

Relicensing Study 3.4.1

BASELINE STUDY OF TERRESTRIAL WILDLIFE AND BOTANICAL RESOURCES

Updated Study Report Summary

Northfield Mountain Pumped Storage Project (No. 2485)
and Turners Falls Hydroelectric Project (No. 1889)

Prepared for:



Prepared by:



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1.1 Study Summary

The purpose of this study is to characterize and describe the terrestrial and botanical resources that use representative upland habitats within and adjacent to the Turners Falls and Northfield Mountain Project boundary. Baseline information was collected on terrestrial and wildlife resources in the Turners Falls Impoundment, the Bypass Reach, and below Cabot Station. Surveys were completed by biologists visually assessing habitats along and above the shoreline from boating and/or walking on FirstLight and public lands, throughout the 2014 growing season. All field surveys will be completed by October 31, 2015.

To date field data has been collected to:

- Inventory overall existing upland wildlife habitats;
- Inventory a baseline of vegetative cover classes;
- Evaluate the presence of targeted rare, threatened and endangered (RTE) species or associated habitats; and
- Inventory the nature and extent of invasive and exotic vegetation species.

1.2 Study Progress Summary

Task 1: Literature Review

Prior to the field survey, biologists reviewed existing information to identify representative communities and potentially suitable habitat for rare, threatened and endangered (RTE) species. Using GIS and other available sources, a GIS specialist developed preliminary field maps to assist field survey efforts. This task has been completed.

Task 2: Wildlife and Habitat Type Mapping

General habitat field notes were recorded, including: dominant vegetation cover classes; unique or unusual habitat types; observations of avian, reptile, amphibian, and mammal species. More intensive searches were performed for individual species where suitable or unique habitats were identified (i.e., river islands, confluences with tributaries, vernal pools and wetland habitats). The locations of significant sightings and observations were documented through the use of GPS and geo-referenced photographs and were entered into the Project GIS data base. Data collected were compiled into a Project area species list and maps. This task has been completed.

Task 3: Vegetation Type Mapping

Modified timed-meander surveys involve walking a meandering path through each habitat parallel to the shoreline and recording species present until a period of time passes where no new species are observed. The baseline research, initial observation of vegetation types, and base mapping has been completed, but classifying vegetation communities using the Natural Heritage and Endangered Species Program (NHESP) Classification of the Natural Communities of Massachusetts (Swain & Kersey, 2011) is ongoing. Sample vegetation plots will be established to collect quantitative information using NHESP Quantitative Community Characterization Form (NHESP Form 3) to characterize representative habitats. Geo-referenced photographs will be taken to document site conditions at the time of the survey.

Task 4: Invasive Plant Survey

The Massachusetts Invasive Plant Advisory Group (MIPAG) species list of invasive plants was utilized to identify targeted invasive species when conducting botanical meander surveys. Surveyors used methods adapted from the United States Forest Service (USFS) Invasive Species Program, Invasive Species

Inventory and Mapping Data Recording Protocols. These adapted methods focus on presence, location, extent, abundance and other site characteristics to provide site infestation information.

Biologists used a Trimble® (GPS) to delineate the boundary of each infestation of invasive plants. Areas containing only occasional invasive species were characterized with a GPS center point and radius necessary to enclose the population. For areas where invasive species were ubiquitous or impractical to map, surveyors characterized the invasive species population qualitatively using estimates of aerial coverage and percent of species present. As land disturbances favor establishment of invasive plants over native plant communities, survey efforts for invasive species were focused on disturbed lands, areas of vegetation management, access roads, and recreational trails which can be vectors for invasive species propagation. Representative sampling areas containing invasive botanical species were documented with geo-referenced photos.

Task 5: Data Analysis and Reporting

The final portion of the field studies is being completed in August and September of 2015. Data analysis will be finalized following field data collection and reported in the final report slated for completion by December 31, 2015.

1.3 Variances from Study Plan and Schedule

The NHESP data forms and transects were not completed in 2014 as anticipated, as the field season (i.e., growing season) ended prior to the completion of the field work. This limited the ability of personnel to identify herbaceous vegetation. The NHESP sample plots and forms will be complete in August-October of 2015.

1.4 Remaining Activities

Field data collection is scheduled to be completed by October 31, 2015. Following the completion of field work, updates to the vegetation type mapping will be made in the final report. Remaining items for this study to be completed in 2015 include:

- Completion of NHESP community forms and plots (October-November 2015).
- Updates to vegetation type mapping, based on results of sample plots (October-November 2015).
- Report (December 31, 2015).