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

FY16 Estimate	FY16 Actual Obligations	Cumulative Expenditures Through FY16	FY17 Approved Estimate	FY18 Proposed Estimate	FY19 Proposed Estimate	FY20 Proposed Estimate
$80,000	$49,043.49	$502,356.79	$80,000	$40,000	$40,000	$40,000

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Start Date: FY09

Expected Duration: FY55

Long-Term Goal: Post-development monitoring for MacNeill's sootywing skippers (*Pholisora gracielae* = *Hesperopsis gracielae* [MacNeill]) (sootywings)

Conservation Measures: MNSW2

Location: Habitat conservation areas, Reaches 3–5

Purpose: To monitor vegetation, plant quality, and populations of sootywings in habitat created for this species

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

Project Description: To monitor the presence and habitat use of sootywings in conservation areas that have the appropriate land cover type available

Previous Activities: Habitat created for sootywings at the Cibola Valley Conservation Area (CVCA) and the Palo Verde Ecological Reserve (PVER) was surveyed for adults 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 other CVCA plots and at all of the PVER plots. In FY11, most observations were at PVER Phase 4 (< 5 adults per date), and none were observed in CVCA Phase 4W. 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 in FY12 from April through August at CVCA Phases 2 and 3, CVCA Phase 4, CVCA Phase 5, and PVER Phases 4 and 5. In FY13, planted quailbush (*Atriplex lentiformis*) (a sootywing larval host plant)

habitat was surveyed for adult sootywings during June – September in plots at the CVCA and PVER. Sootywings were detected at the CVCA (7 in FY12 and 6 in FY13) and the PVER (13 in FY12 and 98 in FY13). They were not detected consistently throughout the season. Vegetation was monitored in FY13 to document the characteristics of host and nectar plants, including species, plant height, and width.

Methods were refined further for surveys in FY14 and provided potential habitat measurements and estimated survey time lengths to be considered in future protocols. Sootywing presence surveys were conducted at PVER Phases 4 and 6, the CVCA, and Hart Mine Marsh, and sootywings were detected at all sites. Habitat measurements included those of quailbush, nectar plant metrics, information on soil moisture, air temperature, and relative humidity. Data indicated that 1 hour of survey time at the appropriate time of day could be used to detect adult sootywings in 90% of sampled intervals.

FY16 Accomplishments: Conservation areas were surveyed for sootywing presence in March, April, May, and July in Reaches 3–5 using the same methods as in FY14 and FY15. Surveys occurred at the Big Bend Conservation Area, the Beal Lake Conservation Area, the CVCA, the PVER (Phases 1, 4, and 6), Cibola National Wildlife Refuge Unit #1 Conservation Area, and Hart Mine Marsh. Sootywings were detected at the Beal Lake Conservation Area, the CVCA, the PVER (Phases 1, 4, and 6), the Cibola National Wildlife Refuge Unit #1 Conservation Area, and Hart Mine Marsh. Site visits were conducted at the Imperial Ponds Conservation Area, but surveys were not conducted because existing habitat was not found.

Obligations in FY16 were reduced due to more efficient survey methods in FY16. Surveys were conducted to determine sootywing presence at conservation areas instead of repeated visits to document presence throughout spring and summer. If they were found, the survey effort the next month was shifted to other areas where presence had not yet been confirmed that year.

FY17 Activities: Conservation areas where no sootywings have been detected in Reaches 3–5 (Big Bend Conservation Area, Parker Dam Camp, and Pretty Water Conservation Area) will be surveyed for presence of quailbush to identify if there is potential habitat. Presence surveys for sootywings will be conducted in March, April, June, and July in each of these conservation areas in potential habitat. If sootywings are detected before the July survey, surveys in the remaining months will not be conducted. In addition, LCR MSCP legacy data for sootywings will be migrated into the LCR MSCP database.

Proposed FY18 Activities: Conservation areas in Reaches 3–5 where no sootywings have been detected will be surveyed for presence of quailbush to locate potential habitat. Conservation areas where sootywings have been previously documented in Reaches 3–5 will be surveyed every other year to

monitor continued presence of sootywings. Presence surveys for sootywings will be conducted in potential habitat during March, April, May, and July. If sootywings are detected before the July survey, surveys in the remaining months will not be conducted.

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