Proposal Format: Large Mammal Advisory Committee

The primary intent of the prospectus is to demonstrate in a brief document (less than five pages) that a thoughtful approach to resource inventory, monitoring, or investigation has, or is being developed consistent with Department standards and priorities.

Project Title- Determining the Status of Bighorn Sheep near Truckee, California

Proposed Start and Completion Date: July 1 2012 - July 1 2014

Executive Summary: Return of bighorn sheep to Truckee, California would be a benefit to the ecosystem and the public. It is necessary to determine if existing habitat and management conditions are adequate to successfully translocate and maintain an interstate population of bighorn sheep. Ground and air recon, habitat mapping, literature review and partnership meetings/agreements are required to assess the potential. This proposal would evaluate and establish such conditions, and recommend a plan for moving forward. It is anticipated that this area will be found suitable for bighorn sheep.

Statement of Need

- Although reintroduction of desert bighorn sheep has been successful in other parts of the state and in Nevada, the potential for success has not been evaluated for this section of the northern Sierra. Talk of reintroduction has occurred several times in the last twenty years but a feasibility study was never completed and is necessary to determine if it would be successful. A return of bighorn to this historical and largely intact range would benefit the ecosystem and public enjoyment of a special resource.
- Unlike the Sierra Nevada subspecies, desert bighorn sheep have no special status or recovery plans. Limited bighorn sheep hunting occurs in the southeast portion of the state where natural populations and reintroductions have been successful. It is unknown if this translocation would result in a population that could sustain limited hunting but if so, would create a great California hunter opportunity. California has seen reintroduction success for populations such as wild turkeys, and now Pacific fisher. The return of extirpated species to historical range meets the mission of the Department.

Introduction

- Historic records indicate that bighorn sheep were once plentiful in the Truckee River Canyon and surrounding areas. Nevada has a successful statewide program to return bighorn to extirpated areas under a Commission Statute, and in late 2011 released sheep in the Virginia Range, just east of Reno. The available public land and habitat quality in this project area is such that domestic sheepherders have recently considered the canyon for grazing allotments. Return of a once native species would be a better ecological use of the land and provide viewing and enjoyment opportunity for the public with potential to benefit hunters in the future. CDFG implements the recovery plan for Sierra Nevada bighorn sheep (*O. c. sierrae*) and has been recovering desert bighorn in the Peninsular Ranges. Management of desert bighorn populations allows for hunting where sustainable. (Provide brief background information - past and current work that has been conducted on this topic to bring the issue up-to-date

- CDFG has not yet attempted or formally considered a reintroduction of bighorn sheep outside of existing populations. This location seems feasible but requires the evaluation outlined in this proposal. If successful, this project could serve as a template for future work and promote the return of bighorn to other previously occupied areas.
- This project would determine if bighorn sheep could survive and reproduce in the Truckee River Canyon and pave the way for a capture/collar and translocation phase. Site evaluation via flights, mapping, ground truthing and literature search as well as meetings and agreements with partner agencies are required to make the determination. This feasibility study and potential future management of translocated animals would not affect regulations at this time. If approved, the next phase would require collaring and monitoring for several years before a population analysis could be done to determine whether hunting could be sustained.
- Nevada Revised Statue 501.181; Board of Wildlife Commissioners Policies 21 & 22; Nevada Department of Wildlife–Bighorn Sheep Management Plan (2001); Bighorn Sheep Reintroduction Plan–Hays Canyon, Mike Dobel, NDOW (1985); NDOW & TRI Cooperative Agreement.
- U.S. Fish and Wildlife Service. 2007. Recovery Plan for the Sierra Nevada Bighorn Sheep. Sacramento, California. xiv + 199 pages.

Objectives

- The project objective is to determine that it's feasible to translocate desert bighorn sheep (*Ovis Canadensis nelsonii*) to the Truckee River Canyon of Nevada County. Ground and aerial surveys, vegetation and habitat mapping (water, food and shelter), predator and other threat identification, historical information, current translocation practices in Nevada, connectivity analysis, and carrying capacity estimation will be used to evaluate feasibility. A clear zone will be established via MOU to prevent future interaction with domestic sheep. A translocation plan would be included if no significant barriers to reintroduction were found.
- Write a translocation plan if feasibility is likely; get partner sign-off and funding.
- The final objective would be to capture bighorn and release them on winter range following the completion of this study. If successful, a viewing platform along Interstate 80 would be constructed for the public to see bighorn sheep.
- I hypothesize that an introductory, translocated herd of around 35 bighorn sheep will meet their daily and seasonal requirements, and can survive and reproduce in the Truckee River Canyon.

Methods

- The project evaluation area is a 9-mile stretch of the Truckee River Canyon along Interstate 80 from the town of Hirschdale, Nevada County to the stateline of Nevada. Land ownership is primarily US Forest Service, and CDFG with some small private sections. Focus will be on the north facing slope from Mount Rose in the Carson Range to Highway 80 near Floriston, along Gray and Bronco Creek and on the north side of 80 along the southern end of the Verdi Range between Verdi and Granite Peaks. The area represents over 42,000 acres (65 sq mi) in a polygon approximately 12 miles long and 8 miles wide.
- Sampling will include air and ground recon, and mapping to locate water sources, predator escape cover, natural habitat, lambing areas, summer and winter grounds, and forage. Experts and partners will be involved in determining how much habitat is available and how many animals the area could support. We will evaluate historical range maps and distances to domestic livestock as well as

other bighorn populations. We will identify food, water and cover sources and deficiencies as well as attempt to plan for or rectify those deficiencies.

- Equipment to determine feasibility will consist of contracted helicopter flights, trail and digital cameras, and a GPS. Most of the equipment is already available through the North Central Region. A helicopter will need to be contracted with these funds along with a Scientific Aide.
- This study will begin when funding is available and is anticipated in the summer of 2012. The first year will consist of gathering historical information, recon flights, mapping, photo stations, meeting with constituents, describing available habitat and identifying deficiencies in habitat. In the following months any required MOUs with other agencies will be completed, deficiencies addressed, environmental documents prepared, a translocation plan developed and reports completed.
- Data for the feasibility portion will consist of photographs, waypoints/polygons, and habitat maps. A database may not be required for this project but could be developed in anticipation of data collected once collared bighorn are reintroduced. Data management will be done primarily in-house between myself and a Scientific Aide.

Products (and estimated dates of completion)

- An annual summary (or progress) report, including preliminary evaluation of project towards meeting initial objectives and with feedback to management (adaptive management design/context) would be provided at the end of each year of the project. July 1 2013 and July1 2014.
- A final project report, addressing each of the stated goals, will be prepared and provided to the Resource Assessment Program and to the CDFG regional offices by August 30 2014. This may include or will be followed by a Translocation Plan.
- Data to be archived and available at Wildlife and Habitat Data Analysis Branch would include maps, reports on habitat findings, waypoints indicating water, good forage, lambing areas etc., GIS shapefiles and photographs.
- For this stage of the project scientific publication is not anticipated but may occur in the future if bighorn are translocated.

Collaborators

- Sara Holm, CDFG, Wildlife Biologist, 530 346 6305, sholm@dfg.ca.gov
  Regina Abella, CDFG, Bighorn Sheep Coordinator, 916 445 3728, rabella@dfg.ca.gov
- Outside contract scientists are not anticipated beyond NDOW and the USFS. A Scientific Aide may be hired through this funding to manage data.
- Nevada Department of Wildlife- biologists at NDOW have recently completed bighorn translocation to two areas of nearby Washoe County. Collaboration would include joint work on feasibility, mapping and development of a translocation plan as well as potential capture assistance and providing stock.
  Mike Cox, Big Game Staff Biologist, 775 688 1556, mcox@ndow.org
  Carl Lackey, Wildlife Biologist, 775 720 6130, carllackey@charter.net
- United States Forest Service

Program Planning

- An annual meeting revisiting project progress and direction will occur if feasibility is likely and translocation needs to be discussed. Such a meeting would follow a translocation and capture plan, and would include the NCR wildlife program, bighorn sheep coordinator, Wildlife Investigations Lab, and NDOW collaborators.

Collaborators will likely be meeting, as required, throughout the project timeframe.

Other Resources requested from CDFG

- Data-historical records such as last known occupation of bighorn in California, management considerations, biology and movement trends, and existing papers will be requested from CDFG
- Archived Specimens-none requested
- Other-no other resources are needed

Issues to be Resolved

Example:

- Funding commitments outside of CDFG-Nevada Bighorns Unlimited has already been approached and has expressed interest. They may be able to help fund actual capture and translocation once the feasibility is determined. NDOW will be considered a funding partner with in-kind time donation as this would be an interstate herd. For this stage of the project the LMAC funding should be sufficient to evaluate feasibility.
- Informal agency meetings with NDOW and the USFS will occur during the duration of this project; public scoping meetings may be required under environmental clearance but aside from domestic sheep interests, public support is expected.

Required Products

- Annual Progress Reports- July 1 2013 and July 1 2014
- Final Report- August 1 2014
- Publications- Not expected for the feasibility study.
- Data delivery date- Data will be part of the annual and final report, or provided upon request as collected.

Personnel Requirements and commitments from CDFG

Example: # of Regional staff and % time, WIL staff for capture needs

- Sara Holm will be the primary staff from NCR, Reginal Abella, Steve Torres or Ben Gonzales, and NCR supervisory staff may be called in to participate in recon flights and or constituent meetings.
- Additional training is not required for the feasibility study. Participating staff has already been certified for capture and has completed all required helicopter safety training.
- CDFG funding sources- NCR will support the project lead time, LMAC will be used for project lead travel, contracting helicopter services, equipment purchases above what is available from NCR or Headquarters, a Scientific Aide and other components of the feasibility.

Budget Detail - per year budget detail by activity/task and broken down by:

- Project Lead time will not be paid with these funds aside from travel
- Collaborators from other agencies will not be paid
- Operating costs for this phase may include travel or some equipment but no animals are involved. Capture, collars, sampling and other costs would be requested in the next phase.
- Funding from partners are not anticipated for this phase. If translocation occurs partners will likely help with capture, collars, viewing platforms etc.

- This project is not part of a prior multiple phased effort. The second phase will include capture/collaring, translocation and monitoring of a sheep population.

Expenses	Hours	Cost/Hr	Cost/Yr	One time Cost
Scientific Aide				
Helicopter Contract				
Travel				
Equipment				

References