

Upper San Joaquin Watershed Herd Delineation and Migratory Behavior and Population Dynamic Telemetry Project Annual Progress Report June 2013

Project Status

This is the annual report for the first year of the project based on the State budgetary cycle. The first nine months of the cycle were spent resolving logistical issues such as gaining spending authority, capture approval and acquiring necessary equipment. Capture effort for the first year was limited to the month of April and the first capture was made on 3 April 2013. Further capture effort is expected to resume in the late summer on previously identified key areas in the upper watershed.

Completed Tasks

Deer concentrations were identified within the lower elevation portion of the study area where two migratory herds are expected to intermingle with the resident herd during winter.

Eight deer were captured and equipped with telemetry transmitters.

Deer were monitored through migration and located on the summer range. One deer died during migration and the collar was located and retrieved.

Chewing lice were collected from capture animals and submitted for identification.

Blood samples were collected and submitted for analysis.

A protocol was developed for describing key fawning locations identified through telemetry equipped animals.

Problems Encountered

Delays related to logistics, bureaucracy and the late delivery of GPS collars resulted in limited capture effort during the first year of the project. Once the collars arrived it was discovered that there were compatibility issues with the manufacturers programming software and the older operating system on the state's computers. Personal computers were eventually used to initialize collars; however three GPS collars were placed in the field with factory default settings. The most significant issue with the factory default setting on the GPS collar is the mortality switch setting which is shorter than optimal resulting in false mortality signals. Once a mortality signal is sent, GPS data must be examined closely for at least two days to determine if mortality has actually occurred prior to attempting to locate collars in the field.

Deviations from Approved Study Plan

Due to logistical problems described earlier, capture effort was begun much later than planned. Although capture effort was postponed several times, a decision was finally made to begin capture

effort and utilize VHF collars until GPS telemetry collars arrived. As a result VHF transmitters were applied to three deer.

The micro-hematocrit centrifuge was not available for loan from WIL during the capture period; as a result the Hematocrit test was not performed on whole blood samples. A requisite centrifuge has since been acquired for the project so the test can be performed on blood samples from future capture animals.

Budgetary Summary

Due to delayed spending authority and the limited capture period the project got off to a slow start in 2013. The budget summary below reflects estimated expenditures during the limited operating period. Estimates are given because the 2012/2013 Fiscal year was not complete as of this writing.

Operating Expenses	\$62,500
Seasonal Employee Wages	\$5,000

Critic of Methodology and Recommended Changes

All capture effort to date was attempted by free range darting. Free range darting has proved very successful in many locations; however other methods may need to be employed to make a complete sample of the project area. Issues making free range darting difficult at some locations include steep and or heavily vegetated terrain. Some portions of the study area may be more efficiently sampled with the use of Clover traps and Clover traps should be deployed in those areas during future capture periods.

Fawn to doe ratios below replacement have been observed during fall composition counts indicating either low pregnancy rates or low fawn survival on the summer range. Ultrasound equipment should be used to determine pregnancy rates in capture animals to determine if low pregnancy rates are a factor in low fawn to doe ratios.

Remote cameras should be set on the carcasses of project deer whenever possible to determine predation and scavenger interaction.

The annual report should be submitted by the end of July to allow time for more accurate budget reporting. A later report date will also allow more time to accurately assess migration status.