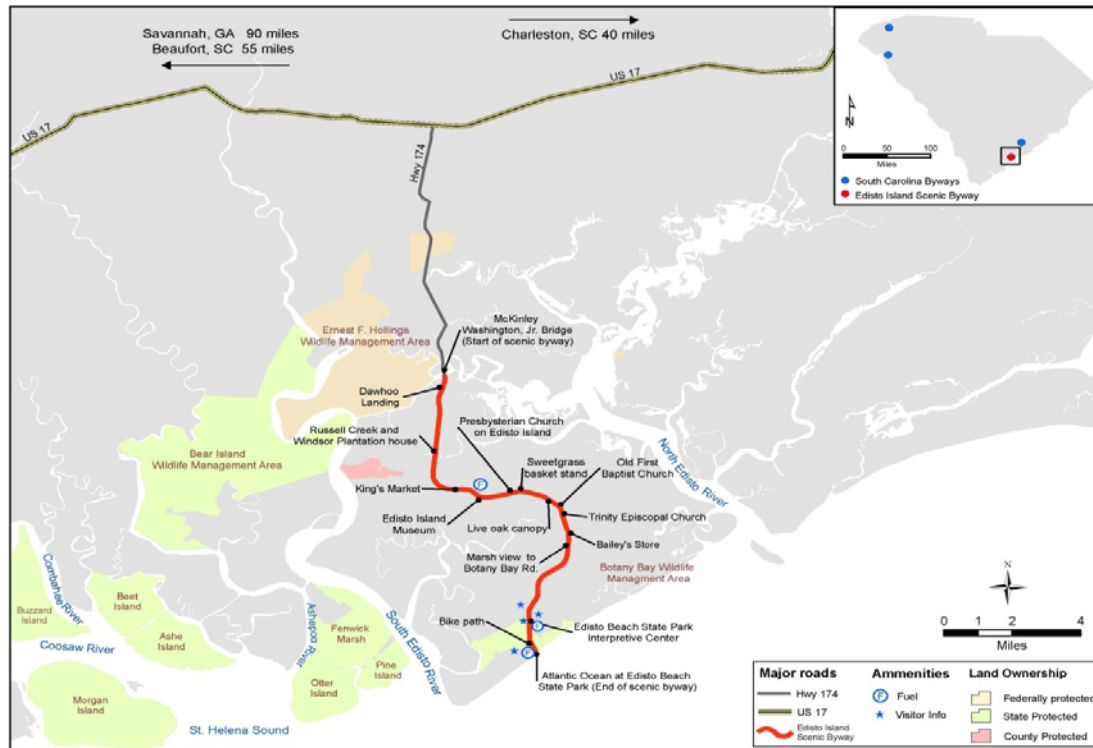


Figure 1. The Edisto Island National Scenic Byway (red) and associated resources.

### Advancing Restoration in the Great Lakes Region

The Great Lakes Regional Collaboration Protection and Restoration Strategy has become the region’s leading guide for protecting and restoring ecological functions across the Great Lakes. The Habitat Priority Planner was used to identify and prioritize habitat restoration projects to meet the goals identified in this document. The tool allows users to set parameters for restoration priorities and use GIS to quickly and visually determine which areas meet the criteria.

A section of the Buffalo River watershed in New York State and a sub-watershed of the St. Joseph River drainage basin in Indiana were two areas identified as strategic candidates for habitat restoration. The Habitat Priority Planner was the tool used to help decision makers determine how to best accomplish this goal. Data sets used in the effort included land use and land cover map layers, wetland inventories, soil types, river and stream segments, and conservation holdings.

Situated in an urban environment, the Buffalo River Watershed Management Project focused on habitat preservation and abatement of nonpoint sources of pollution. Two HPP analyses were performed: one evaluated existing habitat for potential wetlands restoration and one examined developed areas for sites that could be converted to green space and habitat. The analysis of existing habitat initially identified only 135 acres of potentially restorable wetlands. Using the tool’s interactive analysis process, the criteria were adjusted to minimize human use impacts, and the new results identified 1,416 acres for consideration. The analysis of developed areas identified an additional 300 acres that were candidates for conversion to green space or other natural uses that would help meet pollution abatement and habitat connectivity goals.

The St. Joseph River Habitat Restoration Project, situated in a largely agricultural environment, required sites that could be restored (i.e., converted from various land uses) to wetland habitat. Using the HPP, over 23,000 acres were examined, and approximately 150 sites totaling 2,419 acres were identified as potential sites that could be restored as wetlands or riparian habitat suitable for the area’s threatened and endangered species.

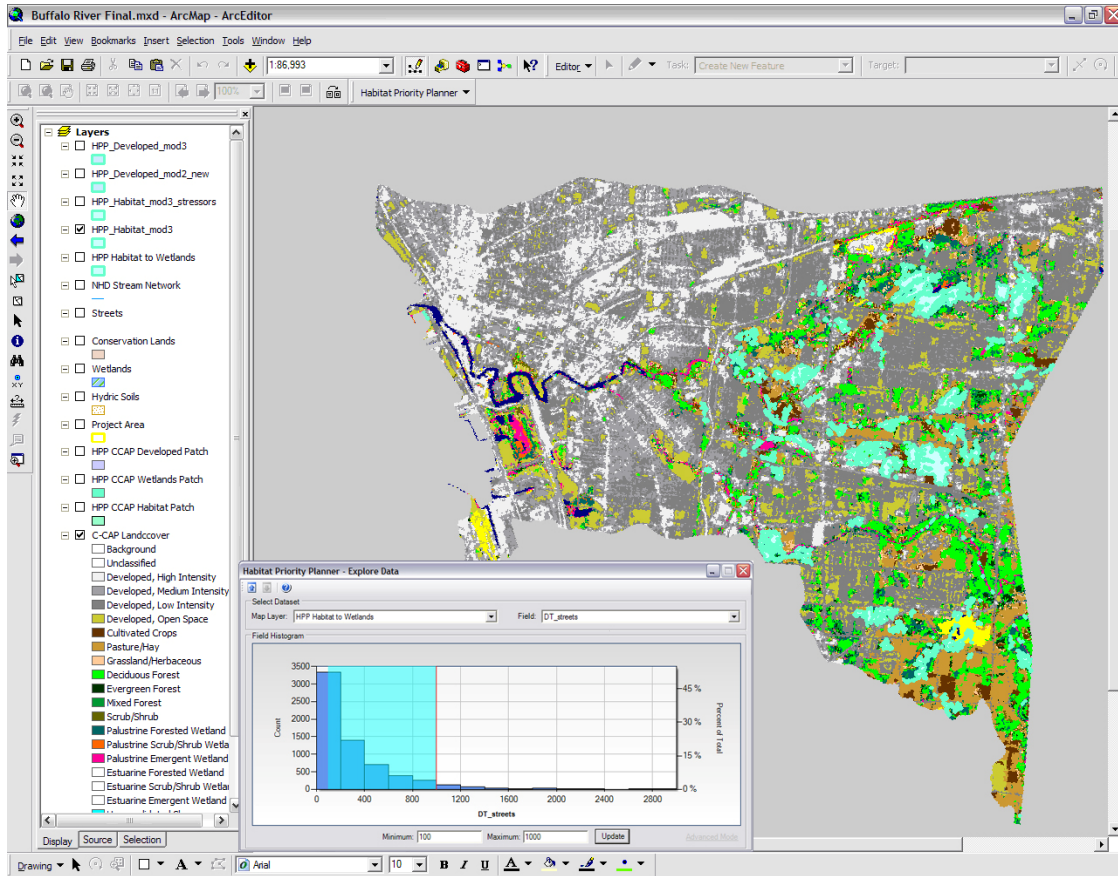


Figure 2. Buffalo River Project – Analysis results highlighted in blue show priority areas for wetlands

## Establishing Conservation Goals in Southern Maine

The Great Works Regional Land Trust serves five communities in southern Maine and is working to preserve the region’s natural, historic, agricultural, forested, scenic, and recreational resources. To meet these goals, the land trust has created a strategic conservation plan.

Responses from 179 surveys coupled with interviews conducted by the land trust identified three focus habitats: forest, agriculture, and water. Data used included Coastal Change Analysis Program (C-CAP) land cover data from the NOAA Coastal Services Center; important agricultural soil data from the Soil Survey Geographic (SSURGO) Database; and Maine’s “Beginning with Habitat” data, which was used to portray important landscape features.

The Habitat Priority Planner was used to visualize the location and size of the focus habitats, identify where these areas overlapped, and determine how these areas related to other important features in the landscape.

These analyses and visualizations were an integral part of the strategic conservation planning process that allowed the land trust to set short- and long-term goals. The land trust aims to protect an additional 10,000 acres of forest, agricultural lands, and wetlands in their service area by 2025. The land trust will work to preserve approximately 660 acres each year to meet this long term goal.

## GWRLT Service Towns Focus Areas

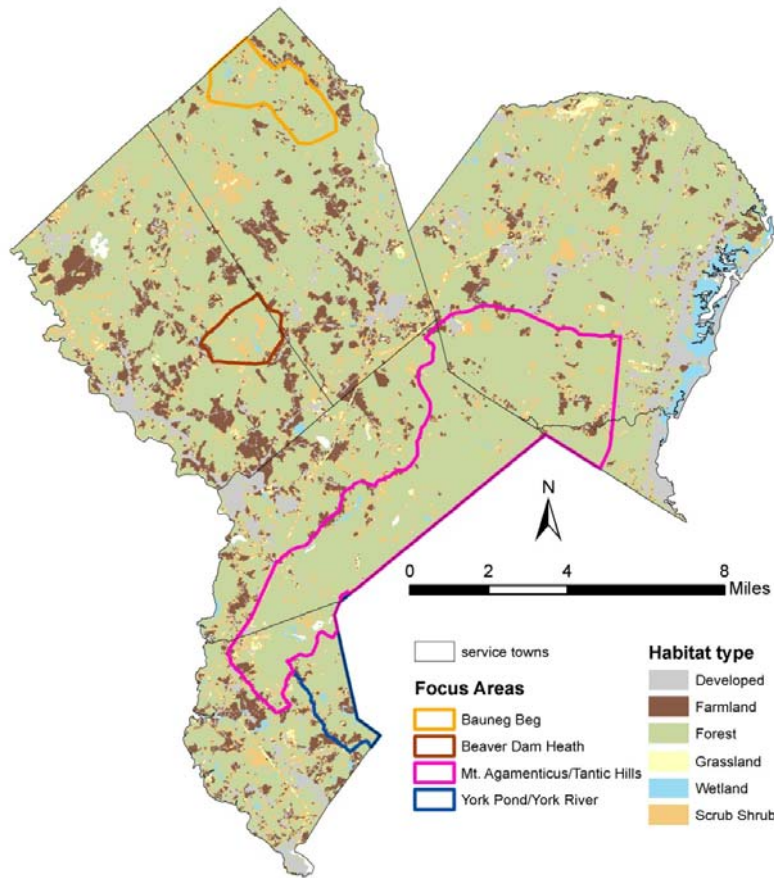


Figure 3. Great Works Regional Land Trust focus areas for conservation

### Conserving Habitat for the New England Cottontail in Coastal Maine

Coastal resource managers in southern Maine worked together to assess management and conservation options for protecting the endangered New England Cottontail rabbit. Staff members from the Wells National Estuarine Research Reserve and the U.S. Fish and Wildlife Service assisted state managers and nonprofit organizations who are attempting to protect habitat for this species.

The researchers used the NOAA Coastal Services Center's Habitat Priority Planner tool, along with NOAA's Coastal Change Analysis Program (C-CAP) land cover data and local land cover data, to determine suitable habitat for this species, focusing on early successional forest types such as scrub shrub and forested scrub shrub.

The Habitat Priority Planner was also used to analyze these key habitat types to determine a relationship to the other habitat markers of this species. Ancillary data sets included rabbit occurrence counts, soil types that correlate with specific habitats, and managed areas such as railroads and utility lines that are favored by the rabbits. The results were used to determine areas that should be monitored during winter months and potentially conserved for the long-term management of this critical species. Monitoring efforts will be compared with the outputs of the Habitat Priority Planner to determine the effectiveness of using geographic information system (GIS) tools for endangered species management.



