

Agency/Organization: Hardshell Labs, Inc.

Project Name: Subsidized Predator Management at the BCCE

Project Number: 2013-BOARMAN-1421B

Reporting Period: January – March 2024

Project Contact Name and Information: Jed Arnold, Desert Conservation Program

**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?**

Accomplishments and Progress Toward Reaching Goals:

1. Attended project Kickoff Meeting (met M02)
2. Attended and lead Demonstration Meeting for relevant Boulder City and Clark County staff (met M03)
3. Wrote and submitted project Study Plan and implementation schedule (met D01)
4. Wrote and submitted project Data Management Plan (met D02)
5. Conducted eight days of field work which included reconnaissance of site and establishment of 8 survey routes and 5 survey points (hence, met M04), conducted 10 full rounds of raven surveys, and searched for raven nests.

We counted an average of 41.0 (sd = 24.00, range = 13-96) ravens per round with the point count location that included the active face of the landfill having the most birds (mean = 17.8, sd = 11.55, range = 5-44). The sewage treatment plant had a mean of 5.0 (sd = 5.35, range = 0-16) ravens. We found a total of 20 raptor nests: 7 had ravens in them presumably incubating eggs, 2 had red-tailed hawks in them, again presumably incubating eggs, and the remaining 11 were inactive at the time. More could become active by the next search period.

6. Arrangements have been made with landfill and sewage treatment operators for installment of the lasers (partial attainment of D03).
7. ROAM Lasers, spraying Techno Tort PATS units, and static Techno Torts have been purchased and will be deployed during the next field visit (partial attainment of D03).
8. Entered, managed, and conducted cursory analyses of the data (partial attainment of D05).

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

1. We were unable to schedule with Los Angeles Department of Water and Power a date to perform egg oiling this year. There is a very narrow window during which we can oil eggs because raven incubation period began earlier than anticipated this year (likely due to higher than expected winter rainfall). We will be able to make arrangements much earlier next year now that we have a better idea of where the active nests are and when the birds laid their eggs this year. A contract amendment will be submitted to cover the lack of oiling this year.
2. Preparation of the ROAM™ Lasers was delayed this year in part due to the lateness of the contract award and in part due to unanticipated technical difficulties with the units that were produced. Everything is now on track for the lasers to be installed and operable by the end of April. The lasers will last several years, so we anticipate no problems in the future.

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.

1. See items 1 and 2 in the previous section.

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

1. As some work will continue throughout the year, we estimate we have completed approximately 9% of the project (2/23 project months)

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

1. At this point, we do not anticipate any future problems and discussed in Question 2, Items 1 and 2, why we do not anticipate future problems with the egg oiling and laser deployment.

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

1. None at this time.

QUESTION 7: What was produced during the reporting period?

1. Project Study Plan and Schedule (D01)
2. Project Data Management Plan (D02)
3. This Quarterly Report (D04)
4. The Data Deliverable for this quarter is being prepared and will be submitted very soon.