Lower Susquehanna River
Conservation Opportunities Analyst
June 2013

Data, Assumptions and Methods

Context

The **Lower Susquehanna River Conservation Opportunities Analyst** is the result of a study sponsored by The Lincoln Institute of Land Policy and performed by Chesapeake Conservancy. Technical support for the project was provided by the Trust for Public Land. The objective of the project is to provide an on-demand prioritization tool that balances multiple conservation needs along the lower Susquehanna River corridor. A number of conservation organizations operate in this area with a variety of goals. Some are interested in the historical resources of the region, some on creating public access, and some on wildlife and habitat protection. While each objective is important, to create a region-wide conservation planning effort, a tool such as this one is needed to balance each interest and identify areas that can provide a multitude of benefits.

Providing Real-time Conservation Analysis Tools

This tool is meant to provide an overview of the resources and priorities along the lower Susquehanna River to help policy makers and the public identify opportunity areas for conservation investment. The tool incorporates:

a. Historical and Cultural Resources
b. Priority Habitats
c. Ecological Connectivity
d. Proximity to Existing Public Lands
e. Proximity to Existing Public Access Sites

The tool consists of a simple interface that can weight and combine various conservation goals to determine landscapes that contains a variety of resources based on a user's unique priorities for each category. By providing users with a real-time analysis tool, they are able to see the effect of changing the relative weighting of a category and identify persistently important landscapes that hold a multitude of conservation benefits. This tool is intended to be a high-level first step to identify high priority areas that warrant further investigation.

Disclaimer: This web tool is intended to identify relative conservation importance; this is not a complete analysis for establishing conservation value. Data sets incorporated (see below) are high quality and the best that are available, but there is no substitute for an on-the-ground analysis. Data are not comprehensive enough to fully characterize the metrics considered in the analysis. Further research and investment are required for a defensible analysis.

Methodology and Data Sources

Metric	Methodology	Data	Data Source
Historical and Cultural Resources	Base datasets were dissolved, merged, and buffered to emphasize the protection of landscapes that were closest to the identified resources. Distance from the resources was reclassified on a scale of 1-10 with closer resources receiving a high score: 0-100m = 10, 100-250m = 9, 250-500m = 8, 500-750m = 7, 750-1000m = 6, 1-2km = 5, 2-3km = 3, 3-5km = 1, >5km =0	Cultural Resource Assessment Indigenous Cultural Landscapes National Register for Historic Places Maryland Register for Historic Places.	Susquehanna River Heartland Coalition for Environmental Science National Park Service, Chesapeake Bay Office National Register of Historic Places Lower Susquehanna Heritage Greenway
Priority Habitats	State Natural Heritage occurrence data and core habitat layers were compared to North Atlantic Landscape Conservation Cooperative terrestrial habitat data to identify priority habitat classes. Using this information, the terrestrial habitat layer was reclassified on a scale of 1-10 to emphasize habitats that contained occurrence data of Species of Greatest Conservation Need (SGCN): Wetlands, marsh, and serpentine barren habitat types were = 10, Forests = 8, Agriculture = 5, Urban/Developed = 0.	Northeast Terrestrial Habitat Dataset Maryland Natural Heritage Data Pennsylvania Core Habitats Data	North Atlantic Landscape Conservation Cooperative Maryland Natural Heritage Program Pennsylvania Natural Heritage Program
Ecological Connectivity	Ecological Connectivity was calculated by reclassifying a normalized habitat permeability dataset created by The Nature Conservancy. The dataset was reclassified on a scale of 1-10 with more connected landscapes receiving a higher weight: 0-20 = 0, 20-40 = 2, 40-60 = 5, 60-80 = 8, 80-100 = 10.	Permeable Landscapes for Wildlife in the Northeast	The Nature Conservancy
Proximity to Existing Protected Lands	Base datasets were dissolved, merged, and buffered to emphasize the protection of landscapes that were closest to the identified resources. Distance from the resources was reclassified on a scale of 1-10 with closer resources receiving a high score: 0-100m = 10, 100-250m = 9, 250-500m = 8, 500-750m = 7, 750-1000m = 6, 1-2km = 5, 2-3km = 3, 3-5km = 1, >5km =0	Protected Lands Database – National Park Service National Conservation Easement Database (9-14-2012)	National Park Service, Chesapeake Bay Office National Conservation Easement Database
Proximity to Existing Public Access Points	Base datasets were dissolved, merged, and buffered to emphasize the protection of landscapes that were closest to the identified resources. Distance from the resources was reclassified on a scale of 1-10 with closer resources receiving a high score: 0-100m = 10, 100-250m = 9, 250-500m = 8, 500-750m = 7, 750-1000m = 6, 1-2km = 5, 2-3km = 3, 3-5km = 1, >5km =0	Existing Public Access Points – National Park Service Chesapeake Bay Watershed Public Access Study Existing Public Access Points – Pennsylvania Fishing & Boating Access Strategy	National Park Service, Chesapeake Bay Office Pennsylvania Fish and Boat Commission

Study Area	Analysis was confined to the lower Susquehanna River corridor, defined as the area contained within a 4 mile buffer from the Susquehanna River.	Lower Susquehanna River Corridor Boundary	Chesapeake Conservancy 2013
Basemap	ESRI World Shaded Relief Background with References	World Shaded Relief Data Service World Boundaries and Places Data Service	ESRI 2013