



Large Mammal Advisory Committee

San Luis National Wildlife Refuge Tule Elk Relocation

Proposed Start and Completion Date:

May 1, 2012 through May 30, 2013

Executive Summary

Tule elk at San Luis National Wildlife Refuge (SLNWR) in Merced County are located within a 760 acre fenced enclosure. Periodically elk need to be removed so the habitat is not degraded by an excessive number of animals. This project proposes to remove the excess elk and relocate them to other areas of the state in an effort to augment those existing populations. In addition to this the Department of Fish and Game (the Department) will examine the elk for the presence of exotic louse.

Statement of Need

The SLNWR herd has increased significantly since 2005, when 40 animals were moved from the enclosure. The herd currently is well above the desired maximum of 50 individuals. Capturing and translocating tule elk from SLNWR is proposed at this time to maintain habitat quality. Due to recent discovery of the exotic louse species in California, the Department will need to capture elk and examine them for the presence of lice prior to any relocation. The Department has used animals from the SLNWR herd both to re-establish tule elk herds and to supplement existing herds on several occasions since 1978.

Introduction

Department of Fish and Game (DFG) personnel have safely captured and relocated more than 1,300 tule elk (*Cervus elaphus nannodes*) since 1975. A variety of capture techniques have been used, including chemical immobilization of individual elk, hazing groups of elk into winged corral traps, baiting elk in small corral traps, and chemical/physical restraint of animals using a helicopter and dart/net-gun operation. The efficacy of a particular capture technique is determined by various factors such as safety, cost, desired age/sex structure of the capture group, and purpose of the capture (e.g., translocation, biological testing, or marking). The statewide tule elk population has increased from three herds totaling 500 elk in 1970, to 22 herds with approximately 3,900 elk today. Such an increase clearly demonstrates that the Department has effectively captured tule elk, and that the reintroduction program has been a tremendous success.

A secondary need for the capture of elk at SLNWR is examining individuals for the presence of *Bovicola tibialis*, an exotic louse, which naturally occurs on fallow deer. Since 2009, *B. tibialis* has been found on mule deer in Merced, Mariposa, Madera, and Tuolumne counties. There is currently no known treatment for wild populations. The Department has spent significant resources in documenting the infestation, monitoring the effects on the deer population, attempting to find a method to decrease the rate of spread, and determining if there is a method to treat wild populations. Currently it is unknown if tule elk are suitable hosts for *B. tibialis*; however, tule elk at Point Reyes

National Seashore are susceptible to the biting louse, *Damalinia*. This is the reason the Department wants to examine the SLNWR tule elk for the presence of lice.

Objectives

The objective is to remove excess tule elk from the enclosure in order to lower the number of elk below the carrying capacity and keep the habitat and the elk in excellent condition. At the same time that this is accomplished, the Department will augment existing tule elk herds with different genetic material. Existing elk herds which are isolated from other herds run the risk of losing genetic variation over time. Integrating new genetic material into these herds helps increase their overall health.

The Department is planning to capture up to 40 elk, check them for the presence of exotic louse, and transport them to existing herds in other parts of the state. Release sites are based on previous elk relocations, population levels, and isolation of existing herds. Using these criteria, the Department will move up to 20 elk to the San Antonio Valley Ranch Ecological Reserve (Santa Clara County), up to 20 elk will be taken to either the American Ranch Wildlife Area (San Luis Obispo County) or the Chimineas Ranch Wildlife Area (San Luis Obispo County). Depending on both the total number and timing of elk captured, some individuals may be transported to the The Wildlands Conservancy's Wind Wolves Preserve, a 97,000 acre nature preserve located within the southern San Joaquin Valley (Kern County).

Methods

Tule elk at SLNWR in Merced County are located within a 760 acre fenced enclosure. To maintain the habitat and elk body condition, the herd needs to be kept below the carrying capacity of 50 individuals. Removing excess elk is necessary at this time and capture methods will involve chemical immobilization in combination with baited corral traps and free-range darting. The Department will capture tule elk by darting with chemical immobilizing agents including Thiafentani, Carfentani, Etorphine, Telazol, Medetomidine or Xylazine in combination with other sedative drugs deemed appropriate by veterinary staff and with baited corral traps. Captured elk will be secured, examined and processed. Each processing team will have sufficient expertise to ensure that animal processing occurs safely and expeditiously. Processing teams will take biological samples (see below), examine for presence of louse species, and administer appropriate broad range antibiotics. Elk that will be removed from the SLNWR will be processed, ear tagged, and up to 20 will be outfitted with radio collars (either VHF or GPS) or VHF ear tags and then loaded into specially designed trailers for transport to the relocation site. Dr. Ben Gonzales, Wildlife Investigations Laboratory (WIL), is designated lead for veterinary issues. Co-leads for immobilization drug utilization and safety are Dr. Ben Gonzales and David Casady. The use of chemical immobilizing agents to capture tule elk will be in strict adherence to the "Department Policy on the Administration of Pharmaceuticals in Wildlife." This includes the training requirements for personnel handling and administering scheduled and prescription drugs, record keeping requirements, and safety considerations concerning chemical immobilization agents.

Data and biological sample collection will include body measurements and the collection

of various tissue samples. Body measurements collected will include; weight, chest girth, total length, and neck circumference. In addition, a body condition index score will be assigned to each captured animal. Biological samples collected will include: a tooth (if possible to estimate age of animal), blood, hair, external parasites, and ear tissue. The tooth collected will be an incisiform canine and will be extracted using a tooth elevator. Blood will be collected (50 – 60 cc) from the jugular vein and placed in red-topped (serum) and lavender-topped (whole blood) vials. Red-topped vials will be centrifuged and the serum harvested. Blood samples will be kept frozen and submitted with a datasheet to the WIL for analysis. Hair will be collected from each animal and placed in a whirlpak for possible selenium and copper level determination. One plug of ear tissue will be collected and dried in desiccant beads to be archived for genetic analysis. A sample of external parasites (ked flies, ticks, and lice) will be collected and placed in 70% isopropyl alcohol and submitted to the National Veterinary Services Laboratory for identification.

A precursor to capturing elk within the enclosure is to capture free ranging elk that reside within ten miles of the SLNWR (west of Interstate 5 near San Luis Reservoir) and examine them for the presence of exotic louse. Captured elk will be released on site from this location.

Deer and tule elk coexist at San Luis Reservoir in western Merced County. In 2010, 6 of 7 deer captured at San Luis Reservoir were found to be infected with *Bovicola tibialis*. To determine if tule elk are susceptible to infection with *Bovicola tibialis*, three to ten young of the year tule elk will be captured or collected from the known exotic louse infection areas during the peak of the louse cycle (February-April) and undergo a thorough ectoparasites examination. This should determine whether tule elk are susceptible to infection with *Bovicola tibialis*.

Due to the potential for movement of exotic lice during translocation and the impacts to ungulate populations, the following is proposed.

1. If tule elk are susceptible to infection with *Bovicola tibialis*, the San Luis Refuge herd will be examined and tested prior to translocation. Five young of the year elk will be captured and examined for louse presence during the peak of the louse cycle. If tule elk are not susceptible to infestation based on the examination on the San Luis Reservoir herd, then the translocated elk will be examined and receive precautionary treatment with an Ivermectin product for adult louse control, and antiparasitic ear tags.
2. If the San Luis Refuge herd is confirmed to be louse free, then all translocated elk will receive a standard treatment of an Ivermectin product (Cydectin Cattle Pour On) for adult louse control, and antiparasitic ear tags (Y·Tex® PYthon®) for control of re-infection.
3. If tule elk on San Luis Refuge are found to be infected with biting lice, then the San Luis Refuge herd will be quarantined until the louse species is identified, an effective louse control method is confirmed for tule elk, or a destination location is found where the exotic louse species is already established.

A complete capture plan has been prepared and is awaiting approval.

Elk that will be removed from the SLNWR will be processed, ear tagged, and up to 20 will be outfitted with radio collars (either VHF or GPS) or VHF ear tags to monitor survival and general movement from release sites. Released animals will be monitored by airplane within the first week and subsequently monitored at least twice during the first month by ground or air. Elk will be monitored by air once a month for three months following the first month. No monitoring is planned after the first four months but can be checked as personnel are available or prior monitoring efforts determine a need due to post release movement patterns or other unanticipated issues.

Products (and estimated dates of completion)

Results of all capture operations will be documented by the Department in a post-capture report. Information in these reports will contain: 1) dates of all capture attempts; 2) number, age, and sex of elk captured; 3) type and description of VHF transmitters and ear tags placed on elk; 4) condition of captured animals and any capture related injuries and/or mortalities; 5) GPS coordinates of release sites.

A final report will be prepared by June 30, 2013

Collaborators

- Joe Hobbs - Wildlife Branch
- Greg Gerstenberg - Central Region
- Conrad Jones - Bay Delta Region
- San Luis NWR - USFWS

Program Planning

- Meetings with personnel involved in any capture attempt will be held prior to capturing any animals. An approved capture plan detailing these activities has been prepared and is awaiting approval.

Personnel Requirements and Funding from CDFG

- Central Region personnel: 1 Permanent staff @ 5% time.
- Wildlife Branch personnel: 2 Permanent staff @ 5% time
1 Scientific Aide @ 10% time

Other Resources requested from CDFG

- Coordination between Regional Personnel and Elk Coordinator as needed.

Issues to be Resolved

- LMAC approval
- Elk Capture plan approval

Expected Products

- Capture attempt reports - Report will be completed after attempts
- Final Summary Report - June 30, 2013

Budget Detail

\$20,000 BGMAC

Capture equipment, supplies, fuel, trailer rental, tracking collars (\$10,000).

Personnel (\$10,000)

References