

The *Odocoileus* Report

-A Quarterly Report of Ungulate Research Activities in Eastern Washington-

Conducted by the Washington Department of Fish and Wildlife

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COOPERATIVE MULE DEER PROJECT UP-DATE

The list cooperators has grown considerably since the project started in late winter of this year. Currently, the following agencies and groups have signed on as cooperators: **WDFW** (Sci Div, Regions 1, 2, 3, Game Div), **Chelan County PUD**, **Colville Confederated Tribes**, **Colville National Forest**, **Okanogan National Forest**, **Inland Northwest Wildlife Council**, **Inland Empire Chapter of Safari Club International**, **Wenatchee National Forest**, **Northern Okanogan Sports Council**, and **the Mule Deer Foundation**. The Inland Empire Chapter of Safari Club International is expected to join the project as cooperators in the near future. In addition, we have **Graduate Students** from **University of Idaho** (Corey Kallstrom studying under Dr. Oz Garton) and **University of Washington** (Ann Gibson studying under Dr. Ken Raedeke).

Thirty-eight (38) deer were captured earlier this spring; **34** adult females (**20** in Chelan County) were fitted radio-collars. There were two capture related deaths and two others were males.

Since the initial capture, relocation flights have been flown on a regular (usually weekly) basis. **Four mortality signals have been received from the Colville Reservation and three (the most recent mortality signal was received Friday, September 15th) from Chelan County.** Two of the four radios from the Colville Reservation have been recovered, but cause of death could not be determined because the carcass had been severely scavenged. One death in Chelan County appeared to be predation (mountain lion) related while the other death was probably related to initial capture; the most recent death may have been related to predation but not enough evidence remained at the scene to officially determine a cause of death. Observed survival rates for adult female mule deer between March and mid-September were 0.77 on the Colville Reservation and 0.85 on the Chelan County study area.

The radio-marked deer on the Colville Reservation have remained near the areas where they were originally captured, suggesting these deer are non-migratory. Conversely, deer marked on the Chelan County study area have shown strong migratory patterns; they began leaving the winter ranges in late April and early May. **Movements of nearly 40 air miles or more have been observed as these deer moved from winter to summer ranges.** Some of the observed movement patterns were not expected and have added to the knowledge of mule deer ecology in Chelan County.

Early September observations have shown some deer which spent the summer in high elevation, alpine basins have started to move toward lower elevations.

Results (no of positive samples) of serology tests of blood samples collected at capture by study area are:

	Colville Reservation	Chelan County
<i>Leptospira bratislava</i>	All negative	2 of 20 positive
Bovine Resp Syncytial Virus	13 of 13 positive	13 of 20 positive
Infect. Bovine Rhino	8 of 13 positive	10 of 20 positive
Bovine Viral Diarrhea	2 of 13 positive	17 of 20 positive
Parainfluenza	6 of 13 positive	13 of 20 positive
Bluetongue	2 of 13 positive	0 of 20 positive
EHD	5 of 13 positive	0 of 20 positive

The titer levels in the positive samples were low and probably suggest exposure as opposed to disease infection; the first 5 diseases probably reflect the presence and exposure from cattle while the sample reactors for bluetongue and EHD could be from cattle or white-tailed deer.

Results of parasitology analysis (no of samples with organism present) of fecal samples collected at capture by study area are:

	Colville Reservation	Chelan County
Coccidia	2 of 13 Samples	0 of 17 Samples
Capillaria	1 of 13 Samples	0 of 17 Samples
Nematodirus	0 of 13 Samples	1 of 17 Samples
Moniezia	0 of 13 Samples	1 of 17 Samples
Paralephostrongylus	2 of 14 Samples	17 of 22 Samples

Additional time has been spent collecting data layers, including vegetation coverage, for the Geographic Information System (GIS) of the complete study area. Various meetings have been conducted with WDFW personnel, university staff, individual cooperators, potential cooperators, and other interested parties.

Field personnel from Chelan County PUD, the Colville, Okanogan, and Wenatchee National Forests, and WDFW have been recording deer observations by age and sex. These data will be used in estimating fawn survival through late summer-early fall. We have also begun gathering clipped samples of vegetation for measuring forage quality available to deer seasonally; clipped samples will be dried and protein and digestible energy levels measured. Fecal samples are also being collected to assess seasonal changes in forage preferences.

Addition funding opportunities have been pursued along with efforts to expand portions of the study to include predator-prey investigations and feeding trial experiments through Washington State University.

Up-coming Activities

Sampling of vegetation will continue on a monthly basis as will fecal collections. Review and evaluation of existing LANDSAT generated GIS veg maps having coverage of the complete study will begin later this fall.

Deer capture efforts will be expanded this coming winter season. We have well over 100 radios to be placed upon mule deer; we plan to begin as early as December, if possible, and should be completed by early March.

If you are interested in participating in deer capture operations or reviewing the complete project proposal, please contact Woody Myers at 509-456-4082 or Myerswlm@dfw.wa.gov.