Nantucket Memorial Airport Master Plan Update

Appendix 3- Endangered Species Surveys

2015

Prepared for:
Nantucket Memorial Airport Commission

Prepared By

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In association with

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Appendix 3 – Endangered Species Surveys

Nantucket Memorial Airport Rare Plant Survey Update
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In 2013, Laurentide Environmental surveyed approximately 107 acres at the Nantucket Memorial Airport (see map below for sampling areas and plot locations) for *Sisyrinchium fuscatum*, *Linum intercursum*, *Aristida purpurescens*, *Liatris scariosa var. novae-angliae*, *Nabalus serpentarius*, and *Scleria paucifora*. Our field season began on May 15 and was completed by November 1, 2013. During this time period we performed searches for individual species, flagged plants and GPS'ed them either individually or in plots, and recorded surrounding plant species and habitat characteristics. Below is a summary of the individual species information we collected.

A total of 12,680 *Sisyrinchium fuscatum* were flagged on the Nantucket Memorial Airport property. Initially the goal was to complete a comprehensive survey for all rare plant species known to exist on the property. The initial *Sisyrinchium fuscatum* survey was in the area of the Delta Taxiway Expansion and a total of 77 plants were located. Subsequently, we moved to the area south of Runway 12/30. Surveys here proved to be extremely time consuming and challenging due to the high density of plants. Seven thousand one hundred and sixteen plants were located in this area. Initially we were GPSing all individuals but we switched to establishing and GPSing the corners of 100m long blocks (within which all individuals were counted) of variable width to save time. After completing the surveys for *Sisyrinchium fuscatum* south of runway 12/30, we moved to the Center Triangle and the 2/4 Approach. We began surveys here, again flagging all individuals and GPS'ing in 100m long blocks of variable width. After locating a relatively large number of plants in both these areas, it became apparent that completing a comprehensive survey for *Sisyrinchium fuscatum* was not feasible during the window that this plant was flowering. It was clear that this species was secure on the airport property and therefore we switched to establishing and surveying in plots that were strategically placed in high quality habitat for *Sisyrinchium fuscatum*. We located a total of 12,680 plants and surveyed 63.25% of the property. The highest density of plants was in the area south of Runway 12/30.

Linum intercursum and *Aristida purpurescens* were searched for after *Sisyrinchium fuscatum* in August. No individuals were located.

During the surveys for *Sisyrinchium fuscatum*, we located a number of juvenile *Nabalus serpentarius* on the property. These plants were flagged and followed to determine whether they bolted and matured into adults later in the season. A total of 25+ juveniles were located. When surveys were performed during the bloom time in September, only 10 flowering adults were found. None of the juveniles flagged produced flowers this year. Surveys for juvenile *Nabalus serpentarius* have always been considered extremely difficult and therefore not much time has been spent looking for immature individuals. The ease with which we observed juvenile *Nabalus serpentarius* in early July has provided us with a new and interesting survey technique that we will employ when searching for juvenile *Nabalus serpentarius* in future years.

Searches for adult *Liatris scariosa var. novae-angliae* were performed in late August and September. Juvenile individuals were eliminated from searches due to the density of the adults in the center triangle. A total of 4,546 *Liatris scariosa var. novae-angliae* were flagged and 96% of these were located in the Center Triangle. Similar to *Sisyrinchium fuscatum*, we decided to count and GPS *Liatris scariosa var. novae-angliae* in 100m long blocks of varying width in an effort to complete the surveys while this species was flowering. The density of the plants was highest on the western end of the Center Triangle, where 72% of the plants were located.

Scleria pauciflora surveys were performed in late September and completed in early October. The easiest time to see this sedge is when the small, white, papillose fruits are visible after flowering is complete. Three hundred and six *Scleria pauciflora* were located on the airport property in the area south of the 12/30 Runway and the 2/4 Approach. Previous surveys by GZA located a small population of *Scleria pauciflora* in the area south of Runway 12/30. This population was relocated and 66 individuals were found. In addition, 236 individuals were located in the 2/4 Approach area.

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Nantucket Memorial Airport
2013 Rare Plant Surveys
Sample Plot Numbering

1 inch = 700 feet

0 350 700 1,400 2,100 Feet