

Agency/Organization: SWCA Environmental Consultants

Project Name: Parasitism Control and Evaluation

Project Number: 2019-SWCA-1935A

Reporting Period: July 1 through September 30, 2025

Project Contact Name and Information:

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QUESTION 1: What did you accomplish during this reporting period?

How did these accomplishments help you reach the goal of your project?

If relevant, what indicators or benchmarks were used to determine your progress?

From July 1 through September 30, SWCA concluded brown-headed cowbird (*Molothrus ater*) (cowbird) control at Mesquite West, conducted the last two rounds of southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher) surveys on the western portion of Mesquite West, and finished flycatcher territory and nest monitoring efforts at Mesquite West and Mormon Mesa Parcel 5-A. Preliminary findings for the 2025 field season were presented at the Multiple Species Habitat Conservation Plan Annual Progress Report Symposium on August 18. The final project data deliverable and final project report were prepared, and both were submitted to the DCP on September 30.

The goals of this project were to maintain and/or improve habitat for flycatcher and to help identify lands where habitat enhancement may be implemented to expand habitat for the flycatcher. A combined-method cowbird control program, first implemented in 2021, was continued through 2025 to meet the objective of conducting cowbird control at Mesquite West to decrease parasitism rates and increase flycatcher nest success. The combined-method cowbird control program continued the practices of cowbird egg addling or replacement, nestling removal, and adult female removal via target netting at Mesquite West. Protocol-level flycatcher surveys and intensive territory and nest monitoring were completed to fulfill the stated project objectives of conducting flycatcher surveys and monitoring at Mesquite West and Mormon Mesa. Flycatcher territory and nest monitoring at Mesquite West and Mormon Mesa included documenting nest successes and failures and parasitism by cowbirds, which are also project objectives.

Several metrics were used to determine project progress: number of female cowbirds removed via target netting as part of the combined-method cowbird control program, cowbird parasitism rates, flycatcher nest success, productivity (fledglings per nest that contained at least one flycatcher egg and had a known outcome), and fecundity (fledglings per female for which all nest outcomes were known). In 2025, a record number of female cowbirds (18) were removed via target netting, surpassing the previous record of 14 females removed in 2021. Parasitism was slightly higher in 2025 than in 2024; the parasitism rate in 2025 was within the range observed during previous years (2021–2024) in which combined-method cowbird control was

conducted. All flycatcher metrics were lower in 2025 than in 2024; nest success, productivity, and fecundity were all within the respective ranges observed for each metric during previous years (2021–2024) in which combined-method cowbird control was conducted.

Parasitism, flycatcher nest success, productivity, and fecundity across the five cowbird netting years (2021–2025) (netting period) were compared with data from the five years (2016–2020) (pre-netting period) immediately preceding the netting period. The parasitism rate was significantly lower during the netting period than during the pre-netting period. Flycatcher nest success, productivity, and fecundity were significantly higher during the netting period than during the pre-netting period. Data from the netting period were also compared across all pre-netting years (2003–2020) in which flycatcher monitoring at Mesquite West was conducted by SWCA or the Nevada Department of Wildlife. Parasitism was significantly lower during the netting period than during the 2003 through 2020 pre-netting period. Nest success and fecundity were significantly higher during the netting period than during the 2003 through 2020 pre-netting period. Though average flycatcher productivity was higher during the netting period than during the 2003 through 2020 pre-netting period, the difference was not significant.

Odds ratios were calculated as part of Fisher's exact tests comparing parasitism and flycatcher nest success during the cowbird netting period (2021–2025) to the 5-year period immediately preceding cowbird netting (2016–2020). The parasitism odds ratio indicated that a flycatcher nest was 5.4 times more likely to be parasitized during the pre-netting period than during the netting period. The flycatcher nest success odds ratio indicated that a flycatcher nest was 4.0 times more likely to be successful during the cowbird netting period than during the pre-netting period.

Cowbird control efforts in 2022 through 2025 coincided with parasitism rates ranging from 8% to 22%; this period marked the first time since SWCA began flycatcher monitoring at Mesquite West (in 2003) that the parasitism rate was below 25% for four consecutive years. The period from 2023 through 2025 marked the first time that the parasitism rate was below 15% for three consecutive years.

QUESTION 2: What, if any, problems were encountered? Briefly describe those problems and the manner in which they were dealt.

The only problem encountered for this project involved the standard access route from Overton to Mormon Mesa. On June 22, a recreational vehicle (RV) was stuck in the sand on the north side of the gravel pit when an SWCA biologist drove into Parcel 5-A early in the morning. The RV appeared to have been there for some time, as the biologist observed tire tracks from other vehicles that had previously driven around the RV. On the way out of the site later in the morning, the biologist observed an additional vehicle, a sedan, stuck in the sand just west of the RV. Due to the difficulty in safely traversing this section of road, SWCA utilized only Gold Butte Road for access to Mormon Mesa Parcel 5-A after June 22.

QUESTION 3: What, if any, proposed activities were not completed? Briefly describe those activities, the reasons they were not completed and your plans for carrying them out.

All proposed activities were completed as planned.

QUESTION 4: What is the calculated percent of work completed?

As of September 30, SWCA estimates that approximately 90% of work required for this project for 2025 has been completed.

**QUESTION 5: Do you foresee any upcoming problems with future project activities?
If so, how do you propose to overcome those problems?**

No, we do not foresee any upcoming problems with this project.

QUESTION 6: Is there anything else you want to tell the DCP about this project?

This project has been important in developing a combined-method cowbird control program that has proven successful in reducing cowbird parasitism and improving flycatcher nest success, productivity, and fecundity in a flycatcher site in southern Nevada where breeding has been documented for decades. This program should be implemented in other flycatcher nesting locations in the southwest to test its effectiveness in other locations, with the goal of improving flycatcher metrics throughout the subspecies range. Should flycatcher metrics continue to improve in southern Nevada, habitat enhancement and restoration will be important in ensuring suitable habitat for a possible increase in flycatcher population.

QUESTION 7: What was produced during the reporting period?

For this reporting period, SWCA produced data deliverables D26 and D28, which were submitted to the DCP on July 5 and August 5, respectively; a quarterly report (D27) covering the period from April 1 through June 30, which was submitted to the DCP on July 23; and the final project data deliverable (D30) and final project report (D31), which were both submitted to the DCP on September 30.