Relicensing Study 3.4.2

EFFECTS OF NORTHFIELD MOUNTAIN PROJECT-RELATED LAND MANAGEMENT PRACTICES AND RECREATION USE ON TERRESTRIAL HABITATS

Initial Study Report Summary

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

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1.1 Study Summary

The purpose of this study is to collect baseline information to understand the potential effects of land management practices and recreational use on wildlife and botanical resources within the Northfield Mountain Project area. Information collected to date (August 15, 2014) includes:

- Field data to describe existing wildlife and botanical habitats occurring in the Northfield Mountain Project boundary;
- Wetland resources inventory, including verification of National Wetland Inventory (NWI) mapped wetlands;
- Mapping and baseline inventory of vernal pools;
- Distribution of invasive plant species within Project-related land management and recreation areas;
- Information to identify potential effects of Project-related land management and maintenance practices and the use of Project-related recreation areas within the Project boundary on existing wildlife and botanical resources (e.g., clearing of vegetation).

For the purposes of this study, the Northfield Mountain Project area includes the lands around Project facilities (e.g., lands around the Upper Reservoir, parking areas, access roads) and recreational areas (e.g., picnic areas, trails, and hiking areas) on Northfield Mountain.

Field surveys are scheduled to be completed by September 30, 2014. The following is lists dates of field data collection surveys:

- April 14-25, 2014 -Vernal pool surveys
- May 12-16, 2014 - Wildlife, botanical, wetland, invasive species surveys
- June 16-20, 2014 - Wildlife, botanical, wetland, invasive species surveys
- July 14-18, 2014 - Wildlife, botanical, wetland, invasive species surveys
- August 11-15, 2014 - Wildlife, botanical, wetland, invasive species surveys

To date, there has been no consultation record.

1.2 Study Progress Summary

Task 1: Literature Review

A pre-survey review identified areas of representative plant communities, land use classes, recreational areas and trails, invasive species infestations, and potentially suitable habitat for protected species of interest as identified in Section 4.7 of the Pre-Application Document (PAD). Using GIS and other sources, preliminary field maps were produced to assist field surveys.

Prior to field investigations, researchers and biologists reviewed the practices and locations of FirstLight Project-related land use management activities (e.g., areas routinely mowed, vegetation management areas, access roads) and recreational uses (e.g., trails, climbing areas, skiing & snow shoeing) at the Northfield Mountain Project.

Task 2: Wildlife and Habitat Type Mapping

General habitat field notes have been recorded including: dominant vegetation cover classes; unique or unusual habitat types; observations of avian, reptile, amphibian, and mammal species; and locations of invasive plant or wildlife sign (i.e., tracks, scat, den areas, nests, etc.). More intensive searches were

performed for individual species in suitable or unique habitats (i.e., wetlands, vernal pools, cliffs, ravines). Wildlife surveys were completed using visual encounter surveys methods concurrently with botanical time-meander surveys. Visual encounter surveys were augmented with incidental observations of outcroppings and cliffs, ravines, vernal pools, wetland habitats). The locations of significant sightings and observations were documented through use of GPS and geo-referenced photographs and were entered into the GIS data base. Data collected will be compiled into a Project area species list.

Task 3: Vegetation Cover 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 strata along with the general distribution and juxtaposition of vegetative communities. Modified timed-meander surveys involved walking a meandering path through each habitat and recording species present until a period of time passed (usually 1 to 2 hours) where no new species were added to the vegetation list. Surveyors compiled a list of all plant species found within each habitat, and are maintaining an overall census list of all plant species identified within the Project Area. Vegetation communities were classified using the NHESP Classification of the Natural Communities of Massachusetts (Swain & Kersey, 2011). Sample vegetation plots were 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) list of invasive plant species 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 boundaries of infested areas of invasive plants. Areas containing only individual or smaller stands of invasive plants were characterized with a GPS center point and radius necessary to enclose the population. For areas where invasive species are 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 photo-documented with geo-referenced photos.

Task 5: Land Management Practices and Recreation Uses

Task 5 is in progress. Land management practices and recreational uses within the study area have been identified and documented. Field data collection is scheduled to be completed by September 30, 2014. Results from the wildlife and botanical field surveys will be used to analyze the relationship between Project operations and recreational uses, and wildlife and botanical resources. Practices which need to be changed to avoid or minimize impacts will be identified as appropriate.

Task 6: Data Analysis and Reporting

Field studies will not be completed until September 30, 2014. Data analysis and reporting is in development. A report will be completed in the 2nd quarter of 2015.

1.3 Variances from Study Plan and Schedule

To date, there are no variances from the FERC 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 in the 2nd quarter of 2015.