

Relicensing Study 3.4.1

BASELINE STUDY OF TERRESTRIAL WILDLIFE AND BOTANICAL RESOURCES

Initial 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 is being collected on terrestrial and wildlife resources in the Turners Falls Impoundment, the Bypass Reach, and below Cabot Station. Surveys are being completed by biologists visually assessing habitats along and above the shoreline from boat and/or walking on FirstLight and public lands throughout the 2014 growing season. Surveys will be completed by September 30, 2014.

To date field data has been collected to:

- Inventory overall existing upland wildlife habitats;
- Inventory 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 survey, biologists reviewed existing information to identify representative communities and potentially suitable habitat for RTE species. Using GIS and other available sources, a GIS specialist developed preliminary field maps to assist field survey efforts.

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; and locations of invasive plant species. Ongoing wildlife surveys were completed using visual encounter survey methods, while simultaneously completing botanical meander surveys along the shoreline. Visual encounter surveys were augmented with incidental observations of wildlife signs (i.e., tracks, scat, den areas, nests, etc.). 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 will be compiled into a Project area species list and maps.

Task 3: Vegetation Type Mapping

Botanical surveys are ongoing to determine the species composition, structure, and distribution of vegetative communities within the Project. Data collected to date (August 15, 2014) include percent cover and dominant species within the herbaceous, shrub, and tree stratum along with the general distribution and juxtaposition of vegetative communities. 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. Surveyors compiled a list of all plants found within each respective habitat and are maintaining an overall census list of all plant species identified within the Survey Area. Vegetation communities are being classified using the Natural Heritage and Endangered Species Program (NHESP) Classification of the Natural Communities of Massachusetts (Swain & Kersey, 2011). Sample vegetation plots are being established to collect quantitative information using NHESP Quantitative Community Characterization Form (NHESP Form 3) to characterize representative habitats. Geo-referenced photographs were 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) at sub-foot accuracy to delineate the boundary of each infestation of the invasive plant. 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. All sampling areas containing invasive botanical species were documented with geo-referenced photos.

Task 5: Data Analysis and Reporting

Data analysis and reporting is in development. A final report will be complete in the 2nd quarter of 2015.

1.3 Variances from Study Plan and Schedule

To date, there have been no variances from the approved RSP.

1.4 Remaining Activities

Field data collection is scheduled to be completed by September 30, 2014. Following the completion of field work a technical report will be prepared for this study. The study report will include:

- Maps illustrating the classification of wildlife habitat in the study area;
- Documentation of the presence and distribution of wildlife;
- Final maps of vegetation-type polygon boundaries in the study area;
- A table of vegetation types and the percent of the study area occupied by each vegetation type;
- A technical discussion that includes a description of vegetation at the Project; and
- Maps of the location, extent and abundance of invasive plant species in the study area.