

Work Task F6: Post-Development Monitoring of MacNeill’s Sootywing at Conservation Areas

FY14 Estimates	FY14 Actual Obligations	Cumulative Expenditures Through FY14	FY15 Approved Estimate	FY16 Proposed Estimate	FY17 Proposed Estimate	FY18 Proposed Estimate
\$80,000	\$71,134.99	\$381,740.90	\$80,000	\$80,000	\$80,000	\$80,000

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Start Date: FY09

Expected Duration: FY55

Long-Term Goal: Post-development monitoring for MacNeill’s sootywing

Conservation Measures: MNSW2

Location: Habitat conservation areas, Reaches 3–5.

Purpose: To monitor vegetation, plant quality, and populations of MacNeill’s sootywing in habitat created for this species

Connections with Other Work Tasks (Past and Future): Habitat requirements were determined under Work Task C7.

Project Description: Habitat use and requirements of MacNeill’s sootywings will be monitored in conservation areas that have the appropriate land cover type available.

Previous Activities: Habitat created for MacNeill’s sootywing at the CVCA and PVER was surveyed for adult sootywing from FY09 to FY11. In FY09 and FY10, sootywings were most abundant at CVCA Phase 4W along the road edge, (> 200 adults counted) and at a separate patch in the same phase. Sootywings were rare (<5 adults per date) or absent at the other CVCA plots and at all of the PVER plots. In FY11, the large population of sootywings previously recorded in CVCA Phase 4W were not observed. In FY11, most observations were at PVER Phase 4 (< 5 adults per date). Sootywing populations at the remaining CVCA and PVER plots were low or absent.

Monitoring methods were modified in FY12 and FY13. One random transect was walked in each check monthly from April through August at CVCA Phases 2 and 3, CVCA Phase 4, CVCA Phase 5, and PVER Phases 4 and 5. Sootywings were generally absent throughout the season. Seven sootywings were counted at the CVCA, and 13 were counted at the PVER. In FY13, planted quail bush

habitat was surveyed for adult sootywings during June–September in plots at the CVCA and PVER. Vegetation was monitored to document characteristics of host and nectar plants, including species, plant height, and width. Six sootywings were counted at the CVCA during 2013, and 98 were observed at the PVER.

FY14 Accomplishments: Sootywings were monitored at PVER Phases 4 and 6, the CVCA, and Hart Mine Marsh. Each site was surveyed from May through August to determine presence by surveying five randomly selected quail bush within a patch. Four other sites off the conservation areas were also surveyed to validate the method. Sootywings were detected at all sites despite variable quail bush plant height and width. Adults and larvae were detected at all four conservation areas, and eggs were found at both PVER locations.

Habitat information was collected at plots within PVER Phases 4 and 6, the CVCA, and Hart Mine Marsh, and it included measures of quail bush (*Atriplex lentiformis*) (sootywing larval host plant), nectar plant metrics, information on soil moisture, and air temperature and relative humidity. Eggs or caterpillars were found on shrubs that ranged in width from 3–25 feet (0.9–7.6 m). Quail bush was recorded as a new nectar plant for sootywings.

Repeated surveys at the PVER 4 plot provided data on the time needed for detection. Data indicated that 1 hour of survey time (at the appropriate time of day) would be needed to detect adult sootywings in 90% of the sampled intervals. Examination of time of day and effort needed for detection suggested that there was a lull in adult activity that occurred late in the afternoon (c. 14:00–16:00). This break in activity seemed to correspond with peaks in air temperature.

FY15 Activities: Sootywing monitoring will continue in FY15 using the FY14 methods. All conservation areas will be surveyed for patches of quail bush and sootywings to document species presence and validate previously documented habitat characteristics such as vegetation dryness and patch size.

Proposed FY16 Activities: Sootywing monitoring will continue in FY16.

Pertinent Reports: Annual reports will be posted on the LCR MSCP Web site.