ENVIRONMENTAL QUALITY COUNCIL

PO BOX 201704
HELENA, MONTANA 59620-1704
(406) 444-3742

Sept. 1, 2010

To: EQC Members
From: Hope Stockwell, Research Analyst
Re: Livestock Loss Reduction & Mitigation Board and Program 2010 Annual Report

Attached is the Livestock Loss Reduction & Mitigation Board and Program 2010 Annual Report. It includes data on payments made to livestock producers for wolf depredation since the program's inception.

On August 19, 2010, this report was presented orally to the Economic Affairs Interim Committee, which has oversight of the Department of Livestock to which the LLRMB is administratively attached.

Considering the EQC's ongoing interest in wolf management issues, a written copy of this report has been included in your pre-meeting packet as a courtesy.

Should you have any questions, please contact George Edwards, the Livestock Loss Mitigation Coordinator, at 444-5609 or gedwards@mt.gov.

Cl2255 0235hsxa.

LIVESTOCK LOSS REDUCTION & MITIGATION BOARD and PROGRAM 2010 ANNUAL REPORT

A report to
the Legislative Economic Affairs Interim Committee
the Legislative Environmental Quality Council Interim Committee
2009-2010 Interim

Livestock Loss Reduction & Mitigation Board

www.llrmb.mt.gov

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George Edwards, Livestock Loss Mitigation Coordinator
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Overview

The Livestock Loss Reduction & Mitigation Program (LLRMP) is a component of Montana's Wolf Conservation and Management Plan. The plan is contains two elements, management and compensation. Each area is funded, administered, and implemented separately and independently of one another -- but parallel one another, united in the goal of maintaining a viable wolf population and addressing wolf-livestock conflicts. LLRMP is the compensation component of the plan.

LLRMP is overseen by the Livestock Loss Reduction & Mitigation Board (LLRMB). LLRMB is a seven member board appointed by the governor. Three of the board members were selected from a list of names submitted by the Department of Livestock. Three of the board members were selected from a list of names submitted by the Department of Fish, Wildlife & Parks. The remaining board member is public nominee. LLRMB is administratively attached to the Department of Livestock.

LLRMB Mission Statement

To help support Montana livestock communities by reducing the economic impacts of wolves on individual producers by reimbursing their confirmed and probable wolf-caused losses and helping to reduce their losses by approving projects and funding programs that will discourage wolves from killing livestock**.**

Board Meetings

LLRMB holds at least two full board meetings each year. In order to maintain transparency of the board's activities, meetings are broadcast over the internet and TVMT when available. Meetings are posted on the board's website www.llrmb.mt.gov .

Tribal Agreements

2-15-3113 (2), MCA, states The livestock loss reduction and mitigation board may enter into an agreement with any Montana tribe, if the tribe has adopted a wolf management plan for reservation lands that is consistent with the state wolf management plan, to provide that tribal lands within reservation boundaries are eligible for mitigation grants pursuant to 2-15-3111 and that livestock losses on tribal lands within reservation boundaries are eligible for reimbursement payments pursuant to 2-15-3112.

Agreements have been made with the Blackfeet and CSKT tribal governments. Livestock owners within these reservation boundaries are eligible to participate in LLRMB's programs.

Program Funding

2-15-3114. Funding of programs -- contingency. The awarding of grants and reimbursements and the performance of duties pursuant to 2-15-3111 through 2-15-3113 are contingent upon the amount of money available in the accounts provided for in 81-1-110 and 81-1-111.

Donations towards livestock loss payments have been received from Defenders of Wildlife, Montana Cattlemen's Association, Greater Yellowstone Coalition, Keystone Conservation and Western Wolf Coalition. Total donations have been approximately $104,500 and were received in 2008 and 2009.

Legislative appropriations for livestock loss payments were $30,000 for the board's first year (2008) and $150,000 for the 2010-2011 biennium.

The board began accepting loss applications on April 15, 2008. Loss payments were made until the beginning of December 2008 when the board ran out of available funds. Available funds for this time frame were the $30,000 provided by a legislative appropriation and a $50,000 donation from Defenders of Wildlife. Livestock owners were given letters stating future loss payments would be made when additional funding was secured. Small donations started to come in and payments were continued as the donations were received. In the spring of 2009, Defenders of Wildlife provided an additional $50,000 donation which allowed LLRMP to become current with livestock loss payments. The state's biennial $150,000 appropriation for fiscal years 2010 and 2011 was depleted by the end of the 2010 fiscal year.

Beginning in 2008, the board's staff person worked with Senator Jon Tester's staff to obtain federal funding. Senator Tester's legislation provided for a fifty percent federal cost share with states that have wolves. This legislation was signed by the President on March 30, 2009. U.S. Fish and Wildlife Services is in the process of developing rules for federal grants. Rules have not been established yet so USFWS divided the available grant money amongst ten states. Montana will receive $140,000 for a time period of March 30, 2009 to September 30, 2011. Although this is not a fifty percent cost share, it has enabled the program to remain current in livestock loss payments for calendar year 2010. In order to receive future federal funding, LLRMB will need to obtain state appropriations and private donations for future federal matching funds.

Loss Payment Process

Step 1: Contact USDA Wildlife Services to request an investigation.
West District (406) 458-0106 or State Office (406) 657-6464

Step 2: USDA WS investigator will send your investigation report to USDA's state director in Billings.

Step 3: USDA's Billings office will send a copy of the investigation and LLRMB's claim form to the livestock owner.

Step 4: The livestock owner may now submit a claim to the Livestock Loss Reduction & Mitigation Board's office. If the livestock are contracted at a greater value, the owner must supply a copy of the contract or if an animal is registered, proof of registration is required.

Step 5: The Livestock Loss Mitigation Coordinator prints a USDA Market Report from Billings, Montana to determine current cattle values or values as determined by the board.

Step 6: Brand ownership are bank mortgages are researched and applied.

Step 7: Typical claims are processed that same day. Non-typical claims are presented to the full board to determine values.

Step 8: Livestock owners will receive a letter stating what the payment amount will be and a copy of this letter is given to the Department of Livestock's accounting staff.

Step 9: Payment is sent to the livestock owner by Department of Livestock accounting staff.

Step 10: If a livestock owner disputes the value of the livestock, the owner must submit a letter to the board office and provide proof of the greater value. Appeals will be presented to the full board for review.

(Loss Reimbursement Application – Appendix A)

Payments

LLRMP began accepting livestock loss claims on April 15, 2008 and has received 248 claims through June 30 2010. 655 head of livestock with a value of $273,017 has been provided to livestock owners for claims during this time period. During state fiscal year 2010, 120 claims for 120 head were received with a value of $156,433. If a 7X multiplier was used similar to our neighboring states, the total value of livestock losses due to wolves would be $2,184,136 since April, 2008.

2008-2010 loss claims have been for cattle, sheep, horse, goats and guard animals. Animals eligible for coverage for losses by wolves are cattle, swine, horses, mules, sheep, goats, llamas, and livestock guard animals on state, federal, and private land and on tribal land that is eligible through agreement. Payments are provided to livestock owners when livestock losses are verified by USDA Wildlife Services personnel as being confirmed or probable wolf kills. USDA Wildlife Services personnel are experts in performing investigations and necropsies to determine the type of predator causing livestock losses. Payments are not provided for livestock losses due to other predators.

Due to limited available funds, LLRMB has not authorized payments for additional losses suffered by livestock owners. Examples of additional losses are veterinary bills, livestock weight loss, missing livestock, lower pregnancy rates, loss of pasture usage, damaged fences, etc…… A report by Mark Collinge, USDA WS indicates that “for every calf found and confirmed to have been killed by wolves, there were probably as many as 8 other calves killed by wolves but not found by the producer”. (Appendix G)

At current funding levels, the board has only authorized payments for confirmed and probable livestock death losses. LLRMB has established a prevention committee that is working on loss prevention grant guidelines. Board members will use the expertise of USDA Wildlife Services and Montana Fish, Wildlife and Parks personnel to help determine an effective means of loss prevention. A few pilot projects may be needed to establish cost effectiveness. Loss prevention projects will be monitored by the board’s staff person for compliance with LLRMB’s grant guidelines.

(Loss payments by county are listed in Appendix B, C, D, E, F)

Animal Values

Cattle and sheep values are determined by using a Montana Weekly Auction Summary report compiled by USDA Livestock and Grain Market News, Billings, MT. Registered animal values are calculated by using sales receipts for registered animals of a similar age and sex. Horse values have been determined using Billings Livestock Commission horse sales averages. LLRMB reviewed an American Sheep Industry study on guard dogs to help determine livestock related dog values. Pet and hunting dogs are not covered under LLRMP.

Insurance

No livestock have been listed as being insured against wolf caused losses on any claim received by LLRMP.

Reported Livestock Loss Numbers

Livestock loss numbers reported by LLRMP are only for claims submitted by a livestock owner that have been investigated by USDA Wildlife Service. Although most livestock owners submit a loss claim for livestock killed by wolves, there are a few that do not. LLRMP reported loss numbers are for losses listed as confirmed or probable by USDA Wildlife Services.

In order to provide the public current loss claim activity, LLRMP posts the type of animal and the county it was killed in on a Facebook page “Livestock Loss Reduction Mitigation Program”. This page can be easily accessed from the board’s website www.llrmb.mt.gov .

Trust Fund

All funds either donated or governmental appropriations have been used to pay livestock loss claims. No funds have been deposited into the trust fund. LLRMB established a fundraising committee to work on obtaining funds for the trust fund. One idea is to raise $4,000 towards the Department of Justice's Motor Vehicle Division requirement to issue a specialty license plate.

81-1-111. Livestock loss reduction and mitigation trust fund. (1) The legislature shall provide for a fund, to be known as the livestock loss reduction and mitigation trust fund, to be funded with gifts, grants, reimbursements, appropriations, or allocations from any source.

(2) The principal of the livestock loss reduction and mitigation trust fund shall forever remain inviolate in an amount of $5 million unless appropriated by a vote of three-fourths of the members of each house of the legislature.

(3) The interest and income generated from the livestock loss reduction and mitigation trust fund must be deposited in the livestock loss reduction and mitigation state special revenue account provided for in 81-1-110. The interest and income may be appropriated by a majority vote of each house of the legislature and may be used only to fund the livestock loss reduction program and the livestock loss mitigation program as provided in 2-15-3111 and 2-15-3112.

(4) (a) Until the principal of the fund reaches $5 million, at the end of each biennium, any amount of interest and income from the trust fund that is not used for the livestock loss reduction program or the livestock loss mitigation program must be used to reimburse the state general fund up to $120,000. Any remaining interest and income must be deposited in the trust fund as principal.

(b) After the principal of the trust fund reaches $5 million, at the end of each biennium, any amount of interest and income that is not used for the livestock loss reduction program or the livestock loss mitigation program must be deposited in the general fund.

APPENDIX

Montana Livestock Loss Reduction & Mitigation Board
Livestock Loss Reduction & Mitigation Program
PO Box 202005
Helena MT 59620
(406) 444-5609
www.llrmb.mt.gov

LIVESTOCK LOSS PAYMENTS

(only wolf caused losses)

Step 1: Contact USDA Wildlife Services to request an investigation on any suspected livestock depredation(s). West District (406) 458-0106 or State Office (406) 657-6464

Step 2: USDA WS investigator will complete an investigation on suspected livestock depredation(s), will complete the investigation report, and will send the completed investigation report to USDA's State Director in Billings.

Step 3: USDA WS Billings office will send a copy of the investigation and LLRMB's claim form to the livestock owner.

Step 4: The livestock owner may now submit a claim to the Livestock Loss Reduction & Mitigation Board's office.

Step 5: The Livestock Loss Mitigation Coordinator prints a USDA Market Report from Billings, Montana to determine current cattle values or values as determined by the board. If the livestock are contracted at a greater value than current USDA Market Reports, the owner must supply a copy of the contract or if an animal is registered, proof of registration is required.

Step 6: Brand ownership and bank mortgages are researched. If the animal is mortgaged, the name of the financial institution will also appear on the payment.

Step 7: Typical claims are processed that same day. Non-typical claims are presented to the full board to determine values.

Step 8: Livestock owners will receive a letter stating what the payment amount will be and a copy of this letter is given to the Department of Livestock's accounting staff.

Step 9: Payment is sent to the livestock owner by Department of Livestock accounting staff.

Step 10: If a livestock owner disputes the value of the livestock, the owner must submit a letter to the board office and provide proof of the greater value. Appeals will be presented to the full board for review.

If you have any questions, please call the board office at (406) 444-5609 or by email at gedwards@mt.gov .

MONTANA LIVESTOCK LOSS REDUCTION & MITIGATION BOARD
PO BOX 202005
HELENA MT 59620-2005
(406) 444-5609 FAX(406) 444-1432
Website: www.llrmb.mt.gov

LOSS REIMBURSEMENT APPLICATION

PLEASE PRINT

LIVESTOCK OWNER NAME:_____
Name of business entity or individual applying for payment

ADDRESS:_____
PO Box or Street

_____
City State Zip Code

TELEPHONE #_____ FAX#_____

ADDITIONAL CONTACT NAME:_____
Name of person in charge or authorized agent

DEPREDATION INFORMATION: *(Only losses due to gray wolves)*

Date of depredation:_____ County:_____
Depredation location _____Township _____Section _____Range

Type of animal: ☐ Cattle ☐ Sheep ☐ Horse ☐ Mule ☐ Swine ☐ Goat or
☐ Livestock Guard Animal (list animal type)_____

Number of animals_____ (Use a separate form if animals are different sex and age.)
Breed of animal_____ *(If registered, must include proof of registration)*
Age of animal_____ (months/years)
Sex of animal_____ (male/female) _____(gelded, spayed, neutered)
Average weaning weight _____lbs. (calves or lambs less than one year old)
Estimated weight of animal _____lbs. (animals greater than one year old)

Was the animal branded ☐ Yes ☐ No

If yes, brand location_____ ***and*** draw brand

Was the animal mortgaged ☐ Yes ☐ No

_____
If yes, name and address of financial institution

Was the animal insured ☐ Yes ☐ No

_____
If yes, name and address of insurance carrier

Optional: Were any loss prevention methods used? ☐ Yes, method_____ ☐ No

ATTACH A COPY OF THE <u>WS DEPREDATION INVESTIGATIVE REPORT & IRS W-9 FORM TO THIS APPLICATION</u>. Claims will not be processed without this form attached.

_____ _____
Signature of Applicant or Authorized Agent ***Date***

Instructions for Completing Taxpayer Identification Number Verification (Substitute W-9)

Legal Name As entered with IRS

Individuals: Enter Last Name, First Name, MI
Sole Proprietorships: Enter Last Name, First Name, MI
LLC Single Owner: Enter owner's Last Name, First Name, MI
All Others: Enter Legal Name of Business

Trade Name

Individuals: Leave Blank
Sole Proprietorships: Enter Business Name
LLC Single Owner: Enter LLC Business Name
All Others: Complete only if doing business as a D/B/A

Primary Address

Address where 1099 should be mailed.

Remit Address

Address where payment should be mailed. Complete only if different from primary address.

Entity Designation

Check *ONE* box which describes the type of business entity.

Taxpayer Identification Number

LIST ONLY ONE: Social Security Number OR Employer Identification Number. ***See "What Name and Number to Give the Requester" at right.***

If you do not have a TIN, apply for one immediately. Individuals use federal form SS-05 which can be obtained from the Social Security Administration. Businesses and all other entities use federal form SS-04 which can be obtained from the Internal Revenue Service.

Certification

You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to furnish your correct TIN to persons who must file information returns with the IRS to report interest, dividends, and certain other income paid to you, mortgage interest you paid, the acquisition or abandonment of secured property, or contributions you made to an IRA. The IRS uses the numbers for identification purposes and to help verify the accuracy of your tax return. You must provide your TIN whether or not you are required to file a tax return. Payers must generally withhold 28% of taxable interest, dividend, and certain other payments to a payee who does not furnish a TIN to a payer. Certain penalties may also apply.

What Name and Number to Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual no the account [1]
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor [2]
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee [1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner [1]
5. Sole proprietorship or Single-Owner LLC	The owner [3]
For this type of account:	**Give name and EIN of:**
6. Sole Proprietorship or Single-Owner LLC	The owner [3]
7. A valid trust, estate, or pension trust	Legal entity [4]
8. Corporate or LLC electing corporate status on Form 8832	The corporation
9. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
10. Partnership or multi-member LLC	The partnership
11. A broker or registered nominee	The broker or nominee
12. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district or prison) that receives agricultural program payments	The public entity

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.
[2] Circle the minor's name and furnish the minor's SSN.
[3] **You must show your individual name**, but you may also enter your business or "DBA" name. You may use either your SSN or EIN (if you have one).
[4] List first and circle the name of the legal trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

NOTE: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

State of Montana
Department of Administration
SW9 (4/2009)

State Accounting Division
PO Box 200102
125 North Roberts Street
Mitchell Bldg – Room 255
Helena, MT 59620
Phone: 406-444-3092
Send faxes to: 406-444-2812

Substitute **W-9**

DO NOT send to IRS

Taxpayer Identification Number (TIN) Verification

Print or Type
Please see attachment or reverse for complete instructions.

Legal Name
(as entered with IRS) If Sole Proprietorship, enter your Last, First, MI

Trade Name
If doing business as (DBA) or enter business name of Sole Proprietorship

Primary Address (for 1099 form)
PO Box or Number and Street, City, State, ZIP + 4

Remit Address (where payment should be mailed, if different from Primary Address) PO Box or Number and Street, City, State, ZIP + 4

Entity Designation (check only one type)

- ☐ Corporation
  - ☐ S-Corp ☐ C-Corp
  - Do you provide medical services?
  - ☐ Yes ☐ No
- ☐ Individual
- ☐ Sole Proprietorship
- ☐ Partnership
  - ☐ General ☐ Limited
  - ☐ LLC (for federal tax purposes taxed as)
    - ☐ S-Corp ☐ C-Corp
- ☐ Estate/Trust
- ☐ Other Groups of Individuals
- ☐ Organization Exempt from Tax (under Section 501 (a)(b)(c)(d)(e))
- ☐ Government Entity

Exempt from Backup Withholding

☐ Yes ☐ No

Taxpayer Identification Number (TIN) (Provide Only One) (If sole proprietorship provide FEIN, if applicable)

Social Security Number	Federal Employer Identification No

Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number, AND
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding.
3. I am a U.S. person (including a US resident alien).

Printed Name	Printed Title	Telephone Number

Signature	Date

Optional Direct Deposit Information (used at agency discretion) (all fields required to receive electronic payments) (Must Include a Voided Check, No Direct Deposit Slips Accepted)

Your Bank Account Number	☐ Checking ☐ Savings	Name on Bank Account	Bank Routing No. (ABA)

THIS IS A:

☐ New Direct Deposit ☐ Change of Existing ☐ Additional Direct Deposit ☐ Email Change Only

Email Address (Please make this LEGIBLE)

If you provide bank information and an email address, we will send a message notifying you when an electronic payment is issued. We will **NOT** share your email address with anyone or use it for any other purpose than communicating information about your electronic payments to you. **If you have questions about completing this form, please call the Warrant Writer Unit at 406-444-3092.**

2008 Year End Report

Montana LLRMP
PO Box 202005
Helena MT 59620
www.liv.mt.gov

George Edwards
Livestock Loss Mitigation Coordinator
(406) 444-5609
gedwards@mt.gov

Counties	Cattle	Sheep	Goats	Guard	Horse	Llama	Totals	Payments
Beaverhead	14	121					135	$33,885.37
Flathead	12					1	13	$9,521.42
Glacier	2						2	$1,248.00
Granite	6	5					11	$4,257.17
Judith Bas	2						2	$1,436.50
L&C	6		3	2			11	$5,236.28
Lincoln	9						9	$6,035.49
Madison	8						8	$8,091.86
Mineral	1						1	$777.10
Park	1						1	$677.28
Powell	4						4	$2,673.80
Ravalli	4					3	7	$2,392.52
Sanders	5				1		6	$7,079.89
Stillwater		17	1				18	$2,625.00
Sweet Gr		6	4				10	$1,380.00
Totals	74	149	8	2	1	4	238	$87,317.68

Confirmed	69	149	7	2	1	4
Probable	5		1			
Branded	58	17				
Mortgaged	21	127				
Owners	38	7	2	1	1	2

2009 Year End Report

Montana LLRMP
PO Box 202005
Helena MT 59620
www.llrmb.mt.gov

George Edwards
Livestock Loss Mitigation Coordinator
(406) 444-5609
gedwards@mt.gov

Counties	Cattle	Sheep	Goats	Guard	Horse	Llama	Totals	Payments
Beaverhead	28	184					212	$75,448.63
Cascade		10					10	$1,295.00
Flathead	2						2	$1,361.00
Glacier	14				1		15	$8,809.42
Granite	5			1			6	$5,742.41
Jefferson	2						2	$1,118.25
Lake	7						7	$5,152.77
L&C	12	7		2			21	$11,153.58
Lincoln	4	1					5	$2,861.00
Madison	12	14					26	$10,979.41
Meagher		24					24	$3,690.00
Missoula	1						1	$684.00
Park	2						2	$2,525.00
Pondera	1						1	$707.06
Ravalli	1						1	$732.88
Powell	9	1					10	$5,437.58
Sanders	5						5	$3,566.53
Stillwater		2	1				3	$375.00
Sweet Gr		1	2				3	$300.00
Teton	2						2	$1,316.25
Wheatland		12					12	$ 1,740.00
Totals	107	256	3	3	1	0	370	$144,995.77

Confirmed	85	214	3	3	1	
Probable	22	42				
Branded	76	184				
Mortgaged	42	199				
Owners	45	11	1	2	1	

2010 January - June Report

Montana LLRMP
PO Box 202005
Helena MT 59620
www.liv.mt.gov

George Edwards
Livestock Loss Mitigation Coordinator
(406) 444-5609
gedwards@mt.gov

Counties	Cattle	Sheep	Goats	Guard	Horse	Llama	Totals	Payments
Beaverhead	15						15	$15,577.96
Deer Lodge	1						1	$754.00
L&C	2						2	$1,435.50
Lincoln	5						5	$6,078.35
Madison	2	10					12	$2,853.31
Missoula	3						3	$2,195.28
Park	1						1	$806.00
Powell	2				1		3	$4,005.00
Ravalli	2						2	$1,509.63
Sanders	11						11	$9,144.43
Silver Bow	2						2	$1,344.00
Totals	46	10	0	0	1	0	57	$45,703.46

Confirmed	43	10			1	
Probable	3					
Branded	27					
Mortgaged	6					
Owners	26					

2009 Fiscal Year

Montana LLRMP
PO Box 202005
Helena MT 59620
www.llrmb.mt.gov

George Edwards
Livestock Loss Mitigation Coordinator
(406) 444-5609
gedwards@mt.gov

Counties	Cattle	Sheep	Goats	Guard	Horse	Llama	Totals	Payments
Beaverhead	20	132					152	$39,746.96
Flathead	12					1	13	$9,521.42
Glacier	7						7	$4,783.39
Granite	11	1					12	$5,418.10
Judith Basin	2						2	$1,436.50
Lake	7						7	$5,152.77
L&C	16		3	2			21	$11,526.98
Lincoln	9						9	$6,035.49
Madison	5						5	$6,035.70
Mineral	1						1	$777.10
Missoula	1						1	$684.00
Park	1						1	$677.28
Powell		1					1	$150.00
Ravalli	5					3	8	$3,125.40
Sanders	5						5	$2,079.89
Stillwater		19	2				21	$3,000.00
Sweet Gr		7	6				13	$1,680.00
Teton	1						1	$661.50
Wheatland		12					12	$ 1,740.00
Totals	103	172	11	2	0	4	292	$104,232.48

Confirmed	83	174	9	2		4
Probable	17	1	2			
Branded	70	106				
Mortgaged	31	132				
Owners	49	10	3	1		2

2010 Fiscal Year

Montana LLRMP
PO Box 202005
Helena MT 59620
www.llrmb.mt.gov

George Edwards
Livestock Loss Mitigation Coordinator
(406) 444-5609
gedwards@mt.gov

Counties	Cattle	Sheep	Goats	Guard	Horse	Llama	Totals	Payments
Beaverhead	35	173					208	$78,968.27
Cascade		10					10	$1,295.00
Deer Lodge	1						1	$754.00
Flathead	2						2	$1,361.00
Glacier	9				1		10	$5,274.03
Granite	2			1			3	$3,885.18
Jefferson	2						2	$1,118.25
L&C	3	7		2			12	$5,570.38
Lincoln	9	1					10	$8,939.35
Madison	14	24					38	$13,832.72
Meagher		24					24	$3,690.00
Missoula	3						3	$2,195.28
Park	3						3	$3,331.00
Pondera	1						1	$707.06
Powell	11				1		12	$9,292.58
Ravalli	2						2	$1,509.63
Sanders	16						16	$12,710.96
Silver Bow	2						2	$1,344.00
Sweet Gr								
Teton	1						1	$654.75
Wheatland								
Totals	116	239	0	3	2	0	360	$156,433.44

Confirmed	101	196		3	2	
Probable	17	41				
Branded	85	183				
Mortgaged	35	195				
Owners	51	11		2	2	

Relative Risks of Predation on Livestock Posed by Individual Wolves, Black Bears, Mountain Lions, and Coyotes in Idaho

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ABSTRACT: Gray wolf populations have exceeded anticipated recovery levels since they were first reintroduced to central Idaho in 1995. Although wolf predation on livestock is a relatively minor issue to the livestock industry as a whole, it can be a serious problem for some individual livestock producers who graze their stock in occupied wolf habitat. This paper compares Idaho population estimates for gray wolves with the available information on numbers of livestock killed by wolves in order to estimate numbers of livestock killed per wolf. This information is compared with similar analyses for other species most commonly implicated as predators of livestock in Idaho (coyotes, black bears, and mountain lions). Population estimates for coyotes, black bears, and mountain lions are based on review of available scientific literature and analyses in environmental assessments prepared by Wildlife Services, as well as estimates from the Idaho Department of Fish and Game. Wolf population estimates are based primarily on monitoring information provided by the Idaho Department of Fish and Game and the Nez Perce Tribe. Estimates of numbers of livestock killed by wolves, coyotes, black bears, and mountain lions are based on survey data compiled by the National Agricultural Statistics Service. Rationale for use of various data sets is provided, and limitations of the data are discussed. This analysis suggests that individual wolves are much more likely to prey on livestock than are individuals of any other predator species in Idaho.

KEY WORDS: black bears, *Canis latrans*, *Canis lupus*, coyote, depredation, *Puma concolor*, livestock, mountain lions, predation, *Ursus americanus*, wolves

Proc. 23rd Vertebr. Pest Conf. (R. M. Timm and M. B. Madon, Eds.)
Published at Univ. of Calif., Davis. 2008. Pp. 129-133.

INTRODUCTION

Gray wolves (*Canis lupus*), federally listed as endangered in the United States, were reintroduced into central Idaho and Yellowstone National Park in 1995 and 1996. Since that time, they have far surpassed their original recovery goals. The biological criterion for a fully recovered wolf population in the 3-state (Idaho/Montana/Wyoming) Northern Rockies Recovery Area was to have at least 30 breeding pair of wolves (anticipated to be at least 300 total wolves) equitably distributed among the 3 states for at least 3 consecutive years. That criterion was met by the end of 2002 (USFWS et al. 2003). The wolf population in the Northern Rockies as of December 2007 was estimated at about 1,500 wolves, with about half of those living in Idaho.

One of the most controversial aspects of wolf recovery and management has been wolf depredations on livestock. Incidents of wolf predation on livestock in Idaho have steadily increased as the wolf population has increased (USDA-WS 2008). Some wolf advocacy groups have attempted to downplay the significance of wolf predation on livestock by pointing out that, in relative terms, only a very small proportion of livestock losses (<1% for cattle and <2.5% for sheep) are typically caused by wolves, and that other predators, such as coyotes (*Canis latrans*), are responsible for many more livestock deaths than are wolves (Defenders of Wildlife 2007). While both of these are valid points, it is also important to recognize that even though predation losses due to wolves may represent a relatively minor portion of total overall death losses, these losses are not evenly distributed across the industry (Mack et al. 1992).

Most livestock producers will experience no predation by wolves, while some producers in certain areas may suffer significant losses to wolves. Coyotes, by virtue of the fact that their population is typically many times greater and more widely distributed than the wolf population, do cause more overall predation losses. But assessing the relative likelihood of predation by individual wolves versus individuals of other commonly implicated livestock predators can provide insight as to why wolf predation is a bigger concern to some livestock producers than predation by other species. One simple approach to making this type of assessment is to contrast the estimated population of the most commonly implicated predator species, coyotes, wolves, black bears (*Ursus americanus*), and mountain lions (*Puma concolor*), with the estimated number of livestock killed by each species, thereby arriving at a relative likelihood for individuals of each species to kill livestock.

PREDATOR POPULATION ESTIMATES

Wolves

Of the 4 predator species being considered in this analysis, the population estimates available for wolves in Idaho are probably the closest to representing the actual number of individuals in the population. Because the criterion for delisting wolves as an endangered species require accurate population data, intensive monitoring of Idaho's wolf population has been conducted annually since wolves were first reintroduced in 1995. This monitoring has included regularly-occurring surveys conducted both from the ground and from the air, facilitated by the fact that many of the wolf packs in Idaho contain one or more radio-collared animals. Additionally, the Idaho Department of Fish and Game (IDFG) maintains an online reporting system that allows members of the public to routinely report any wolf sightings, and these reports can subsequently be followed up to facilitate monitoring efforts. Idaho's wolf population has increased steadily since wolves were first reintroduced (Figure 1), and the

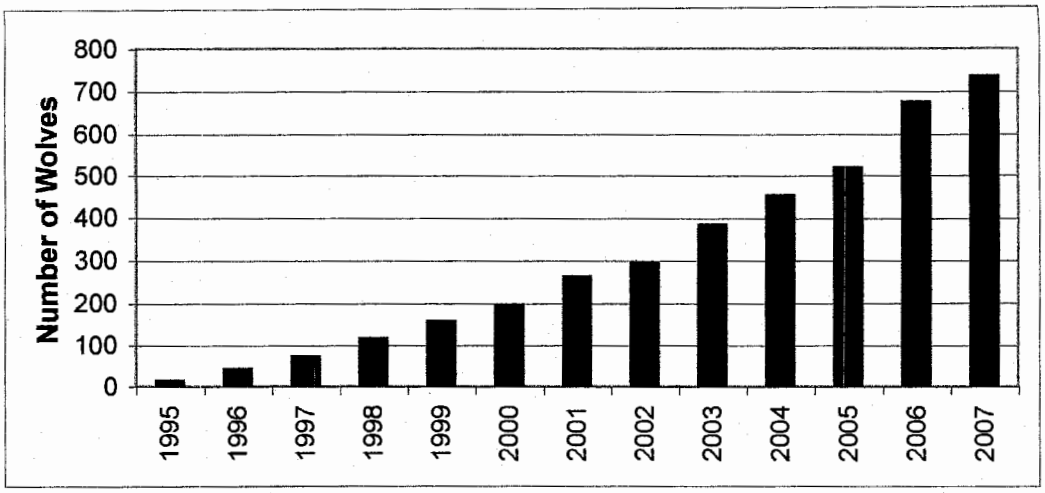

Figure 1. Estimated number of wolves in Idaho, 1995-2007.

estimated population for calendar years 2005-2007 was 518, 673, and 732 individuals, respectively (Nadeau et al. 2007, 2008).

Mountain Lions and Black Bears

Mountain lions and black bears in Idaho are game species managed by the IDFG to maintain stable populations, and populations of both species are currently believed to be relatively stable. Based on harvest estimates, known reproductive capabilities, and age structure of the harvest, IDFG estimates there are currently about 2,500 mountain lions and 20,000 black bears in the state of Idaho (Steve Nadeau, pers. commun.).

Coyotes

The IDFG has never attempted to estimate coyote populations in the state of Idaho, but the Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program developed coyote population estimates in conjunction with the preparation of several different environmental assessments (USDA-ADC 1996a,b; USDA-WS 2002). Idaho's coyote population was estimated in these analyses by considering the most relevant available scientific information on coyote densities, then extrapolating a conservative density estimate to the total land area of Idaho. Density estimates ranged from a low of 0.63/mi^2 (Clark 1972) to a high of 5-6/mi^2 (Knowlton 1972), and the lower end of this range was applied to the total area of Idaho to arrive at a conservative statewide coyote population estimate of about 50,000 animals.

ESTIMATES OF NUMBERS OF LIVESTOCK KILLED BY EACH SPECIES

The Idaho office of the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) conducts an annual statewide survey of sheep producers to determine death losses due to all causes, and cattle producers have been surveyed every 5 years regarding their total death losses. NASS survey procedures ensure that all sheep and cattle producers, regardless of the size of their operation, have a chance to be included in these surveys, but larger operations are sampled more heavily than smaller operations. All loss estimates are rounded to the nearest 100 head.

During a public comment period held in conjunction with preparation of an environmental assessment regarding predator control activities (USDA-ADC 1996a), some respondents expressed concerns about the reliability of rancher-supplied data on death losses, and they suggested that ranchers might be inflating their estimates of losses to justify more predator control. However, these data are believed to provide the most realistic assessment available of actual losses. Schaefer et al. (1981) employed several different methods to survey sheep producers regarding predation losses, and based on their own field necropsies, concluded that producers' estimates of losses were realistic. Sheep loss survey data for the most recently available 3-year period (2005-2007) in Idaho indicates predation losses ranged from 25.3% to 32.9% and accounted for an average of about 30% of total death losses among Idaho sheep producers (NASS 2008). However, through intensive monitoring conducted during a study on 3 typical range sheep operations in southern Idaho, Nass (1977) found that predation was actually responsible for 56% of total death losses. This would suggest that attributing an average of 30% of total death losses to predation is not unrealistic, and it may even suggest that Idaho sheep producers could be underestimating their losses to predators.

NASS has been conducting their annual survey of sheep losses to predators in Idaho since 1981, and losses attributable to coyotes, black bears, and mountain lions have been tabulated separately during all that time. Losses caused by species that kill relatively few sheep, such as bobcats (*Lynx rufus*) and eagles (*Aquila chrysaetos* and *Haliaeetus leucocephalus*), have historically been lumped into a category of "other". Wolves were reintroduced to Idaho in 1995 and 1996, and beginning in 1996 the relatively few losses caused by wolves in the early years after reintroduction were first lumped into the category of losses caused by "other" predators (NASS 1997). Losses attributable to wolves continued to increase as Idaho's wolf population increased, but NASS did not begin reporting them separately until the 2005 reporting period (NASS 2008).

Table 1. Estimated sheep (2005-2007) and cattle (2005) losses due to wolves, black bears, mountain lions, and coyotes in Idaho (NASS 2006, 2008).

	Wolves	Black Bears	Mountain Lions	Coyotes
2005 Sheep loss	500	900	500	6,100
2006 Sheep loss	600	600	400	4,900
2007 Sheep loss	500	700	400	7,200
2005 Cattle loss	888[1]	111[1]	200	600

[1]NASS estimates of Idaho cattle losses to wolves in 2005 were combined into the "other predators" category, which included any losses attributable to wolves, grizzly bears, black bears, and vultures. Total losses reported in the "other predators" category in 2005 were 600 calves and 400 adult cattle, for a total of 1,000. The Idaho Wildlife Services program has received no reports of cattle or calf losses to vultures, and the combined 1,000 losses are believed to be primarily attributable to wolves and bears. The number of confirmed and probable calf losses documented by Idaho Wildlife Services as being bear-related was 3 animals in 2005, while the number of confirmed and probable calf losses attributed to wolves was 24 animals. The ratio of 3/27 was applied to the combined 1,000 wolf and bear losses to assign 111 of the losses to bears and 888 of the losses to wolves.

The most recent survey of death losses for Idaho cattle producers was conducted by NASS as part of a nationwide survey for calendar year 2005 (NASS 2006). At the national level, the NASS data for predation losses due to coyotes, mountain lions, bears, and wolves are tabulated separately. At the state level, losses to coyotes and mountain lions are listed separately, but the losses attributed to wolves and bears are combined in a category called "other predators", which includes grizzly bears (*Ursus horribilis*) as well as black bears, along with any cattle losses caused by vultures (*Cathartes aura* and *Coragyps atratus*). Cattle losses to vultures are not known to occur in Idaho, and very few incidents of grizzly bear predation on cattle occur because of the very low population of grizzly bears relative to black bears. The number of calf and adult cattle losses to bears and wolves combined in Idaho for 2005 was reported by NASS (2006) as 1,000 animals. The Idaho Wildlife Services program confirms relatively few calf losses to bears as compared to the number of calves and adult cattle confirmed killed by wolves, and the majority of the 1,000 animals reported killed by wolves and bears were probably killed by wolves. In 2005, the Idaho Wildlife Services program determined that 2 calves reported killed by black bears and 1 calf reported killed by a grizzly bear were either confirmed or probable incidents of predation, whereas a total of 24 calves and adult cattle were judged to be confirmed or probable wolf kills. If this same ratio (3 Wildlife Services-verified bear kills out of 27 combined Wildlife Services-verified bear and wolf kills) were applied to the 1,000 combined calf and adult cattle losses attributed to wolves and bears in the NASS report, this would suggest about 111 of the 1,000 combined losses were attributable to bears, while about 888 of those losses were attributable to wolves. Table 1 provides a summary of the NASS data on Idaho sheep producers' losses to predators for 2005-2007 and cattle producers' losses for 2005.

NASS estimates of predator losses to wolves, bears, lions, and coyotes are typically much higher than the number of losses actually documented as predator losses by the Wildlife Services program, but there are several reasons for this difference. In the case of losses reported to be caused by wolves, black bears, or mountain lions, Wildlife Services field employees make every effort to investigate these reports promptly in an attempt to determine the cause of death. Compensation programs exist to reimburse livestock operators for damage caused by all 3 of these species, but compensation is contingent on Wildlife Services being able to verify that predation by one of those species was actually the cause of death. Reports of wolf predation are classified as "confirmed" incidents when there is reasonable physical evidence that the animal was actually killed by a wolf. Typical evidence used in confirming wolf predation would include the presence of wolf-sized bite marks and associated sub-cutaneous hemorrhaging and tissue damage, indicating the victim was attacked while still alive, as opposed to cases where wolves had simply fed on an already-dead animal.

In many cases, however, wolves may have been responsible for the death of a rancher's livestock, but there was insufficient evidence remaining to confirm wolf predation. In some cases, those portions of the livestock carcass that might have contained the evidence of predation may already have been totally consumed or carried off. Some of these incidents might be classified as "probable" predation, depending on other evidence that might still remain. But in many cases, there may be little or no evidence of predation, other than the fact that wolves are known to be in the area and some livestock have seemingly just disappeared. Oakleaf (2002) conducted a study on wolf-caused predation losses to cattle on U.S. Forest Service summer grazing allotments in the Salmon, ID area, and concluded that for every calf found and confirmed to have been killed by wolves, there were probably as many as 8 other calves killed by wolves but not found by the producer. Bjorge and Gunson (1985) likewise were able to recover only 1 out of every 6.7 missing cattle during their study, and suggested that wolf-caused mortalities were difficult to detect.

RELATIVE LIKELIHOOD OF PREDATION ON LIVESTOCK BY EACH SPECIES

Table 2 provides a summary of the 2005 NASS data on sheep and cattle losses to wolves, bears, mountain lions, and coyotes in Idaho, along with the 2005 population estimate for each of these species. The estimated number of livestock killed by each species is divided by the estimated population for each species to arrive at the estimated number of livestock reported killed by each individual of those four species. In considering the combined total number of sheep and cattle reported killed by each species, each wolf in Idaho killed, on average in 2005, 2.68 head of livestock. The next-highest number of livestock killed per individual predator was for mountain lions, at 0.28 head of livestock. Dividing the 2.68 wolf figure by the 0.28 moun-

Table 2. Estimated average number of livestock killed per individual of each species most commonly implicated in livestock predation in Idaho in 2005.

	Wolves	Black Bears	Mountain Lions	Coyotes
2005 combined sheep and cattle losses due to each species	500 + 888 = 1,388	900 + 111 = 1,011	500 + 200 = 700	6,100 + 600 = 6,700
2005 estimated population of each species	518	20,000	2,500	50,000
Estimated number of **sheep and cattle** killed per individual present	2.68	0.05	0.28	0.13
Estimated number of **just sheep** killed per individual present	0.96	0.05	0.20	0.12
Estimated number of **just cattle** killed per individual present	1.71	0.01	0.08	0.01

Table 3. Estimated average number of sheep killed per individual of each species most commonly implicated in livestock predation in Idaho in 2005-2007.

	Wolves	Black Bears	Mountain Lions	Coyotes
2005 Sheep loss	500	900	500	6,100
2005 Estimated population of each species	518	20,000	2,500	50,000
Estimated number of sheep killed per individual present in 2005	0.96	0.05	0.20	0.12
2006 Sheep loss	600	600	400	4,900
2005 Estimated population of each species	673	20,000	2,500	50,000
Estimated number of sheep killed per individual present in 2006	0.89	0.03	0.16	0.10
2007 Sheep loss	500	700	400	7,200
2007 Estimated population of each species	732	20,000	2,500	50,000
Estimated number of sheep killed per individual present in 2007	0.68	0.04	0.16	0.14
3-year average number of sheep killed per individual predator present	0.83	0.04	0.17	0.12

tain lion figure suggests that individual wolves were about 10 times more likely to kill livestock than were individual mountain lions. Individual coyotes were less likely to kill livestock, at 0.13 head of livestock killed per individual coyote, which suggests that individual wolves were about 20 times more likely to kill livestock than coyotes. Black bears were the least likely to kill livestock, with just 0.05 head of livestock killed per black bear in the population, and the likelihood of an individual wolf killing livestock was more than 50 times greater than the likelihood that an individual black bear would kill livestock.

Calves and adult cattle are much more susceptible to predation by wolves than by coyotes, particularly during the summer months when cattle are grazed on forest allotments where they are more likely to be exposed to wolves. Coyote problems for the cattle industry in Idaho are primarily limited to predation on calves during the winter and early spring months when the calves are smallest, so it is of interest to note the differential likelihood of individual wolves versus individual coyotes preying on just cattle and calves, without considering sheep in the calculations. The information in the bottom row of Table 2 suggests that each individual wolf in Idaho was reported to have killed about 1.7 head of cattle in 2005, compared to only about 0.01 head of cattle killed per individual coyote or bear. Dividing the average number of cattle killed per individual wolf by the average number of cattle killed by the other three species suggests that in 2005, individual wolves were about 170 times more likely to kill cattle than were individual coyotes or bears. Individual wolves were about 21 times more likely to kill cattle than were individual mountain lions in 2005.

Ideally, this type of simple analysis would make use of more than just a single year's data, but unfortunately, 2005 has been the only year so far for which both sheep and cattle loss data from Idaho include specific information about losses to wolves. Sheep losses to wolves are reflected in the 3 most recently available years of NASS sheep loss survey data, however, and the bottom row of Table 3. provides the 3-year average number of sheep killed by individuals of the four predator species. Dividing the average number of sheep killed per individual wolf by the average number of sheep killed per individual of each of the other species suggests that during the 2005-2007 period, individual wolves were on average about 21 times more likely to kill sheep than were individual bears, about 7 times more likely to kill sheep than were individual coyotes, and about 5 times more likely to kill sheep than were individual mountain lions.

DISCUSSION / CONCLUSION

Although the livestock loss estimates and predator population estimates used in arriving at these relative likelihoods of risk are believed to be the best information available, it is important to recognize that these comparisons should be viewed as generalizations, rather than specific numbers applicable to all situations. The NASS data regarding livestock losses are subject to sampling variability and non-sampling errors such as unintentional omissions, duplications, and mistakes in reporting, recording,

and processing data. These potential errors are minimized through rigid quality controls in the data collection process and through careful review by NASS of all reported data for consistency and reasonableness (NASS 2006). Stronger inferences could be drawn if additional years of NASS data on livestock losses to wolves were available, particularly for cattle losses, where only 2005 data was available for this analysis.

Because gray wolves occupy only limited portions of the U.S., most livestock producers will never be exposed to wolf predation on their stock. But for those producers who graze stock in wolf country, this analysis suggests wolf predation may be a much bigger concern than predation by other species. In terms of prioritizing resources, wildlife damage managers should recognize that responding to wolf depredation problems may in some cases take precedence over dealing with problems caused by other predators.

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