Upper Susquehanna Coalition

Targeting Riparian Buffer Opportunity Areas For Habitat Development

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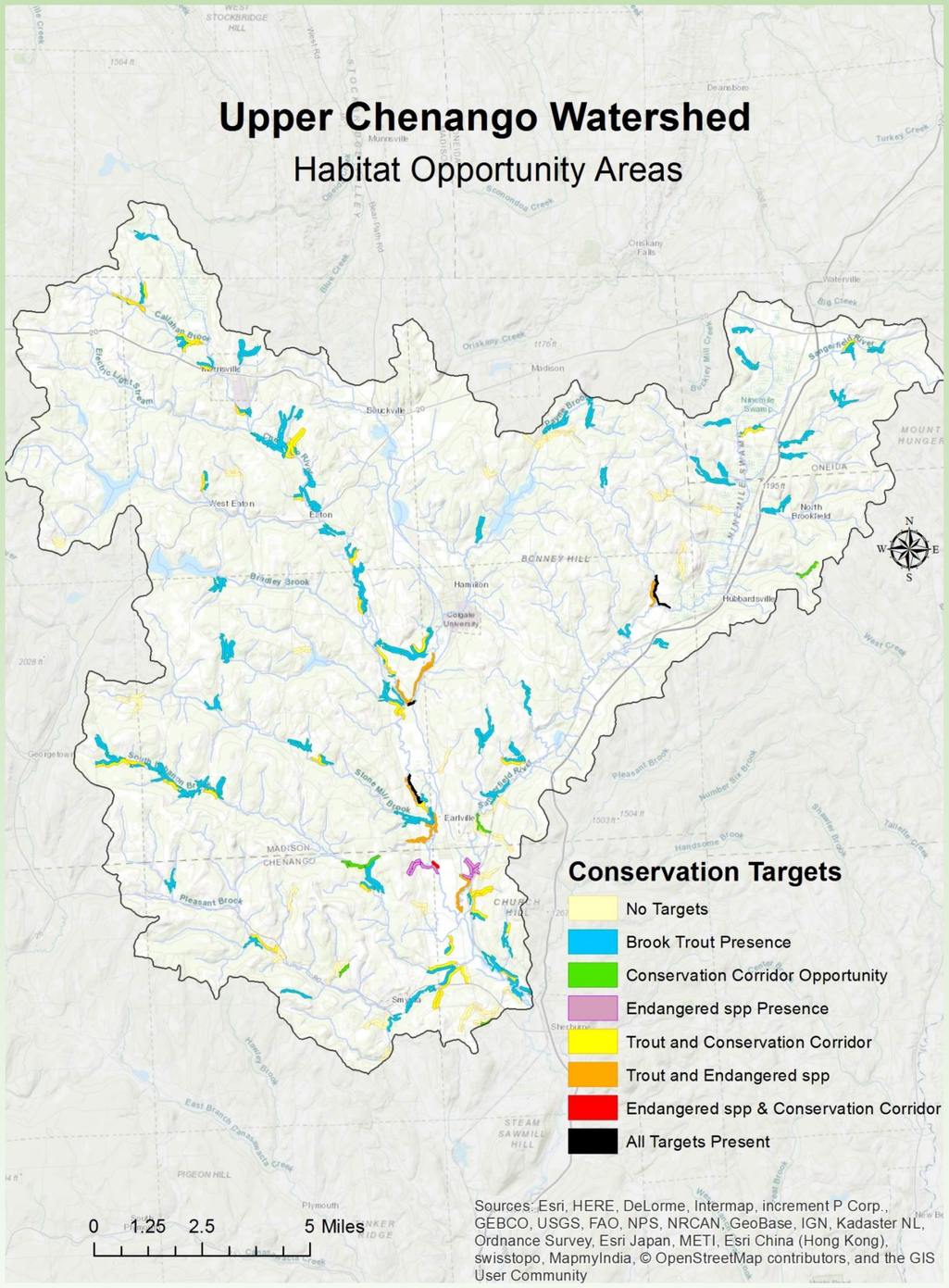

Figure 1: Out of the 376 opportunity areas in the Upper Chenango watershed, a theoretical 67 acres were identified as top priority buffer sites, having positive marks for Trout, Endangered species and Conservation Corridor status.

Figure 2: Out of the 291 opportunity areas in the Middle Chenango watershed, a theoretical 95 acres were identified as top priority buffer sites, having positive marks for Trout, Endangered species and Conservation Corridor status.

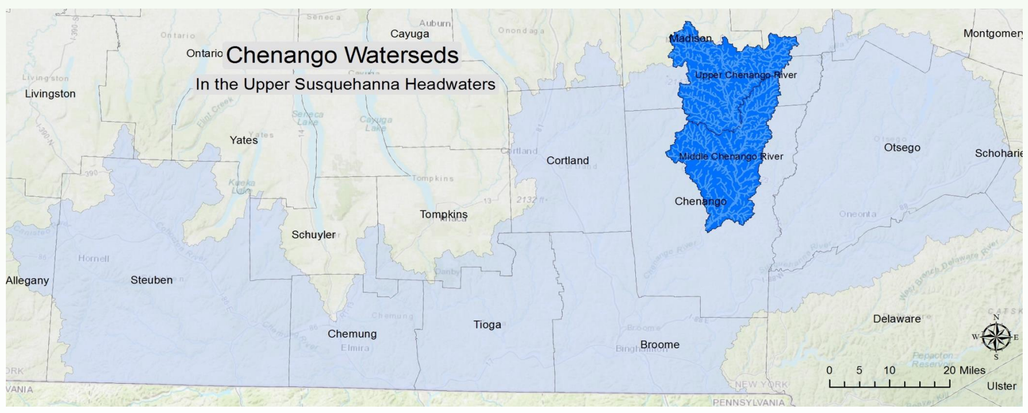

Figure 3: The Upper and Middle Chenango watersheds, located in Madison and Chenango counties.

Introduction

These maps were developed to guide riparian buffer strip implementation towards opportunity areas with particularly high biological value. The targeting scheme was based on primary habitat restoration targets supported by the USC and partner organizations. These targets include sensitive aquatic communities and opportunities to create or extend conservation corridors. The final ranking of conservation targets, reflected by the order of the map legends, was determined by a simple formula consisting of three primary conditions which were given associated numerical values to reflect the restoration priorities of the USC. The combined scoring enabled an informative hierarchy of concern as well as differentiation for individual project goals. As is true with all models developed using remote sensing technology, the actual conditions and opportunities on the ground may vary, and therefore field visits may uncover unforeseen circumstances that impact project prioritization.

Identifying Target Conditions

Opportunity areas (OAs) represent riparian zones up to 100 meters from the stream bank where land cover does not currently represent a functional buffer. The confirmation of target conditions were based on the below processes:

1. Presence of Eastern Brook Trout (Salvelinus fontinalis) was provided by the Eastern Brook Trout Joint Venture (EBTJV). Positive condition was given to OAs that are adjacent to observed communities, or those that are located upstream within one stream junction and lass than two miles.
2. Presence of state-listed endangered species was provided by the New York Natural Heritage Program (NYNHP). Species included in this condition are: Hellbender (Cryptobranchus alleganiensis), Swallowtail Shiner (Notropis procne), Yellow Lampmussel (Lampsilis cariosa), Brook Floater (Alasmidonta varicosa) and Green Floater (Lasmigona subviridis). Positive condition followed the same logic as above.
3. Potential for the creation of Conservation Corridors, or buffers that would allow migration of species between isolated habitat patches. Positive condition was given to OAs within 500 feet of two or more isolated habitat patches (Forest, Wetland, or Mixed Open land as identified by the CBP's 2016 Phase 6 Land Use Dataset) that were not otherwise within 500 feet of each other. Habitat patches must be at least 0.25 acres in size, and the intersection of open water, roads or other impervious surfaces negates corridor opportunity. This method was based off of the work of Benthrop and Kellerman (2004).

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Referenced

Bentrup, G., & Kellerman, T. (2004). Where Should Buffers Go? Modeling Riparian Habitat Connectivity in Northeast Kansas. *Journal of Soil and Water Conservation, 59(5), 209.*

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