IDAHO DEPARTMENT OF FISH AND GAME

Virgil Moore, Director

Project W-179-R-10

Progress Report

WILDLIFE HEALTH LABORATORY

Study I, Job 1

July 1, 2011 to June 30, 2012

Prepared by:

Mark Drew, D.V.M.
Constance Hay
Tricia Hosch-Hebdon, M.S.

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Boise, Idaho

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FEDERAL AID IN WILDLIFE RESTORATION
ANNUAL PROJECT PERFORMANCE REPORT

1. State: Idaho

Grant number: W-179-R

Segment number: 10

Grant name: Wildlife Health Laboratory

2. Report Period: July 1, 2011 to June 30, 2012

Report due date: September 28, 2012

3. Location of work: Statewide
All work was accomplished in all counties.

4. Costs: Expenditures will be provided in a separate SF425.

5. Objectives:

a. Provide laboratory services and support for the wildlife management and research activities of the Bureau of Wildlife.

b. Continually update procedures and techniques for data collection, determination, dissemination, and storage.

c. Provide other lab services upon request and as priorities dictate.

6. If the work in this grant was part of a larger undertaking with other components and funding, present a brief overview of the larger activity and the role of this project.

a. Provide veterinary services for statewide wildlife programs and the Wildlife Health Laboratory (WHL).

b. Coordinate and facilitate wildlife disease investigations at the Idaho Department of Fish and Game (Department) Wildlife Health Laboratory with the University of Idaho Caine Veterinary Teaching Center and cooperating state and federal agencies.

c. Lab personnel will aid in development of collecting procedures, take an active part in the actual collection of samples to analyze disease and health-related data, and provide training in sample collection techniques.

d. Offer services for carrying out genetic analysis to assist in managing wildlife populations.

e. Conduct investigations on diseases of concern for Idaho's wildlife, especially as the diseases impact or are impacted by livestock.

f. Wildlife health data collection will be completed and maintained as it relates to wildlife disease and management of populations.

g. Necropsies will be performed on various specimens as the need arises.

h. Teeth received by the lab will be processed and age data will be reported to regional managers and biologists (black bear, bobcat, river otter, deer, elk, moose, and antelope).

i. Provide training for Department personnel on immobilization and restraint-required techniques, and supply immobilization drugs.

j. Determination of the incidence of exposure of transplanted game birds to *Salmonella* and *Mycoplasma sp* will be completed using the appropriate diagnostic assays.

k. Technical assistance will be provided to cooperating agencies, the public, and institutions.

l. Data storage and reporting procedures will be revised so that computer entry and analysis will become the primary method of handling age data.

m. Collections of literature and reference materials will be maintained.

n. Laboratory procedures manual will be updated and maintained.

o. Various skulls and skeletal preparations for species identification, aging, and Department collections will be processed.

7. Describe how the objectives were met.

Wildlife Health Laboratory services include: analyses of biological samples, clinical diagnosis of wildlife diseases, biological sample collection, packaging and shipping training, and wildlife immobilization training. Disease research and long term disease monitoring provide information about the impact of disease and wildlife health components on wild populations; which is essential for Wildlife management and the determination of harvest objectives.

The Wildlife Health Laboratory works with other state, federal, and private organizations on wildlife health issues. Strong affiliations are in place with the Idaho State Department of Agriculture, the University of Idaho, Washington State University, Boise State University, and the USGS National Wildlife Health Center. The Wildlife Health Laboratory works cooperatively with the National and Idaho Chapter of the Wild Sheep Foundation.

The Wildlife veterinarian represents the Department on the Wildlife Health Committee of the Western Association of Fish and Wildlife Agencies and at the U. S. Animal Health Association through membership on the Captive Wildlife and Alternative Livestock, Brucellosis, Tuberculosis and Wildlife Disease Committees. The Wildlife veterinarian also participated in the USDA-APHIS Plum Island Animal Disease Center course for Foreign Animal Disease Diagnostics.

Annual statewide training offered by the Wildlife Health Laboratory provides procedural and technique updates and refreshers for biological sample collection related to CWD, Brucellosis, biological sample packaging and shipping, wildlife immobilization, and wildlife genetic/forensic specimen collections (Table 1). WHL personnel were responsible for instructing over 100 biologists and conservation officers during 2011-2012 in proper packaging and shipping protocols, wildlife capture techniques using chemical immobilization, and certification for use of controlled substances.

Table 1. Training Provided by WHL

Name of session	Type	Number Held	Estimated Attendance	People Attending
Wildlife Chemical Restraint Classes	Training	5	75	IDFG, USDA-APHIS, FWS Personnel
Wolf Chemical Restraint Class.	Training	1	12	IDFG Officers
Evidence Collection and Packaging for Wildlife Human Attack Response Teams, Missoula MT	Training	2	72	IDFG Staff (biologists, Regional Conservation Educators, Senior Conservation Officers) and natural resources staff from other State and Canadian Provinces.
Idaho Wildlife Brucellosis Plan Coordination Meeting	Coordination	1	18	State and Federal Veterinarians, USDA and ISDA, WL biologists,
Wildlife Management and CSI Wildlife Youth Conservation Education Expo; sponsored by the Wild Sheep Foundation	Training	6	300	School Children (5-18)
IDFG Biologists CWD Training	Training	4	12	IDFG Biologists.
Veterinary Student Externships	Training	2	2	Veterinary Students

During the 2011-2012 project year WHL personnel processed 2,373 biological samples collected from different species of wildlife throughout the state for disease, health and forensic purposes (Table 2).

All biological samples were digitally entered and archived along with results in electronic databases for dissemination and reporting on wildlife health. The databases receive continuous data quality audits to ensure data accuracy and continuity.

Table 2. Biological Samples Processed.

CWD samples harvest surveillance	1,051
Brucellosis harvest surveillance	295
Live animal surveillance	281
DNA samples	517
Necropsy/Tissue samples	229
Total biological samples FY12	2,373

Necropsies were performed on 173 animals to determine cause of death and collect biological data in support of wildlife management and research assessments (Table 3). Three to 5 biological samples were collected from some cases at necropsy for disease diagnostics. An additional 56 tissue, blood, and swab samples were submitted to WHL for analysis and diagnostics.

Table 3. Necropsy Species

Bat	5
Bighorn Sheep	11
Birds	3
Coyote	3
Deer	107
Domestic Sheep	5
Eagle	1
Elk	18
Environmental	4
Frog	1
Ibis	1
Moose	11
Mountain Lion	6
Mouse	1
Osprey	2
Owl	2
Pheasant	1
Quail	1
Raccoon	1
Sage-grouse	2
Skunk	1
Squirrel	4
Waterfowl	20
Wolf	18
Total	173

Brucellosis and Chronic Wasting Disease (CWD) Surveillance continued throughout the state. A total 1,157 CWD samples were collected, primarily from hunter check stations, and 106 from focused disease surveillance (Table 4). No positive CWD samples were

found. Brucellosis surveillance efforts were focused on hunter harvest and active disease surveillance. A total of 2,250 hunter sample kits were sent out and 295 (13%) samples returned. An additional 524 samples were submitted from active disease surveillance. One elk was found to be seropositive (suspect category) in eastern Idaho.

Table 4. Species Tested for CWD/Brucellosis

	CWD	Brucellosis
Bighorn Sheep	0	28
Coyote	0	1
Elk	181	628
Moose	30	20
Mountain Goat	0	3
Mule Deer	728	139
White-tailed Deer	218	0
Total	1,157	819

The WHL cooperated on statewide research projects in mule deer ecology, predator-ungulate ecology, wolverine disturbance, black bear population assessment, and bighorn sheep survival (Table 5). The animals were captured using a variety of methods including leg snares, live traps, net gunning, darting, and drive net operations. Animals were radio-collared, ear tagged, measured, evaluated for health status, and sampled depending on the capture protocols. Samples were collected from 281 animals.

Table 5. Accession Log

Black Bear	21
Bighorn Sheep	59
Mule Deer	85
Golden Eagle	3
Rocky Mountain Elk	39
Moose	23
Mountain Goat	3
Sage-grouse	8
Salamander	15
Wolf	25
Total	281

WHL personnel collaborated with private research foundations and BSU to continue investigation of West Nile Virus in raptors in SW Idaho. .

The WHL conducted wildlife health related field investigations for exotic deer louse, *Bovicola tibialis*, The primary goal of this management effort was to reduce the spread of this exotic louse species to deer adjacent to the town of Riggins, Idaho, by removing a significant proportion of the deer residing in Riggins (n=69). Once the deer population was reduced to about less than 20 animals, a treatment program aimed at reducing the lice population on those deer was conducted. This treatment regime will be evaluated during the winter of 2013.

The WHL collaborated with Washington State University and University of Saskatchewan to evaluate the genotypic strains of *Echinococcus* species found in Idaho.

In addition, the WHL also collaborated with Washington State University and the University of Idaho, Canine Veterinary Center to further current studies on *Mycoplasma* sp.in bighorn sheep.

8. Discuss differences between work anticipated in grant proposal and grant agreement and that actually carried out with Federal Aid grant funds.

None.

9. List any publications or in-house reports resulting from this work.

Drew, Mark L. 2012. Idaho Chronic Wasting Disease Surveillance Plan Update.

Drew, Mark L. 2012. IDFG Wildlife Restraint Manual.

Drew, Mark L. 2012. Riggins Deer Removal.

Drew, Mark L., K. Rudolph, G. C. Weiser, and A. C. S. Ward. Long term monitoring of BHS in contact with domestic livestock. Submitted.

Drew, Mark L., and G. C. Weiser. Disease survey of domestic goats and their potential relationship to disease in BHS. In preparation.

Hebdon, Tricia L., 2012, Wildlife Human Attack Response Training Critical Needs Survey. Idaho Department of Fish & Game, Boise.

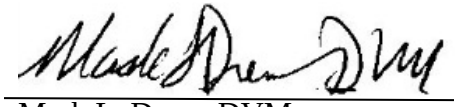
Hebdon, Tricia L. and Jon Heggen, 2011, WAFWA Wildlife Forensic Laboratory Inventory Survey, Idaho Department of Fish & Game Boise.

Miller, D. S., G. C. Weiser, A. C. S. Ward, Mark L. Drew, and P. L. Chapman. 2011. Domestic sheep (*Ovis aries*) Pasteurellaceae isolates from diagnostic submissions to the Caine Veterinary Teaching Center (1990–2004). Veterinary Microbiology 150: 284–288.

Miller, David S., Glen C. Weiser, Alton C. S. Ward, Mark L. Drew, and Phillip L. Chapman, 2012. Pasteurellaceae isolated from bighorn sheep *(Ovis canadensis)* from Idaho, Oregon, and Wyoming. American Journal of Veterinary Research 73: 1024–1028.

Wade, W. Edwards, S. Dauwalter, C. Almendra, M. Kardos, J. Lowell, R. Wallen, S. Cain, W. Holben, and G. Luikart. 2012. Yersinia enterocolitica: An unlikely source of positive Brucellosis test in Greater Yellowstone Ecosystem Bison (Bison Bison). Journal of Wildlife Diseases 48: 537-541.

Name, title, phone number, and e-mail address of person compiling this report:



Mark L. Drew, DVM
Wildlife Health Lab
208-454-7646
Mark.drew@idfg.idaho.gov

Submitted by:

Bradley B. Compton
Federal Aid Coordinator

Approved by:

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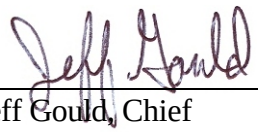

Jeff Gould, Chief
Bureau of Wildlife