A characterization of the riparian corridor of the Oaks Creek Blueway Trail with emphasis on Otsego Land Trust properties

Nicole Pedisich\textsuperscript{1} and Donna Vogler\textsuperscript{2}

INTRODUCTION

The Otsego Land Trust Blueway is a series of Land Trust owned and protected parcels that provide fishing, hiking, paddling, bird watching, and educational opportunities from Canadarago Lake to the Susquehanna River including Brookwood Point on Otsego Lake. (Otsego Land Trust 2014). The trail consists of Fetterly Forest, Deowongo Island, Oaks Creek Preserve, Crave, Parslow Road, Greenough Road, and Compton Bridge. For this project, an assessment of the riparian vegetation communities of Oaks Creek was conducted along a section of the Blueway Trail starting in Schuyler Lake and ending in Cattown. More in-depth characterizations of plant communities were done at Oaks Creek Preserve, the Crave property, and Parslow Road Conservation Area.

Oaks Creek is a stream located in Otsego County, NY. It flows from Canadarago Lake southeast into the Susquehanna River, a distance of approximately 13.8 miles. (Hingula 2004). A majority of the stretch of stream assessed is state-regulated freshwater wetlands (Figure 1, NYSDEC). Oaks Creek Preserve is a 28-acre parcel located along its namesake between Schuyler Lake and Oaksville. Downstream are Crave, a parcel recently acquired by the Otsego Land Trust and Parslow Road Conservation Area, an 86-acre parcel located on the northern edge of Oaksville running a half-mile along Oaks Creek (Figure 2).

\textsuperscript{1} BFS Intern, summer 2015. Current affiliation: SUNY College at Oneonta. Funding for this project was provided by the Otsego Land Trust.

\textsuperscript{2} Professor. SUNY Oneonta Biology Dept.
Figure 1. Map of state-regulated freshwater wetlands (NYSDEC Resource Mapper 2015).

Figure 2. Map of Otsego Land Trust properties on Oaks Creek. From top to bottom: Oaks Creek Preserve, Crave Property, and Parslow Road Conservation Area.
METHODS

Otsego Land Trust parcel maps (Figures 3, 4, 5) were obtained and a canoe trip was planned accordingly. Canoe trips were taken on 22 June and 21 July 2015 down Oaks Creek from Route 22 in Schuyler Lake to Cattown Road in Cattown. Dominant, unique and invasive species were noted for the Trail and for each parcel, and various plant specimens were collected and later identified. GPS waypoints were taken along the trail and at points of interest (Table 1). Communities were defined using the taxa lists created from the canoe trips and Edinger et al. (2014).

Figure 3. Oaks Creek Preserve.

Figure 4. Crave Property.
Figure 5. Parslow Road Conservation Area.
Edinger et al. (2014) focuses on seven system types: Marine, Estuarine, Riverine, Lacustrine, Palustrine, Terrestrial and Subterranean. This project focused on two of these systems to characterize the riparian zone of Oaks Creek; the Riverine and Palustrine Systems. Based on the Riverine Systems section, Oaks Creek has characteristics of both a Marsh Headwater Stream and Unconfined River. Looking at elevation on a United States Geological Survey topography map, the gradient and physical characteristics lean more towards that of an Unconfined River. It is dominated by runs with interspersed pool sections, has few riffles, and distinguished meanders. Endemic macroinvertebrates are reflective of Marsh Headwater Stream (Heilveil and Buckhout 2012), and macrophytes are also reflective of a Marsh Headwater Stream (pondweeds, duck weed, water stargrass, bur-reeds and white water-lily and yellow pond lily). The low slope and flow, combined with width in some areas make it more lake-like, and the
abundance of pickerel-weed (*Pontederia cordata*) and pondweeds supports this. The dominant species along the Creek (Table 2) indicate that the major community type is a Floodplain Forest; which is included in the Palustrine Systems section of Edinger et al. (2014). A Floodplain Forest is a hardwood forest that occurs on mineral soils on low terraces of river floodplains and floods annually. Forests of this type are variable and diverse. Some characteristic tree species are silver maple, red maple, ashes, elms and swamp white oak. Characteristic shrubs, vines and ferns include viburnums, multiflora rose, poison ivy, Virginia creeper, jewelweed, and sensitive fern. Overall the Oaks Creek riparian forest has many large, mature trees with a high canopy and little undergrowth. It is distinctive for the area as it is not seen very often.

At Oaks Creek Preserve the canopy was dominated by silver maple and a silver/red maple hybrid, called freeman’s maple (*Acer x freemanii*). American elm was a unique find here, being singular and mature. There was a monoculture of *Phalaris* at the water’s edge around many of the bends of the Creek, especially at this parcel. It could be an intermediate between Floodplain Forest and red maple-hardwood swamp, a broadly defined community with several regional and edaphic variants. The composition of the Crave property was similar to Oaks Creek Preserve. There was more pickerel-weed along the Creek at Crave, as most of the water along here seems to be slower and more lake-like. Parslow Road Conservation Area is the most public of the three sites that were surveyed. The most obvious invasive species at Parslow Road was bush honeysuckle (*Diervilla sp.*) found near the public access fishing points. The major community types here were mixed between Northern White-Cedar swamp, Floodplain Forest and Hemlock-hardwood swamp. The dominant tree species for the Northern White Cedar Swamp is the northern white-cedar (*Thuja occidentalis*) mixed with red maple and eastern hemlock. Hemlock-hardwood swamps are dominated by eastern hemlock (*Tsuga canadensis*) and are mixed with red maple and yellow birch (*Betula alleghaniensis*).

As stated in Edinger et al. (2014), the coarse/fine filter approach that they use is an efficient means of identifying the most sensitive animals, plants and communities of an area. They also state that no two communities are identical, but are similar within a range of variability and that the similarities are not defined quantitatively in their classifications (Edinger et al. 2014). It was intended for the different described communities to be non-overlapping units and for artificial boundaries to be made between ecological gradients. This makes definitively classifying a community a little more difficult. Edinger et al. (2014) say that in the case that a site is equally similar to two different community types, that it should be described as an intermediate between the two most similar community types. This is why Oaks Creek Preserve has been described as an intermediate between a Floodplain Forest and Red maple-hardwood swamp, and why Parslow Road is described as a mix of three community types. More regional information is needed on many of the community types in *Ecological Communities of New York State* on both flora and fauna. Gathering this information would be a good opportunity for a future study that would facilitate both the research and teaching mission of the Biological Field Station and the Otsego Land Trust.
Table 2. List of dominant species found along Oaks Creek.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Genus</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Maple</td>
<td>Acer</td>
<td>rubrum</td>
</tr>
<tr>
<td>Silver Maple</td>
<td>Acer</td>
<td>saccharinum</td>
</tr>
<tr>
<td>Freeman’s Maple</td>
<td>Acer</td>
<td>xfreemanii</td>
</tr>
<tr>
<td>White Ash</td>
<td>Fraxinus</td>
<td>americana</td>
</tr>
<tr>
<td>Hemlock</td>
<td>Tsuga</td>
<td>canadensis</td>
</tr>
<tr>
<td>Cedar</td>
<td>Thuja</td>
<td>occidentalis</td>
</tr>
<tr>
<td>Black Willow</td>
<td>Salix</td>
<td>nigra</td>
</tr>
<tr>
<td>White Oak</td>
<td>Quercus</td>
<td>alba</td>
</tr>
<tr>
<td>Pickerel-weed</td>
<td>Pontederia</td>
<td>cordata</td>
</tr>
<tr>
<td>Water Stargrass</td>
<td>Heteranthera</td>
<td>dubia</td>
</tr>
<tr>
<td>Reed Canarygrass</td>
<td>Phalaris</td>
<td>arundinacea</td>
</tr>
<tr>
<td>Duckweed</td>
<td>Lemna</td>
<td>sp.</td>
</tr>
<tr>
<td>Swamp Dock</td>
<td>Rumex</td>
<td>verticillatus</td>
</tr>
<tr>
<td>Moneywort</td>
<td>Lysimachia</td>
<td>nummularia</td>
</tr>
</tbody>
</table>

REFERENCES


