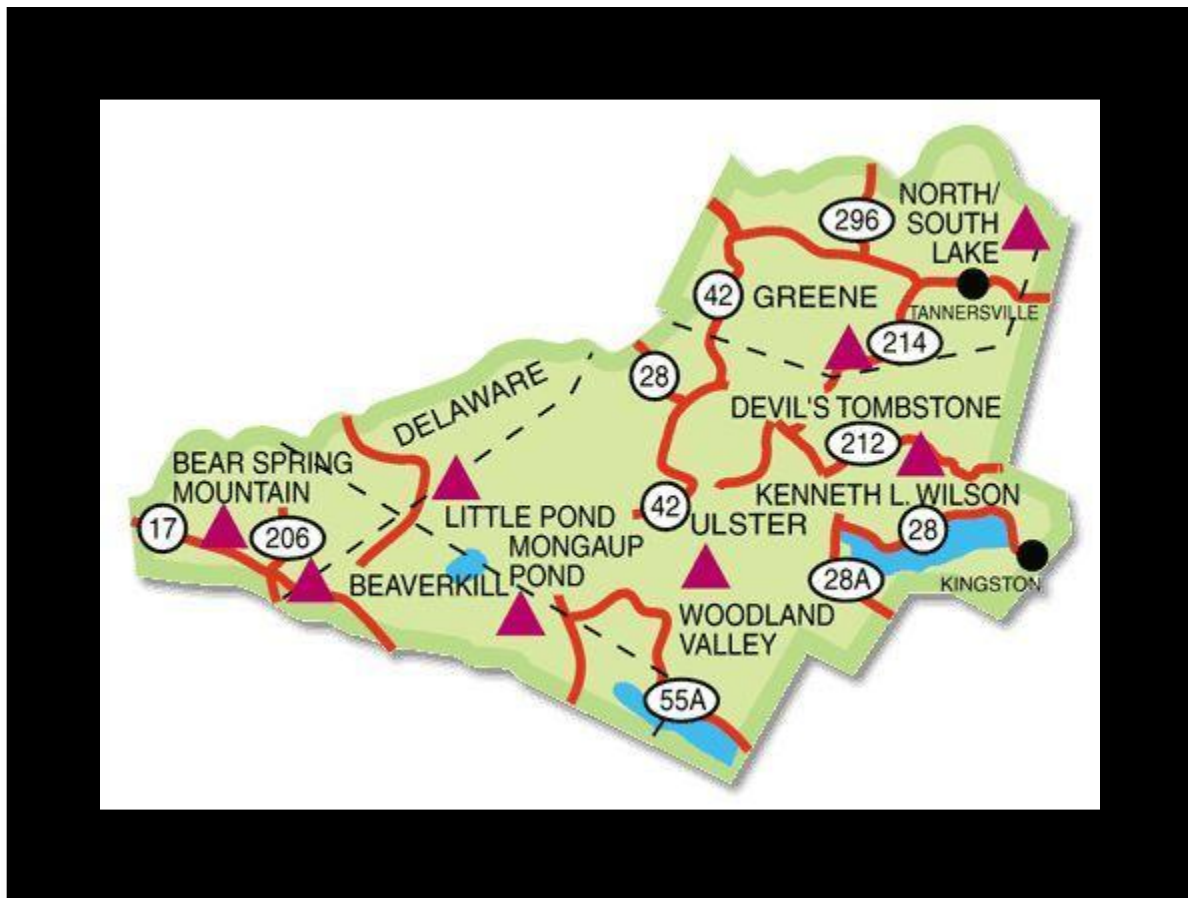


Catskill Campground Invasive Species Steward Early Detection Survey Summer 2017



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Executive Summary

Throughout many of New York's regions and ecosystems it is common to find the presence of invasive species. Japanese knotweed can be frequently found along riparian zones, emerald ash borer in stands of ash trees, or garlic mustard on the side of a trail. While these species are already established in the Catskill region there is still a need for early detection monitoring for species approaching the area. This report will focus on the early detection work done in the NYS-DEC campgrounds found within the Catskill Park. Both the protocol and the results found from this early detection survey will be discussed. The CRISP PRISM has outlined a list of priority species which can be found just outside the PRISM. These species are the most likely candidates to be found within the PRISM's boundaries at any given time. Since many of the campgrounds are frequented by visitors from outside the park introductions are probable. By conducting this survey, the ability for early detection and rapid response invasive species management increases greatly for the PRISM.

Priority Species-

<u>Aquatic</u>	
<u>Scientific</u>	<u>Common</u>
<i>Hydrilla verticillata</i>	Hydrilla
<i>Ludwigia peploides</i>	Floating primrose-willow
<i>Hydrocharismorsus ranae</i>	Common Frogbit
<i>Nymphoides peltata</i>	Yellow floating heart
<i>Egeria densa</i>	Brazilian Waterweed
<i>Cabomba Caroliniana</i>	Fanwort

<u>Terrestrial</u>	
<u>Scientific</u>	<u>Common</u>
<i>Persicaria perfoliata</i>	mile-a-minute
<i>Brachypodium sylvaticum</i>	Slender false-brome
<i>Syringia reticulata</i>	Japanese tree lilac
<i>Aralia elata</i>	Japanese Angelica tree
<i>Impatiens glandulifera</i>	Himalayan Balsam

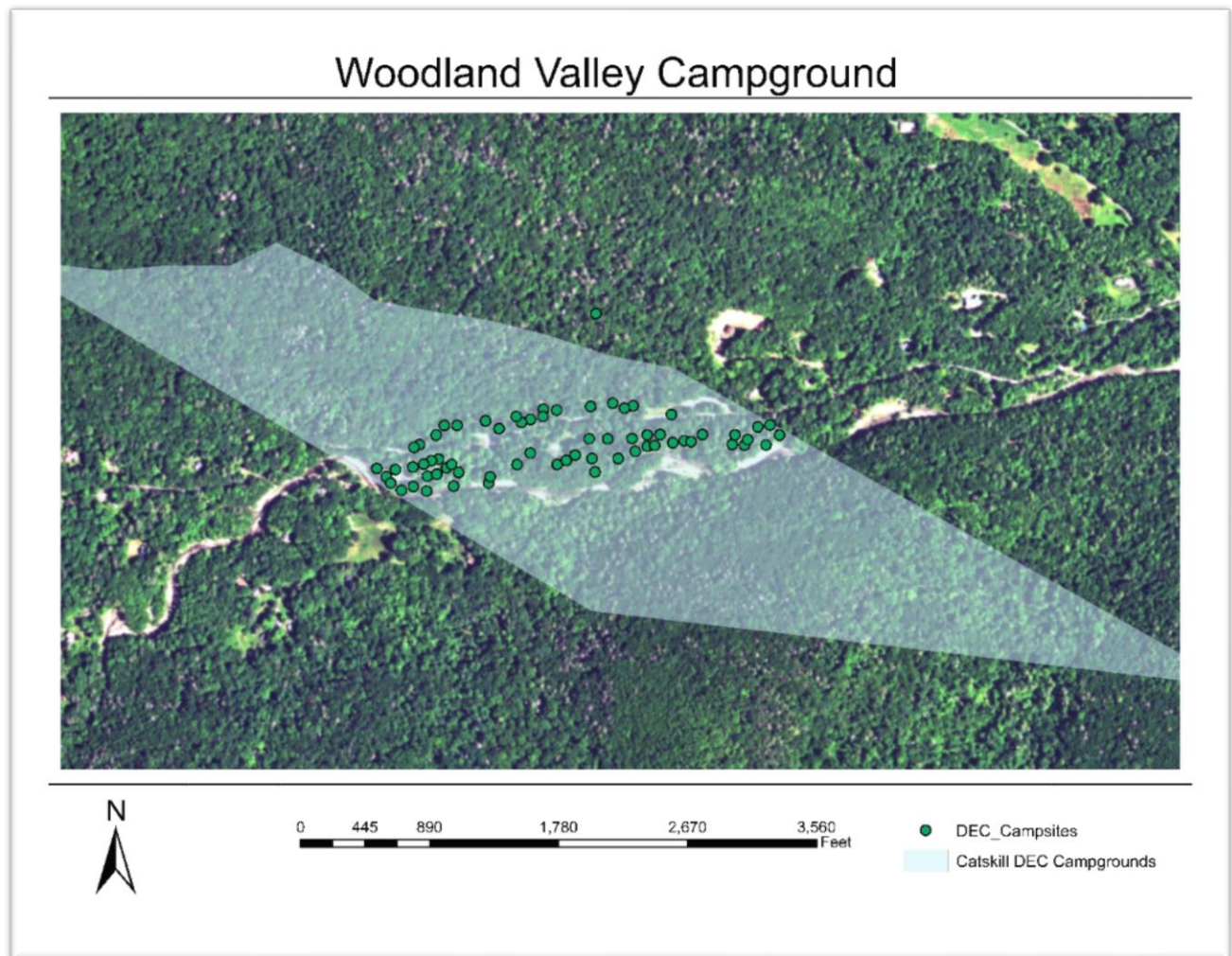
Procedure- Multiple steps were taken when visually monitoring for early detection invasive species at each DEC campground. All Catskill DEC campgrounds were visited between the dates of 6/8/2017- 7/27/2017

- All high use/high risk areas we inspected for each campground. This includes fire pits, buildings/facilities, and trailheads.
- If a campsite was occupied then the current occupants were asked for permission to access their campsite to complete the survey.
- Time was taken to inform the campers about the ongoing survey. As well as taking the time to educate about the different invasive species they might come across. Public outreach pamphlets were handed out as well.
- Each area around the campsites were inspected for early detection species.
- The surrounding vegetation around each campsite was observed for possible early detection plants.
- Each campsite was recorded as GPS point.
- A specific procedure was carried out for Asian longhorned beetle. At each campground using the method outlined in the Catskill Asian Long Horned Beetle Campground Survey and Outreach Efforts 2009” paper. All possible host trees (hardwoods) 50 feet or less from the fire pit were surveyed. Special attention will be paid to red and sugar maples.
- Trailheads that connected to the campgrounds were searched for early detection species as well. Trails were surveyed for one-quarter mile from the start of the trail.
- The surrounding space around the public buildings/facilities that campers frequently used were examined for possible invasive plants.

Findings/Overview-

Over the course of the summer 2017 season only one early detection terrestrial invasive species was found to be within the Catskill DEC state campgrounds. The Beaverkill Campground has a light infestation of Himalayan Balsam on its western border. Any presence of aquatic invasives cannot be confirmed for the 2017 summer monitoring season because no aquatic survey was able to be completed. Common invasives such as multi-flora rose, Japanese knotweed weed, and oriental bittersweet were present throughout many of the campgrounds. There are other areas within the CRISP prism where some of the early detection species are to be found. It can be assumed that future introductions to the campgrounds is highly probable. Himalayan balsam has been found to be near the beaver kill campground in an upstream site along Barry brook. The Kenneth L Wilson campground has a nearby infestation of mile-a-minute. There is a private property located on Wittenberg Road, near the campground that has the large infestation of the mile-a-minute plant. At this site, there was old plant growth with fruiting bodies present. Birds could be potential vectors of introduction for mile-a-minute into the Kenneth L. Wilson campground. Since other early detection species such as Himalayan balsam and mile-a-minute have been found within the PRISM boundaries Since no aquatic survey was conducted future summer monitoring programs should include investigation into the campgrounds adjacent waterbodies. The threat of introductions is high due to frequent fisherman usage of these sites to recreate. Future monitoring should be continued to ensure that new invasives are not established in any of the campgrounds. Below are the findings for each campground, all campgrounds were surveyed between June 8th, and July 27th of 2017.

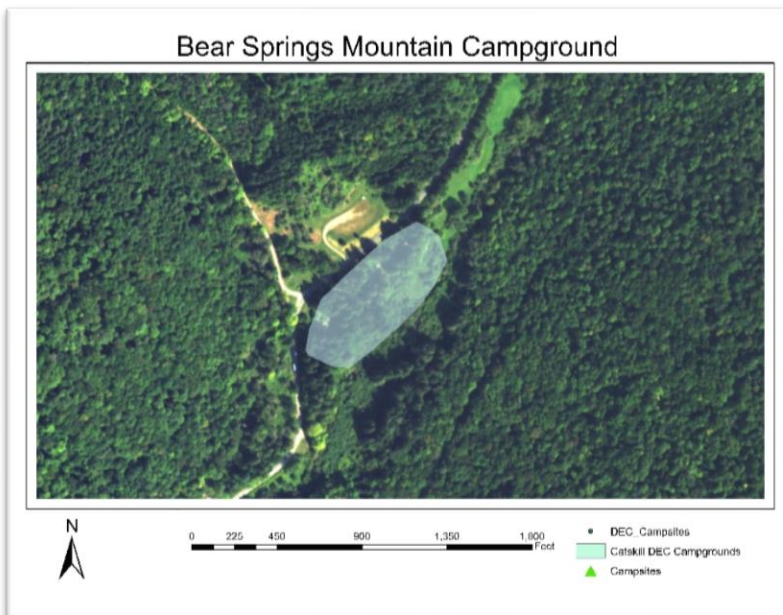
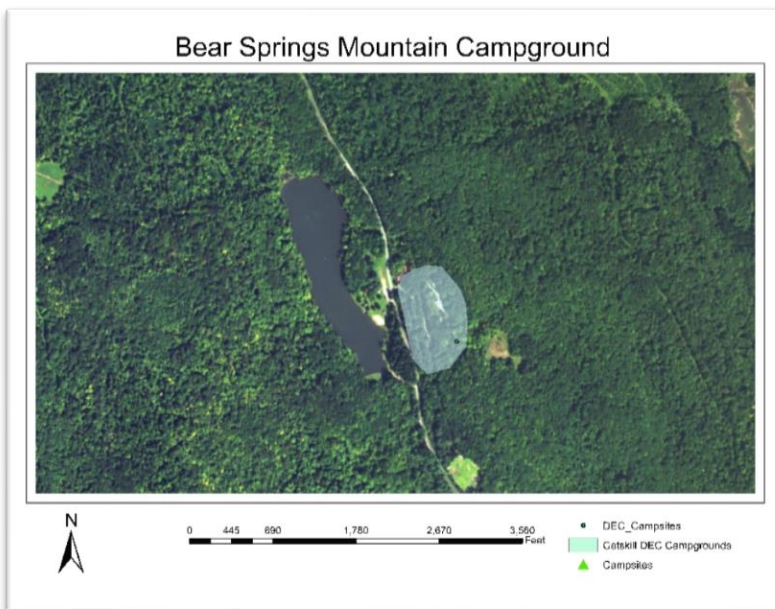
Woodland valley campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the woodland valley campground.

Notes- The need for an aquatic survey is still present. However, since the adjacent system is a moving system certain early detection aquatic plants would have a hard time establishing. It is not nevertheless improbable to find different aquatic invasives in woodland creek.

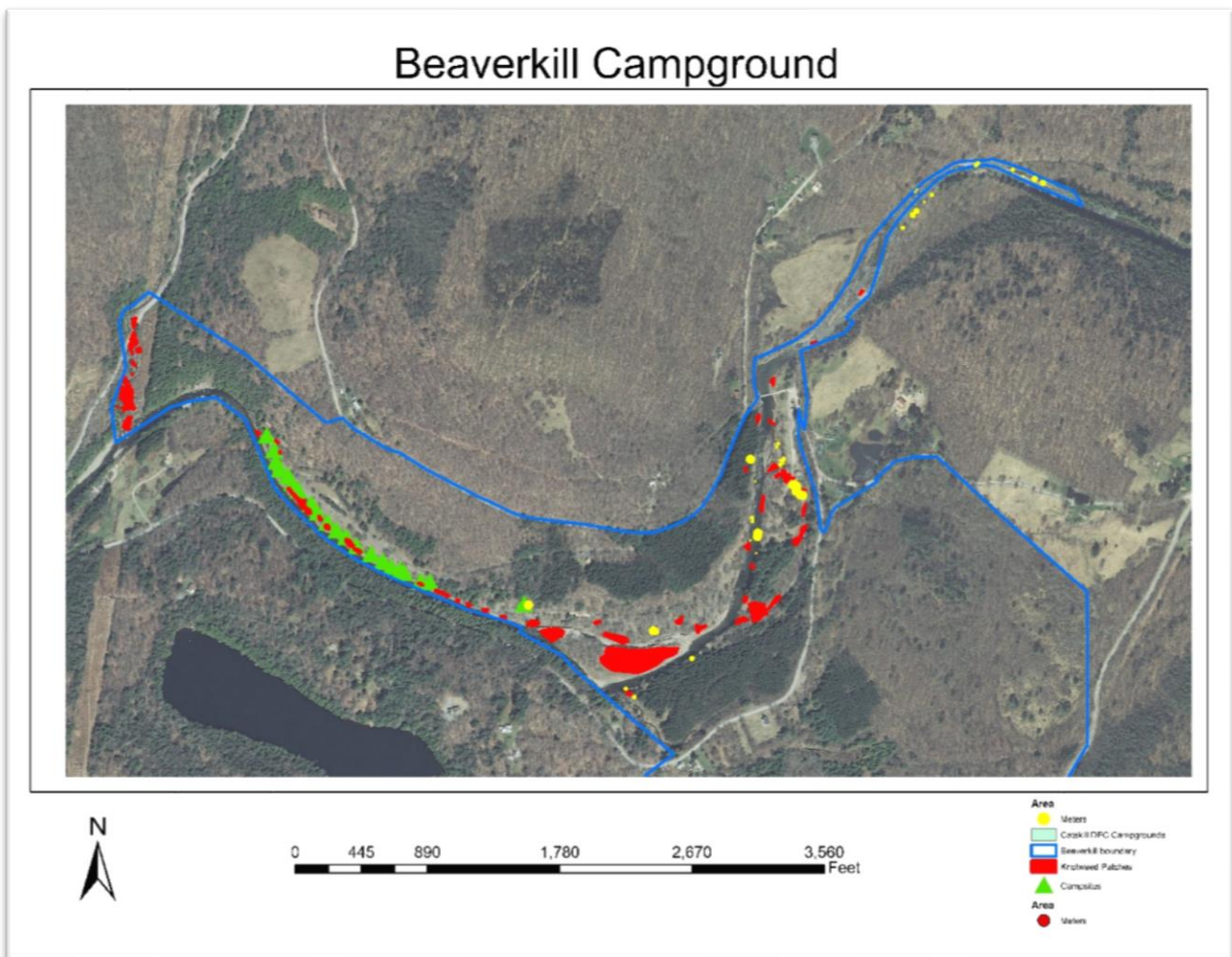
Bear springs mountain campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the Bear Springs mountain campground.

Notes- Limited points due to poor satellite connection. At this site I was accompanied by John Thompson. Launt pond should be surveyed for any possible aquatic invasives fisherman could have potentially brought in.

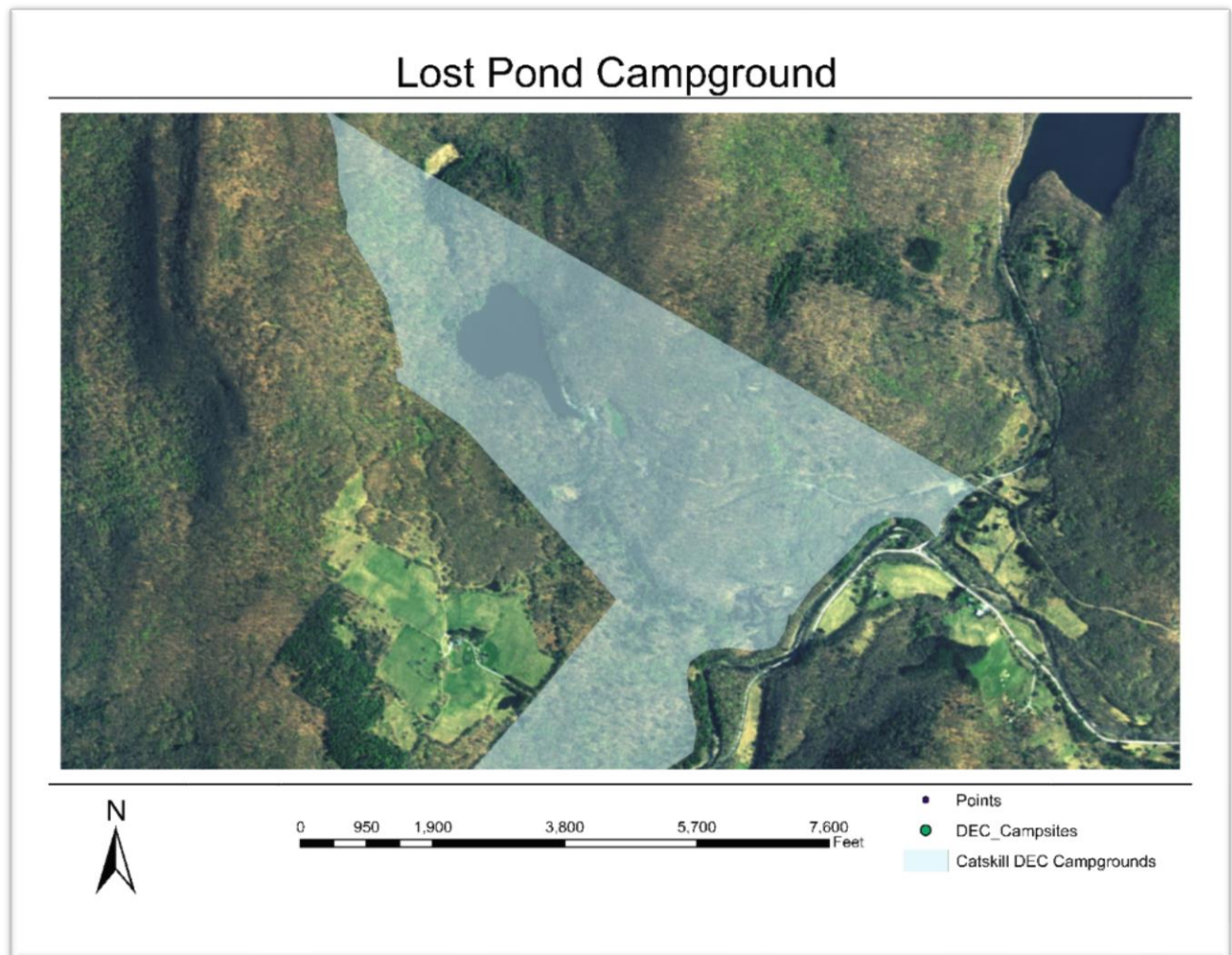
Beaverkill campground- 6/8/2017-7/27/2017



Species Identified- Himalayan balsam was found to occupying a small section of Berry Brook.

Notes- This plant is located on the western border of the campground. There is an upstream source population of Himalayan Balsam present north of the campground. Special care should be taken for future monitoring to look out for possible introduction of this species. A current knotweed management projects is ongoing at this campground. The newly disturbed sites are potential areas Himalayan balsam might establish.

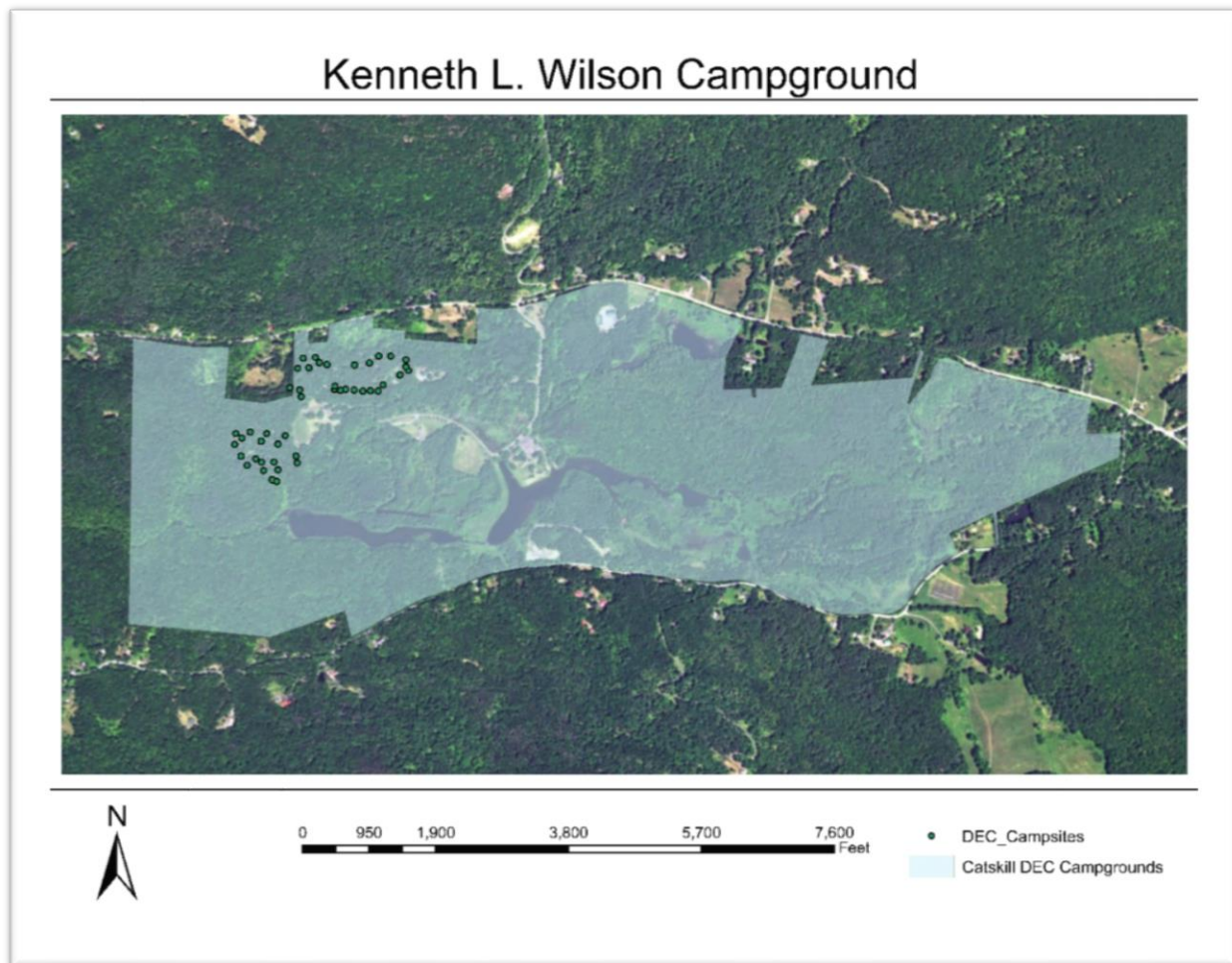
Lost pond campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the Lost pond campground.

Notes- I was accompanied by John Thompson at this campground. An aquatic survey should be carried out next season to monitor for possible early detection of aquatic invasive species. Fisherman are potential sources for introductions into the system.

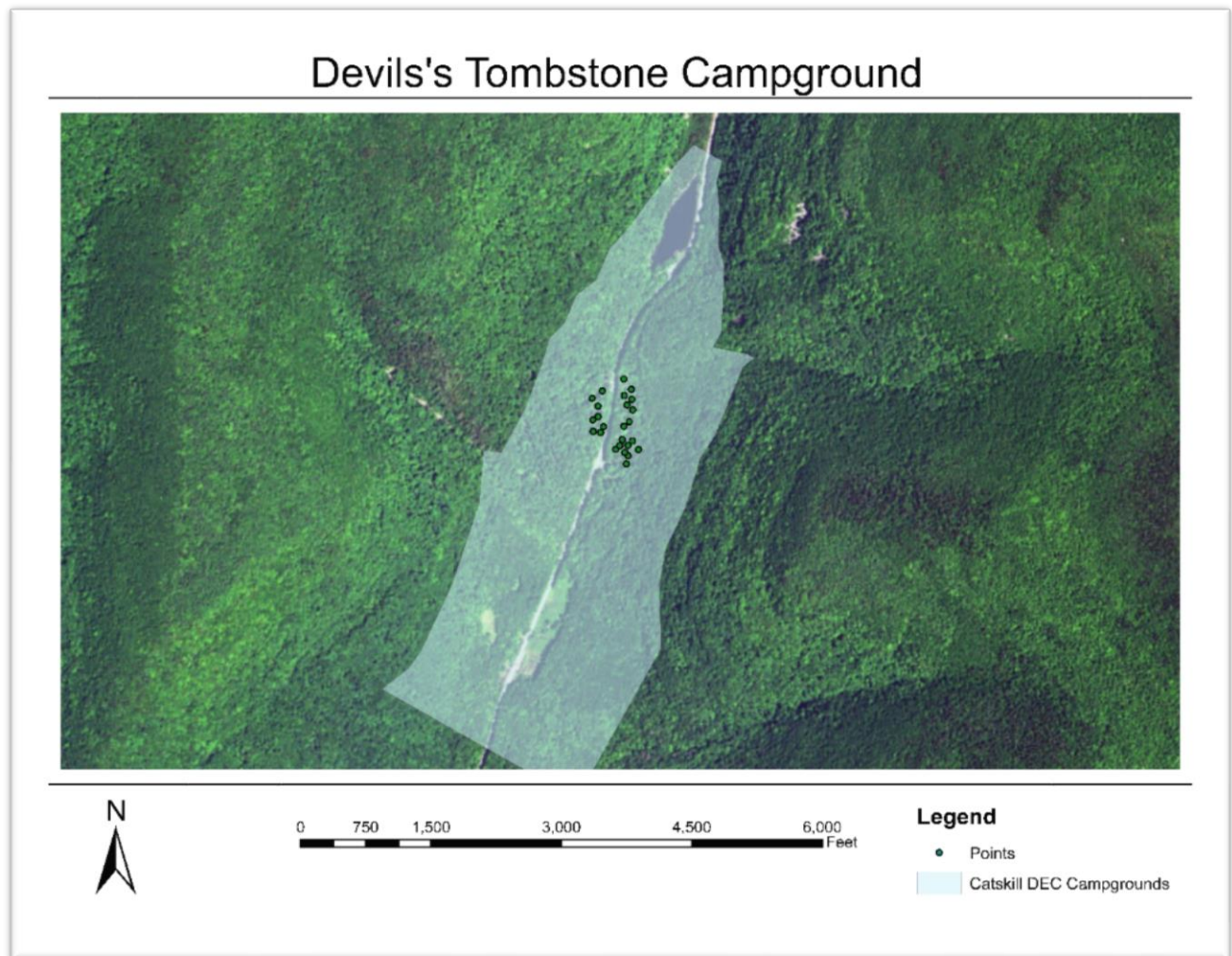
Kenneth L Wilson campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the Kenneth L. Wilson campground.

Notes- Construction was being done at the Kenneth L. Wilson. These disturbed sites can be possible risk areas for early detection species to arise. A nearby private property contains a large infestation mile-a-minute. Birds can be possible vectors to transport the seeds into the campground. Also the little beaver kill should be monitored for next season. An aquatic survey should be done to check for possible aquatic invasive species.

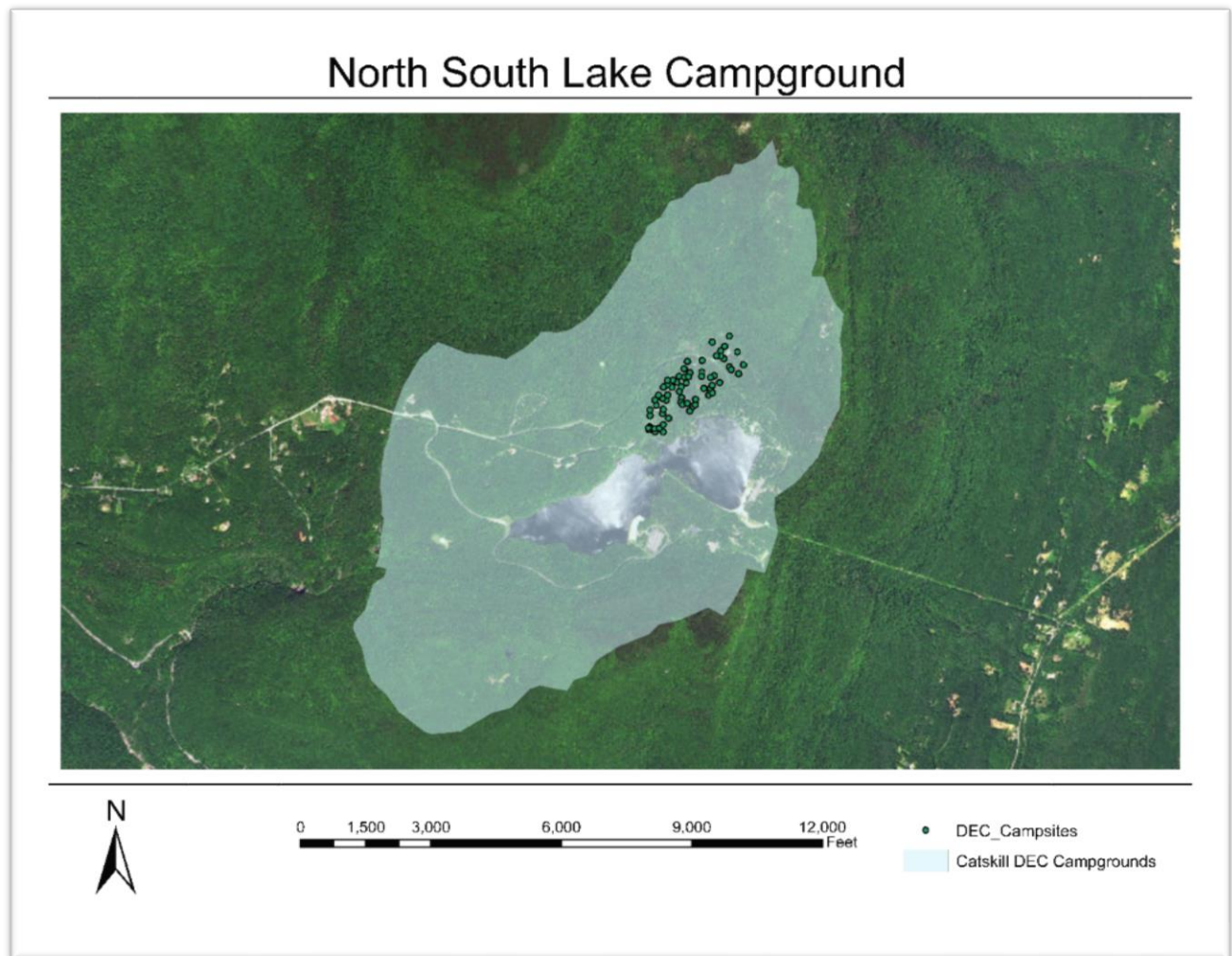
Devils Tomb campground-6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the Devil's tombstone campground.

Notes- Since county route 214 runs through the middle of the small campground. Special precaution should be taken to monitor along the road side since many invasives are transported this way.

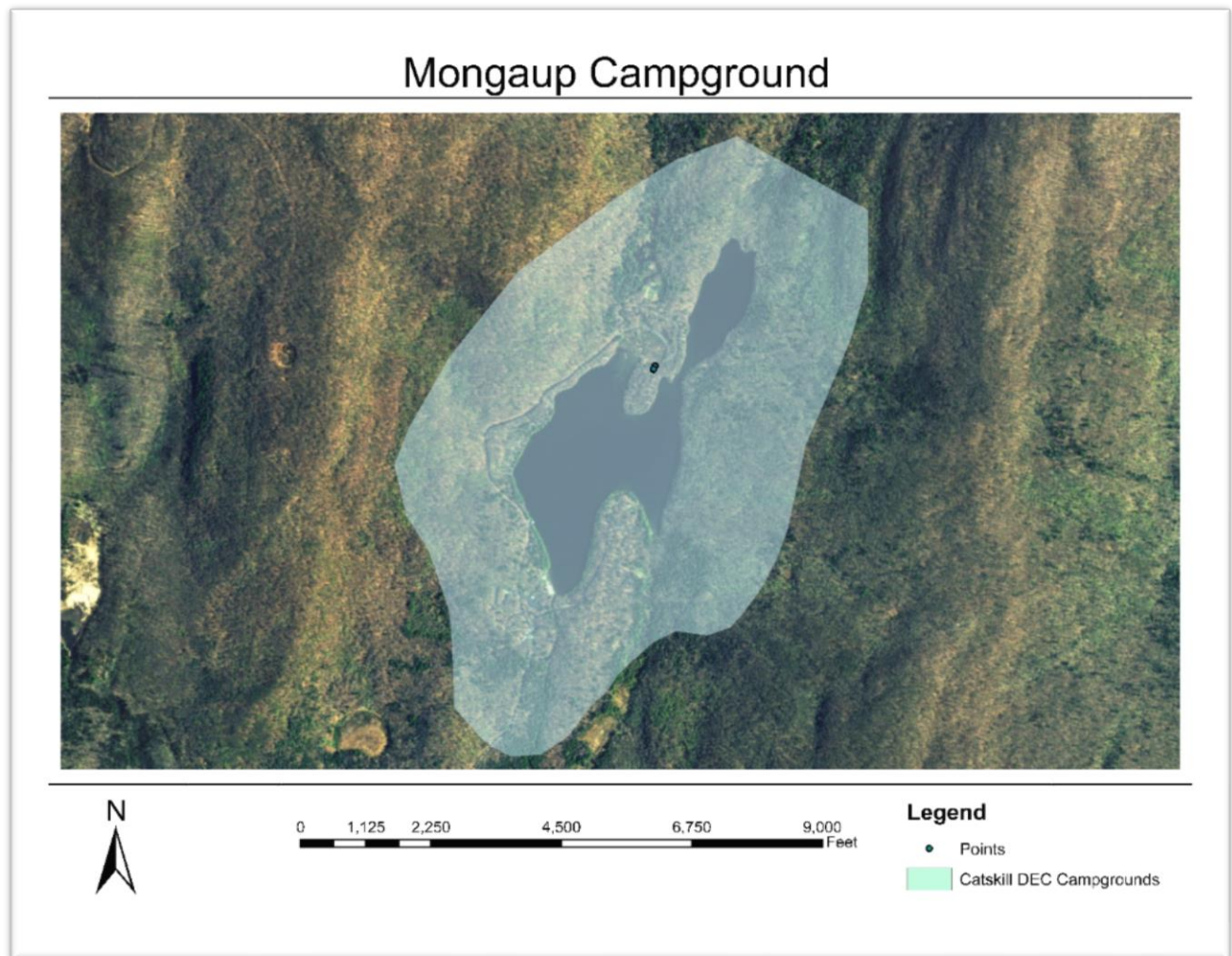
North South Lake campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at North South Lake campground.

Notes- Campground was large and had many points of interest to inspect. An aquatic invasive survey should be conducted to monitor both north and south lake.

Mongaup Pond campground- 6/8/2017-7/27/2017



Species Identified- No early detection species of concern were discovered at the Mongaup pond Campgrounds

Notes- A further aquatic survey should be conducted at Mongaup pond to monitor for early detection aquatic invasive species.