

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. CERTIFICATE NUMBER: 96-F-0001  
CUSTOMER NUMBER: 1215

FORM APPROVED  
OMB NO. 0579-0036

**ANNUAL REPORT OF RESEARCH FACILITY**  
( TYPE OR PRINT )

U. S. Fish & Wildlife Service  
1011 East Tudor Road  
Anchorage, AK 99503

Telephone: (907) -786-3489

**COPY**

3. REPORTING FACILITY ( List all locations where animals were housed or used in actual research, testing, or experimentation, or held for these purposes. Attach additional sheets if necessary )

FACILITY LOCATIONS ( Sites ) - See Attached Listing

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY ( Attach additional sheets if necessary or use APHIS Form 7023A )

A.  Animals Covered By The Animal Welfare Regulations	B. Number of animal being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not ye used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals an for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for wh the use of appropriate anesthetic, analgesic, or tranquiliz drugs would have adversely affected the procedures, res or interpretation of the teaching, research, experiments, surgery, or tests. ( An explanation of the procedures producing pain or distress in these animals and the reasc such drugs were not used must be attached to this report	F.  TOTAL NUMBER OF ANIMALS  ( COLUMNS C + D + E )
4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters					
8. Rabbits					
9. Non-human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
13. Other Animals					

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual rese teaching, testing, surgery, or experimentation were followed by this research facility.
- 2) Each principal investigator has considered alternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and app Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary in brief explanation of the exceptions, as well as the species and number of animals affected.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL  
( Chief Executive Officer or Legally Responsible Institutional Official )

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL

NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL ( Type or Print )

DATE SIGNED



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**Table E. Explanation**

Small Mammals

Species	E	Mortality	Total
Redbacked Vole	102	81	102
Voies - other	7	0	7
Shrews	20	20	20
Lemmings - unknown	2	2	2
Brown Lemming	12	2	12
Collared Lemming	1	0	1
Totals	144	105	144

The Arctic refuge trapped and marked small mammals in conjunction with bird studies on the Canning River. Refuge biologists used Sherman live traps to capture brown and collared lemmings, which were marked by clipping fur. Average time between trap checks was 7.1 hours. Two brown lemmings died during this study. The remainder were released. The Tetlin refuge conducted a small mammal survey during summer 2004, and collected a total of 113 individuals with Sherman "Museum Special" snap traps and cone traps. Death is instantaneous with snap traps, usually due to broken backs. Shrews are generally captured in the cone traps, and due to high metabolism usually succumb within several hours. The collection of specimens ensures correct identification through analysis of teeth which is not possible using live animals. Collections are sent to the University of Alaska-Fairbanks Museum for identification, archival storage and the collections of samples for other studies such as parasites, reproductive condition and diseases. The Koyukuk and Tetlin refuges conducted an educational demonstration of small mammal mark and re-capture methods. Twenty-eight individuals were trapped in Sherman live traps and marked with a permanent ink pen before release. The entire demonstration lasted about two hours.

Animals captured in live and pitfall traps may incur stress from capture, exposure or starvation. Sherman live traps were supplied with insulation and food. Trap checking interval averaged 7.1 to 12 hours.

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Table E. Explanation

Large Mammals

Species	E	Mortality	Total
Caribou	4636	0	4636
Dall's Sheep	3	0	3
Moose	35	0	35
Brown Bear	20	0	20
Totals	4694	0	4694

Aerial surveys for caribou (*Rangifer tarandus*) were conducted on the Togiak Refuge, and on Adak Island of the Alaska Maritime Refuge. These surveys are flown at approximately 500' above ground level with small single-engine planes. Some animals are disturbed and run a short distance from the aircraft noise. Pilots and biologists attempt to keep the disturbance to a minimum by using small aircraft such as Supercubs or Huskies and flying slowly during the survey portion of a flight. The engines (usually 150hp) are throttled back to approximately 23/4 of cruise RPM during slow flight used for surveys. Alternatives such as helicopter or foot surveys are too disruptive, expensive, or impractical for wide-ranging herds of caribou.

The Yukon Flats refuge collared three Dall's sheep (*Ovis dalli*) after capture by netgunning from a helicopter and administration of xylazine as a calming agent. After being fitted with radiocollars, the drug tolazine was administered as the antagonist and the animals were released. During capture, the sheep were blindfolded and hobbled to decrease stress and possibility of injury. Total time under stress from chasing, capture and collaring averaged 30 minutes for each animal. Collared animals are monitored for a number of metrics, including seasonal movements, range fidelity and home ranges and sensitive habitats. These data can not be feasibly collected in any other manner.

Moose (*Alces alces*) were captured for radiocollaring on the Yukon Delta and Kenai refuges. Moose are located with a helicopter, and immobilized with age-appropriate doses of carfentanil citrate and xylazine hydrochloride, administered intramuscularly via darts from a CO<sub>2</sub> powered pistol. Respiration and temperature are monitored while the animal is immobilized for processing and collaring. When processing is completed, age-appropriate doses of the antagonist drug naltrexone to counter the carfentanil, and tolazoline to increase respiration and counter the effects of xylazine. Moose are monitored after the administration of antagonist drugs until they are able to stand and their behavior appears normal again. Total time under stress averages 30 minutes for each individual; approximately five minutes for chase and darting, 20 minutes for processing and five minutes for drug recovery. As with Dall's sheep, data collected from collared moose can not be feasibly collected in another manner at this time.

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Brown bears (*Ursus horribilis*) are also surveyed using low-flying small aircraft. Flights are generally 500' AGL to allow the biologist to evaluate age and number of cubs. Approximately 15 percent of the surveyed bears in the Izembek refuge were disturbed enough to flee the aircraft noise, often into another habitat type. As with caribou, small aircraft are the least disruptive and only feasible survey platform for collecting data to estimate population size, age cohorts and productivity.

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IN REPLY REFER TO:

# United States Department of the Interior

FISH AND WILDLIFE SERVICE

1011 E. Tudor Rd.

Anchorage, Alaska 99503-6199

NWRS706-067

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NOV 28 2005

Dr. Robert Gibbens  
Animal Care, Western Region  
2150 Centre Avenue  
Building B  
Mail Stop #3W11  
Ft. Collins, Colorado 80526

Dear Dr. Gibbens:

Please reference:      **Certificate Number 96-F-0001**  
                                 **Customer Number 1215**

Enclosed please find form 0579-0036 for the U.S. Fish and Wildlife Service, Region 7 National Wildlife Refuge System in Alaska. The Service did not handle or control any domestic or farmed animals during the course of refuge activities during 2005. Wild animals are listed by species on the continuation page of the form. All affected animals are under column E. The first number in column E is the total number of individuals affected by Service activities. The second number in parentheses is the number of individuals killed by Service, either intentionally for collections or accidentally during the study. Explanations for large and small mammals are also enclosed.

It is my understanding from conversations last year with Dr. Wensley Koch that removal of exotic species are considered management actions and are exempt from the Animal Welfare Act. We have not included any exotics species control in this report.

The Service recognized the need to implement formal processes to review proposed work and implement protocols for humane and ethical treatment of survey and study animals. During FY 2006, we are developing several policies to standardize and streamline in-house study review and animal handling protocols.

The Region has a draft and will be finalizing a peer review policy pertaining to study proposals, protocols and publications. Systematic peer review (including an Animal Care and Use Committee protocol review) will enable the Service to identify and rectify any harmful

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Dr. Robert Gibbens

procedures early in the development of study plans. This peer review will include activities of other agencies or research institutions on refuge lands.

An Animal Care and Use Committee has been approved for avian and mammal projects in Region 7. Although minimal progress was made during 2005 due to loss of key personnel, the ACUC is a high priority for the Service in Region 7. This duty has been assigned to individuals in the Natural Resources and Migratory Birds Divisions for attention in 2006.

Additionally, the Natural Resources Division is developing standards for Refuge Inventory and Monitoring Plans. These standards will include peer review of any animal and avian handling in the proposed and ongoing surveys and monitoring programs. Draft procedures will be available in spring, 2006.

The Service in Alaska is cognizant of the responsibility to treat all our resources respectfully, ethically and humanely. Formal review procedures and attention to field conditions should facilitate appropriate handling in all of our study and survey activities. Please do not hesitate to contact me if there are additional questions or suggestions for improved handling. My phone number is (b)(6), (b)(7)c

Sincerely,

(b)(6), (b)(7)c

Enclosures

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE

1011 E. Tudor Rd.

Anchorage, Alaska 99503-6199

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NWRS706-067

DEC 8 2005

Dr. Robert Gibbens  
Animal Care, Western Region  
2150 Centre Avenue  
Building B  
Mail Stop #3W11  
Ft. Collins, Colorado 80526

Dear Dr. Gibbens:

Please reference:      **Certificate Number 96-F-0001**  
                                 **Customer Number 1215**

Enclosed please find form 0579-0036 for the U.S. Fish and Wildlife Service, Region 7 National Wildlife Refuge System. Additional data came in from the field after we submitted the FY05 report to you. I spoke with Mike Long of your office, and he recommended I recompile the data and submit an amended report. The attached report includes a revised continuation sheet for mammals handled by the Service, and explanations for the data reported in column E. These sheets replace the earlier report submitted on November 28, 2005.

Please do not hesitate to contact me if there are additional questions or suggestions for improved handling. My phone number is (b)(6), (b)(7)c

Sincerely,

(b)(6), (b)(7)c

Enclosures

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Table E. Explanation

Small Mammals

Species	E	Mortality	Total
Redbacked Vole	110	89	110
Voies - other	10	3	10
Shrews	20	20	20
Lemmings - unknown	2	2	2
Brown Lemming	12	2	12
Collared Lemming	1	0	1
Totals	155	116	155

The Arctic refuge trapped and marked small mammals in conjunction with bird studies on the Canning River. Refuge biologists used Sherman live traps to capture brown and collared lemmings, which were marked by clipping fur. Average time between trap checks was 7.1 hours. Two brown lemmings died during this study. The remainder were released. The Tetlin and Kanuti refuges conducted small mammal surveys during summer 2004 and collected a total of 114 individuals with Sherman "Museum Special" snap traps and cone traps. Death is instantaneous with snap traps, usually due to broken backs. Shrews are generally captured in the cone traps, and due to high metabolism usually succumb within several hours. The collection of specimens ensures correct identification through analysis of teeth which is not possible using live animals. Collections are sent to the University of Alaska-Fairbanks Museum for identification, archival storage and the collections of samples for other studies such as parasites, reproductive condition and diseases. The Koyukuk and Nowitna refuges conducted an educational demonstration of small mammal mark and re-capture methods. Twenty-eight individuals were trapped in Sherman live traps and marked with a permanent ink pen before release. The entire demonstration lasted about 2 hours.

5. per Dr. Spencer by phone 01/03/06 WK

Animals captured in live and pitfall traps may incur stress from capture, exposure, or starvation. Sherman live traps were supplied with insulation and food. Trap checking interval averaged 7.1 to 12 hours.

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**Table E. Explanation**

Large Mammals

Species	E	Mortality	Total
Moose	66	0	66
Caribou	1885	0	1885
Dall's sheep	3	0	3
Brown bear	20	0	20
Totals	1974	0	1974

Moose (*Alces alces*) were captured for radiocollaring on the Yukon Delta, Tetlin and Kenai refuges. Moose are located with a helicopter, and immobilized with age-appropriate doses of carfentanil citrate and xylazine hydrochloride, administered intramuscularly via darts from a CO<sub>2</sub> powered pistol. Respiration and temperature are monitored while the animal is immobilized for processing and collaring. When processing is complete, age-appropriate doses of the antagonist drug naltrexone to counter the carfentanil, and tolazoline to increase respiration and counter the effects of xylazine are administered. Moose are monitored after administration of antagonist drugs until they are able to stand and their behavior appears normal again. Total time under stress averages 30 minutes for each individual; approximately 5 minutes for chase and darting, 20 minutes for processing, and 5 minutes for drug recovery. These data can not be feasibly collected in any other manner.

Aerial surveys for caribou (*Rangifer tarandus*) were conducted in conjunction with a collaring operation on the Togiak Refuge. These surveys are flown at approximately 500 feet above ground level with a helicopter. Animals are disturbed and run a short distance from the aircraft noise. Pilots and biologists attempt to keep the disturbance to a minimum by flying slowly during the survey portion of a flight. Twenty caribou were immobilized with drugs and fitted with collars. Average time under stress was 15 to 20 minutes, including chase, darting, collar installation and recovery.

The Yukon Flats refuge collared three Dall's sheep (*Ovis dalli*) after capture by netgunning from a helicopter and administration of xylazine as a calming agent. After being fitted with radiocollars, the drug tolazoline was administered as the antagonist and the animals were released. During capture, the sheep were blindfolded and hobbled to decrease stress and possibility of injury. Total time under stress from chasing, capture and collaring averaged 30 minutes for each animal. Collared animals are monitored for a number of metrics, including seasonal movements, range fidelity and home ranges, and sensitive habitats. As with moose, data collected from collared sheep can not be feasibly collected in another manner.

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**Table E. Explanation**

Large Mammals (continued)

Brown bears (*Ursus horribilis*) are surveyed using low-flying small aircraft. Flights are generally 500 feet above the ground to allow the biologist to evaluate age and number of cubs. Approximately 15 percent of the surveyed bears in the Izembek refuge were disturbed enough to flee the aircraft noise, often into another habitat type. Small aircraft are the least disruptive and only feasible survey platform for collecting data to estimate population size, age cohorts and productivity.

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