CARNIVORES AND CONFLICT: A COMMUNITY APPROACH TO CARNIVORE COMPENSATION

REPORT 1
SUMMARY OF CARNIVORE COMPENSATION PROGRAMS

JULY 2012

Prepared for:

Waterton Biosphere Reserve Association
Carnivore Working Group

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Introduction

In 2009, the Waterton Biosphere Reserve Association and the Chinook Area Land Users Association, with the assistance of the Miistakis Institute, conducted a survey in southwestern Alberta that examined the attitudes and perceptions of residents towards carnivores in their region, and towards the Alberta Wildlife Predator Compensation Program. The survey targeted residents within a 20km buffer zone of Waterton Lakes National Park. The southwestern corner of Alberta, which includes the buffer zone in which the survey was conducted, is of particular interest because it accounts for 37% of all compensation claims paid for by the Alberta Wildlife Predator Compensation Program between 2000 and 2010 (Lee, 2011; Morehouse and Boyce, 2011).

The 2011 Miistakis Report prepared by Tracy Lee briefly summarized and compared carnivore compensation programs in British Columbia, Saskatchewan, and Alberta, and discussed the three main approaches to carnivore compensation, as well as the challenges and criticisms for ex-post and “compensation in advance” schemes.

The three main approaches to compensation are as follows:

1. Ex-post compensation
   a. Livestock producers are reimbursed the value of lost or injured livestock after the damage has occurred.

2. Compensation in advance
   a. Livestock producers are provided partial or complete financial support for preventative measures (i.e. assistance schemes), or awarded payments tied to a pre-negotiated level of “ecosystem services” (i.e. performance payments).

3. Insurance based schemes
   a. Livestock producers pay premiums to be considered eligible for compensation.

Assessment and comparison of compensation programs has become common practice worldwide (Agarwala et al., 2010; Maclennan et al., 2009; Wagner et al., 1997). Conservation initiatives are culturally and legally sensitive to the regions in which they are implemented, and as a result, differ vastly. While many programs have struggled to provide empirical evidence of their success or progress, it is possible by defining and analyzing the goals of compensation to identify some core elements associated with success in achieving those goals (Nyhus et al., 2003). Through the analysis and comparison of compensation programs, lessons learned in one setting can advance progress in other regions and countries.

Information and insights from compensation programs in Canada, the United States, and internationally have been compiled into a list of possible options and approaches for community stakeholders to review, discuss, and evaluate. These options have been summarized in the following report to build and expand on the compensation options.
discussed in the 2009 Miistakis Report. While the Miistakis Report was clear and informative, it was not an exhaustive representation of all compensation programs. The objective of this report is to create a more complete picture of carnivore compensation programs in existence, inform community stakeholders about current options available, and serve as a possible foundation for creative brainstorming and problem solving. Additionally, this report will serve as a source from which community stakeholders can select options or develop alternatives to build a new compensation program for Southwestern Alberta.

**Common Goals and Challenges for Carnivore Compensation Programs**

In an effort to reduce the deaths of carnivores, mitigate the negative impacts of carnivore activity, and respond to the negative perceptions associated with lethal control, managers and conservationists have begun experimenting with compensation schemes (Decker et al., 2006; Haber, 1996). Compensation programs are a means of reimbursing private landowners for damages caused by carnivores, while at the same time promoting the conservation of these animals.

Common goals of carnivore compensation programs include:
- Distributing the burden of conservation costs more fairly between rural and urban populations
- Providing restitution to those who have suffered damages from carnivore-human conflict
- Promoting good husbandry practices
- Reducing poaching
- Improving attitudes and perceptions towards carnivores
- Increasing human tolerance of carnivore activity
- Reducing deaths of carnivore and livestock species

(Nyhus, et al. 2005; Nyhus et al., 2003)

Common challenges of compensation programs include:
- System corruption
- Difficulty in proving/verifying claims
- Costly payments
- Lack of compensation
- Lack of community support
- Reduced husbandry levels
  - Compensation may result in less pressure for ranchers to protect their livestock or take preventative measures against predators when they are guaranteed compensation for lost livestock.
- In the long-term, potential loss of natural wildlife habitat
  - Compensation for lost livestock may result in increased financial stability for ranchers, and result in an increased conversion of natural habitat to ranching/farming lands as the ranching industry becomes more
financially secure.  
(Agarwala et al., 2010; Bulte and Rondeau, 2005; Nyhus et al., 2003)

These lists of broad goals and challenges have been synthesized from academic reviews and evaluations of a variety of compensation programs in different settings. The specific goals for any particular compensation program should be developed by the participants to suit the unique features of the setting in which the program will be instituted. Goals for a compensation program may be nested in broader objectives meant to address issues such as land management practices and/or carnivore population levels and activity (Jackson and Wangchuk, 2004). Establishing goals for a compensation program can be challenging, but is a critical step in deciding the type and operation that will work best for any developing compensation program. Finding agreement between program managers and users, and determining how to go about achieving those goals may also be challenging.

**Breakdown for Carnivore Compensation Program Summaries**

For the following program summaries all information was collected from official program web pages (government and private), public documents, scientific literature, and/or personal communication with program managers. Due to limited resources, it was not possible to collect identical information across compensation programs. While each summary has the same basic format, not all summaries contain the same level of detail. Additionally, summaries should not be taken as a complete representation of the programs described. For more detailed information, refer to the references listed at the end of each summary and the end of this report, or contact representations of the program.

Each program summary is identified by its type of compensation, and includes a brief summary of the program’s administration and funding organization. Eligible livestock species, eligible carnivores or damage-causing species, and eligibility requirements for livestock producers are listed. If available, each summary states whether husbandry requirements are necessary for compensation, as well as a brief explanation of those requirements. The level and category of compensation is described. Whether or not an investigation is required to verify a depredation event is stated, along with additional details about program operation. Finally, if available, information is provided regarding program strengths, weaknesses, and recommendations. This information was collected from evaluations conducted by government organizations, private organizations, and/or academic/scientific review, and reported in the documentation and websites reviewed for this report.
Carnivore Compensation Programs

**CANADA**

**Alberta**

**Wildlife Predator Compensation Program**

*Program Type:*
Ex post

*Administration:*

*Funding:*
Financed through hunting and fishing licenses. The Alberta Conservation Association acts as the fiscal agent for the program. There are no federal funds attached to this program.

*Eligible Livestock:*
Cattle, bison, sheep, swine, and goats.

*Eligible Predators:*
Wolves, grizzly bears, black bears, cougars, and eagles. Not coyotes or any other predator.

*Husbandry Requirements:*
No.

*Compensation:*
- Compensation is based on the average commercial value for the type and class of animal on the day it was killed.
- Confirmed predator kills receive 100% of the market value
- If the livestock killed is cattle of less than one year of age, the producer has the following options:
  - To accept compensation at the time of loss
  - Choose to wait until the end of October and receive compensation based on the Canfax average for the month of October, based on an average weight of 550 pounds
- The minimum payment on a confirmed kill is $400.
• Probable kills receive 50% of the compensation value.
  o However, a confirmed kill by the same carnivore species must be found within 10 km either 90 days before or after the incident in question
• No compensation for missing livestock
• Veterinary costs and medication associated with the incident or loss are covered up to the value of the animal
• Incidents of feeding on livestock that had already died of disease or other causes not related to wildlife predation are not compensated.
• Compensation is reduced by any amount realized from the sale or salvage of a dead of injured animal

Investigation/Verification Required:
Yes.

Program Operation:
• Within 3 days of learning about a livestock injury or death livestock producers must report the incident.
• Contact the nearest ASRD Fish and Wildlife office as soon as possible. The Fish and Wildlife Officer may request that you move or cover the carcass to prevent the evidence from being lost to scavengers.
• The officer will examine the livestock and evidence from the area to confirm whether a predator killed or injured the animal.
• An investigation may be conducted by an appointed officer, a veterinarian, or, if such an officer is not readily available, a problem wildlife specialist employed by the Department of Agriculture and Rural Development.
• If the evidence confirms that predators killed the livestock or that a predator kill was likely, the officer will file the claim on behalf of the producer.

Losses or Amounts Paid Out for 2010:
The total amount paid out in 2010 for livestock damage for predators considered under the program was approximately $195,000. Included within these payouts were claims for 220 cattle. Of all claims submitted, 79% were confirmed, 9% were probable, and 13% were rejected.

Table 1: Alberta Wildlife Predator Compensation Claims Paid for 2010.

<table>
<thead>
<tr>
<th>Predator</th>
<th>Claim</th>
<th>Compensation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eagle</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Cougar</td>
<td>21</td>
<td>$8,515.66</td>
</tr>
<tr>
<td>Grizzly Bear</td>
<td>10</td>
<td>$8,878.08</td>
</tr>
<tr>
<td>Black Bear</td>
<td>12</td>
<td>$9,556.19</td>
</tr>
<tr>
<td>Wolf</td>
<td>162</td>
<td>$165,111.43</td>
</tr>
<tr>
<td>Unknown Predator</td>
<td>3</td>
<td>$2,286.48</td>
</tr>
<tr>
<td>TOTAL</td>
<td>209</td>
<td>$195,326.29</td>
</tr>
</tbody>
</table>
**Strengths:**
- The ranchers want to build off of the current program indicating that a strong foundation exists.
- Use of Canfax averages in establishing livestock values is a positive feature of the current program, especially in the case of commercial animals under one year of age.
- Giving producers the option (for animals under 1 yr) of taking payment on value at time of death or on value in October when calves are often sold.
- Officers are relatively prompt in responding to and investigating livestock predation incidents.
- Payment for the treatment of injured livestock.
- Probable claims receive at least some payment (50% of market value).

**Weaknesses:**
- No compensation for missing/unconfirmed animals
- Burden of proof is too high
- Payment for compensation is too low
  - No Additional compensation for purebred animals.
  - Yearlings cannot be valued at Canfax average in the fall when they would likely have been marketed, but are only valued at time of death.
  - Bred Cattle cannot be valued at Canfax average in the fall when they may have been marketed, but are only valued at D1/D2 average at time of death
  - Compensation does not address the non-consumptive losses (land owner’s time, weight loss, and reproductive loss to livestock)
- Trust issues between Fish and Wildlife Officers and livestock producers
- Livestock predation in certain seasons can take a lot of F&W Officer time and increase administration costs.
- Current program lacks incentive to reduce the risk of carnivore depredation and fails to reward landowners investing in such equipment/preventative measures

**Recommendations:**
- Changes to the types of damages that program users are compensated for (e.g. missing livestock and coyote kills)
- Changes to the compensation process such as reducing the burden of proof, a simplified process, reduced program costs, and/or prompt payments
- Changes to the compensation value
- Improve relationships between livestock producers and Fish and Wildlife Officers
- Program users are interested in experimenting with other approaches to compensation
- Increase incentives to reduce risk

*Source for Strengths, Weaknesses, and Recommendations:*
Collected from an academic review by the Miistikis Institute.
References:

British Columbia
Wildlife Predation Loss Prevention and Mitigation Pilot Project

Program Type:
Ex post

Administration:
B.C. Agricultural Research and Development Corporation (ARDcorp) and BC Cattlemen’s Association. The B.C. ARDCorp is a wholly owned subsidiary of the BC Agriculture Council, an NGO representing British Columbian farmers and ranchers. Conservation Officers from BC Ministry of Environment act as verification officers, unless unable to attend in which case qualified contracted wildlife specialists are called in.

The Steering Committee was made up of the Chief Operating Officer (C.O.O.) of ARDCorp, 2 representatives from the B.C. Sheep Producers, 2 representatives from the BC cattlemen’s Association (BCCA), and representatives from the Ministry of Environment and the Ministry of Agriculture and Lands.

The BC Sheep Federation, BC Cattlemen’s Association, the Ministries of Agriculture, of Environment - C.O.S, and of Forests, Lands and Natural Resource Operations - Fish & Wildlife Branch have committed to maintaining an ongoing Steering Committee.

Funding:
In 2011, compensation and verification funding remained available through AGRI’s Risk Management Branch under the Growing Forward agreement. In addition, the Provincial Government provided a $200,000 grant for 2011, administered through the BCCA (BC cattlemen’s Association), to help cover predation management costs, including predator verification and mitigation services from the Wildlife Control Specialists.
Eligible Livestock:
Cattle only. If compensation continues project managers have recommended that sheep and horses be compensated for as well.

Eligible Predators:
Coyotes, wolves, bears, and cougars.

Husbandry Requirements:
Yes. Compensation may be refused for a verified kill if Wildlife Specialists/COs feels as though poor husbandry practices were occurring. It is up to the discretion of the Wildlife Specialist/CO and if problems were observed, they may work with the landowner to develop/improve husbandry practices.

Compensation:
• Calves under 4 months receive $300; calves older than 4 months receive 75% average market value. For bulls and dairy cattle up to a maximum of $2000.
• No compensation for injured livestock unless it dies from injuries.
• No compensation for probable losses or missing animals.

Verification/Investigation Required:
Yes.

Program Operation:
All carcasses must be inspected to determine cause of death. British Columbia Conservation Officers are responsible for investigating and verifying depredation events. COs confirm the cause of death to the best of their ability. The Program Manager reviews reports and decides whether mitigation and/or compensation are warranted.

Additional Subsidies:
No subsidies to help landowners improve husbandry practices.

Losses or Amounts Paid Out for 2010:
In 2010, 78 head of cattle or calves were verified killed or injured by predators in B.C. There was no breakdown available for the number of adult cattle or calves injured or killed by predator. However, from the year before with approximately the same amount of compensation paid for animals lost, the predator breakdown was wolf 71%, coyote 14%, black bear 12%, grizzly 2%, and cougar 1%.

Program Initiatives:
TRAPPING
The Wildlife Predation Loss Prevention Pilot Project engaged the BC Trappers Association to develop and deliver a trapping course focused on wild canine species. The course was delivered to trappers and interested livestock producers. The hope is that this course would enable livestock producers to be allowed under special/limited license
to trap canines on private land. Course was delivered 22 times between October 2011 and March 2012.

VERIFICATION
A course led by COs to teach livestock producers how to identify kills and verify depredation events. This passes on knowledge and skills to livestock producers so that they are able to take all the basic steps for an investigation and be informed of what evidence qualifies them for compensation. Trained livestock producers than have the ability to help/assist their neighbors. Has the capacity to decrease the overall process time from finding a kill to being compensated.

Strengths:
• Involvement of COs can maintain knowledge and skills regarding the evaluation of predator attacks and preventative measures. Knowledge that was previously decreasing when COs were not involved in depredation events.

Weaknesses:
• Increased work for COs without a budget increase.
• Difficulty finding long-term funding
• Low compensation values
• Frustration with the program, which results in depredation events failing to be reported. Makes it difficult to fully assess the impact depredation events have on the livestock industry.
• Delays in verification and processing times

Recommendations:
• A verification tool kit for livestock producers (tape measure, camera, etc).
• Continue verification and trapping courses
• Include compensation for sheep and other domestic animals as well as additional predators
• Provide subsidies for preventative measures
• Building a partnership between livestock producers and registered trappers (manage problem wildlife with commercial trap lines)
• Implement a random audit to reduce verification costs (Randomly verify kills e.g. 1 in 10)
• Phase out compensation in favor of mitigation
• Remove the requirement that all reported kills be verified by field inspection
• Have sufficient penalties to strongly discourage cheating (removal from program for 5 years)
• Using reduction in complaints, reduction in losses, and the availability and accessibility of Web based tools, such as Best Management Practices, can be used as measures of success.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Drew Carmichael (most recent project coordinator), and a private consultants report for ARDCorp.

References:

Manitoba
Manitoba Wildlife Damage Compensation Program

Program Type:
Ex post

Administration:
Manitoba Agricultural Services Corporation (MASC), under Manitoba Conservation, administers the program on behalf of the federal and provincial governments. MASC handles compensation, and Manitoba Conservation is called when wildlife become a recurring problem for livestock producers.

Program Funding:
Cost-shared by the Government of Canada (60%) and the Province of Manitoba (40%). Compensation costs above 80% are funded solely by the Province of Manitoba.

Eligible Livestock:
Cattle, hogs, horses, sheep, donkeys, wild boar, goats, elk, fallow deer, bison, llamas, ostriches, emus, and other ratites (large flightless birds).
Honey, honeybees, beehives, and related equipment (if damage is caused by bears).

Honey lost or damaged between December 1st and March 1st is not eligible. Livestock are ineligible if death or injury occurs on public lands, such as provincial or federal parks, public shooting grounds, or wildlife management areas.

Eligible Predators:
Wolves, black bears, coyotes, cougar, and foxes. The main predators are coyotes and wolves.
Producer Obligations/Eligibility:
Program is cost-free for eligible livestock producers. There are no premiums or administration fees. Producers are not required to participate in Agri-Insurance to be eligible for compensation.

Husbandry Requirements:
Yes. Livestock producers are expected to take all the necessary precautions to prevent wildlife damage and predator attacks, take reasonable action to mitigate injury to livestock, and ensure that injured livestock receive prompt and professional veterinary treatment.

Compensation:
• Confirmed kills receive 90%.
  o Average commercial market price for each type and class of livestock, derived from either the CanFax weekly summary or listing from MAFRI.
• Probable kills may receive 50% of the claim value.
  o If death cannot be confirmed as predation, but sufficient evidence exists that predation was the likely cause of death than it is labeled probable.
• All reasonable veterinary and medical expenses (applicable to the value of the animal) incurred to treat the injured livestock are covered. Should the animal die, the livestock producer is able to receive compensation to the maximum value of the livestock less veterinary costs.
• No compensation for missing animals

Compensation Details:
Compensation covers a portion of the animal’s commercial market value for each type and class of livestock to a maximum of $2000 per animal for commercial and registered purebred livestock. Purebred livestock are valued at twice the commercial value for animals of the same kind or class, however the maximum still applies. Beginning April 1, 2011 wildlife compensation increased to 90% (i.e. up from 80%). Commercial market prices are taken from Can Fax Weekly Summaries or a price list recommended by Manitoba Agriculture, Food and Rural Initiatives. Value is determined at the time of death and no consideration given to future potential value.

Verification/Investigation Required:
Yes.

Program Operation:
• Losses must be reported within 3 days of discovery.
• Following a depredation event the producer must preserve the crime scene and report the incident to the local MASC Insurance office, so that an appointment can be made for an Adjustor to investigate and verify the kill.
• Investigation conducted by an Adjuster employed by MASC.
There must be sufficient remains of livestock to determine the cause of death in order for compensation to be issued. If there is no carcass and no sufficient evidence to prove a predator attack than no compensation will be made.

- If an animal is injured (and must be treated) it is essential the livestock producers leave any additional evidence undisturbed until it has been assessed by a MASC adjustor. If the animal is killed, than the carcass must not be moved, and evidence must not be moved or destroyed until it has been assessed.

**Losses or Amounts Paid out for 2010:**
A total compensation for 2,149 claims of $627,000 for livestock losses for all predators was paid out.

Table 2: Manitoba Wildlife Occurrences for 2010-2011.

<table>
<thead>
<tr>
<th>Predator</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver</td>
<td>223</td>
<td>5%</td>
</tr>
<tr>
<td>Black bear</td>
<td>1374</td>
<td>32%</td>
</tr>
<tr>
<td>Polar bear</td>
<td>244</td>
<td>6%</td>
</tr>
<tr>
<td>Big game</td>
<td>276</td>
<td>6%</td>
</tr>
<tr>
<td>Wolf</td>
<td>171</td>
<td>4%</td>
</tr>
<tr>
<td>Migratory Birds</td>
<td>240</td>
<td>6%</td>
</tr>
<tr>
<td>Other (coyote, fox, raccoon...)</td>
<td>1776</td>
<td>41%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4304</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3: Number of livestock payouts reported by carnivore.

<table>
<thead>
<tr>
<th>Animal numbers</th>
<th>Black bear</th>
<th>Cougar</th>
<th>Coyote</th>
<th>Fox</th>
<th>Wolf</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef bull</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Beef calf</td>
<td>41</td>
<td>3</td>
<td>1,042</td>
<td></td>
<td>316</td>
<td>1,402</td>
</tr>
<tr>
<td>Beef cow</td>
<td>7</td>
<td>1</td>
<td>21</td>
<td></td>
<td>55</td>
<td>84</td>
</tr>
<tr>
<td>All farm animals</td>
<td>49</td>
<td>9</td>
<td>1,625</td>
<td>1</td>
<td>465</td>
<td>2,149</td>
</tr>
<tr>
<td><strong>Percent of total</strong></td>
<td><strong>8%</strong></td>
<td><strong>1%</strong></td>
<td><strong>25%</strong></td>
<td>&lt;1%</td>
<td><strong>65%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Program Initiatives:**
Manitoba Conservation has entered into an agreement with the Manitoba Trappers Association to administer and deliver problem predator removal services for livestock producers. After a livestock claim has been submitted those predators responsible are targeted. There must be an active MASC claim number to make a request for trapper services. Trappers are paid for their travel on a per km basis, paid for work/services on an hourly basis (up to 24 hours), however, extensions can be granted with permission from a natural resources officer.
**Strengths:**
- Within this program there are opportunities for education and prevention measures to relieve the pressure/dependence on the compensation component.
- Flexibility in program’s compensation rates increases or decreases depending on availability of funds.
- The program has survived for many years (e.g. predator program since 1997).

**Weaknesses:**
- The province provides no financial support for the implementation of “best management practices”.
- Requests for compensation to be increased to 100%
- Some wildlife species and crops still not supported:
  - Requests for coverage of damage by additional wildlife species (e.g. blackbirds) and for additional crops (e.g. strawberries and small fruit)
- Concerns regarding the treatment of damage in extended grazing situations and the valuation of calves and lambs lost to wildlife predation
- Concerns regarding the “no carcass no claim” policy

**Recommendations:**
An increase from 90% compensation to 100% was requested but deferred. So 2012 levels will remain the same as 2011 (80% with the additional 10% compensation being funded entirely by the Government of Manitoba).

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Douglas Wilcox, a manager in Program Development – Insurance for MASC, and a private consultants report for ARDCorp.

**References:**

**Newfoundland and Labrador**

**Newfoundland and Labrador Livestock Insurance Plan**

**Program Type:**
Insurance
Administration:
Livestock insurance is established under the Livestock Insurance Act of Newfoundland. The Livestock Owners Compensation Board consists of a chairperson being the Director of Agriculture Business Development Division, Forestry and Agrifoods Agency, Department of Natural Resources, two producer representatives, and a provincial representative. Agriculture Development Officers employed by the Forestry and Agrifoods Agency carry out the fieldwork.

Funding:
Provincially funded and program premiums.

Eligible Livestock:
Sheep, goats, dairy and beef cattle. Majority of livestock insured under this program are sheep.

Eligible Predators:
Roaming dogs, coyotes, lynx, and bears.

Producer Obligations/Eligibility:
- Livestock producers must file identifying tag numbers to the Livestock Compensation Board along with premiums payable prior to the start of a new fiscal year (Prior to April 1). Livestock producers are then covered until March 31 of the following year.
- Newly purchased livestock must be insured with 30 days with proof of purchase (receipt). And Lambs must be insured within 30 days after birth.

Table 4: Example of 2010-2011 Livestock Insurance Statistics.

<table>
<thead>
<tr>
<th></th>
<th>Sheep</th>
<th>Lambs</th>
<th>Goats</th>
<th>Dairy Cattle</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Insured animals</td>
<td>211</td>
<td>159</td>
<td>6</td>
<td>1</td>
<td>377</td>
</tr>
<tr>
<td>Premiums Collected</td>
<td>$675.20</td>
<td>$318.00</td>
<td>$3.00</td>
<td>$5.00</td>
<td>$1,001.20</td>
</tr>
<tr>
<td>Coverage</td>
<td>$35,360.00</td>
<td>$16,925.00</td>
<td>$300.00</td>
<td>$500.00</td>
<td>$53,085.00</td>
</tr>
<tr>
<td>Number of Claims</td>
<td>10</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Indemnity</td>
<td>$1444.00</td>
<td>$225.00</td>
<td>0</td>
<td>0</td>
<td>$1,665.00</td>
</tr>
</tbody>
</table>

Husbandry Requirements:
Information not available.

Compensation:
- All types of predator attacks are compensated.
• An injured animal that dies within 7 days from the date it was first injured will be compensated.

Verification/Investigation:
Yes.

Program Operations:
• Insurance applications are filed every year and sent to the Agriculture Development Officers, and when completed a “Contract of Insurance” is issued from the Board to the livestock producer. This outlines the responsibilities and duties of both parties and all livestock insured under the contract upon verification of ear tags and registration papers.
• Agriculture Development Officers inspect the insured animals and verifies their tag numbers.
• Livestock producers must report depredation incidents within 48 hours.
• Agriculture Development Officers verify the claim and tag number when livestock are depredated and complete the “Claim and Inspection Report” following an investigation of the carcass or injured animal.
• The producer completes a final “Affidavit” that must be notarized and then reviewed by the Board. Reports are reviewed by the Secretary/Manager and then forwarded to the Board for a decision on the approval of an indemnity payment.

Strengths:
Information not available.

Weaknesses:
Decline in number of livestock producers and decreasing sizes of flocks, specifically sheep has led to decreased premium collections. Keeping the program viable could be difficult in the face of indemnity payments rising higher than premiums collected through the program.

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Collected from 2010-2011 Annual Government Review.

References:

**Nova Scotia**

**Nova Scotia Crop and Livestock Insurance**

*Program Type:*
Ex post

*Administration:*
Nova Scotia Crop and Livestock Insurance Commission. The commission administers the program on behalf of the Province. Subject to the provisions of the Growing Forward Agreement between the Canadian Government and the provincial government of Nova Scotia. This program is delivered under the authority of the Crop and Livestock Insurance Act.

*Funding:*
40% from provincial and 60% from federal for total administration costs.

*Eligible Livestock:*
Annually on March 1 the Commission publishes which exotic game species will be compensated for the following year. No species of fowl are eligible for compensation.

Table 5: Livestock and prices confirmed for 2012.

<table>
<thead>
<tr>
<th>Livestock Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cows</td>
<td>800</td>
</tr>
<tr>
<td>Dairy calves</td>
<td>200</td>
</tr>
<tr>
<td>Dairy bull/steers</td>
<td>600</td>
</tr>
<tr>
<td>Beef cows</td>
<td>800</td>
</tr>
<tr>
<td>Beef calves</td>
<td>200</td>
</tr>
<tr>
<td>Beef bulls</td>
<td>1000</td>
</tr>
<tr>
<td>Beef feeders (steers and heifers)</td>
<td>700</td>
</tr>
<tr>
<td>Sheep ewes</td>
<td>200</td>
</tr>
<tr>
<td>Sheep lambs</td>
<td>175</td>
</tr>
<tr>
<td>Sheep rams</td>
<td>400</td>
</tr>
<tr>
<td>Goat does</td>
<td>200</td>
</tr>
<tr>
<td>Goat kids</td>
<td>75</td>
</tr>
<tr>
<td>Goat bucks</td>
<td>200</td>
</tr>
<tr>
<td>Bee hives and contents (value of actual loss up to)</td>
<td>500</td>
</tr>
<tr>
<td>Bumble bee quads</td>
<td>300</td>
</tr>
<tr>
<td>Leaf cutter bees</td>
<td>100/box</td>
</tr>
</tbody>
</table>
Eligible Predators:
Black bear, fox, coyote, raven/crow, and any birds of prey. Damage caused by dogs is not eligible.

Producer Obligations/Eligibility:
No requirement for producers to be enrolled in Crop Insurance to receive compensation.

Program compensates registered Nova Scotia farmers – registered under the Nova Scotia Farm Registration Act.

Husbandry Requirements:
Yes. Compensation can be withheld if the livestock producer has failed to take appropriate preventative measures that could have mitigated or avoided the damage. Producers are also obligated to implement any further/future preventative measures indicated by the commission.

Compensation:
• Confirmed predations are compensated 80% of the value of the livestock.
• Probable deaths are compensated 50% of the value of the livestock.
• When livestock are injured but not killed, producers are paid the lesser of the amount paid for veterinary services/treatment or the value of the livestock had it died.
• The maximum value of compensation is $2000 for each head of livestock and at no time exceeds 80% of the value of the loss.
• No consideration is given to any potential future increases in the value.

Verification/Investigation:
Yes.

Program Operation:
• Loss or damage to eligible livestock species must be reported to the Commission no later than 72 hours after the occurrence.
• If claimants are seeking compensation they are restricted from taking any direct action against wildlife without permission.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
Information not available.
Ontario

Ontario Wildlife Damage Compensation Program

Program Type:
Ex post

Context:
This program is part of Growing Forward, a federal, provincial and territorial initiative. A compensation program had existed previously for 30 years, but was stagnating. This new program, which began July 1, 2011, continued compensation, increased maximum compensation values and allows those values to refresh regularly to keep up with current market values, expands the variety of wildlife and livestock species the programs supports, and establishes a frequent review process to ensure necessary adjustments to the program are being made.

Administration:
This program is part of Growing Forward, a federal, provincial and territorial initiative. It is scheduled for review at least once every 5 years to ensure that it is meeting its objectives and performing on a basis so that the benefits are outweighing the costs of the program.

The program is broken down into Municipalities with Municipal offices and Municipal valuers, which answer to the Program Administrator and ultimately the Minster of Agriculture, Food and Rural Affairs. Municipalities are not able to pass by-laws to limit compensation, but they can pass by-laws to provide compensation for livestock/wildlife not currently supported (In which case they are financially liable for those payments).

Funding:
This program is part of the Growing Forward initiative. Funds from the Ministry of Agriculture, Food and Rural Affairs, which are allocated from the provincial Government. Ontario Government also provides any administrative costs that are considered reasonable or prudent.

Eligible Livestock:
Alpaca, bison, cattle, donkey, emu, farmed deer, farmed elk, fur-bearing animal
Eligible Predators:
Bear, bobcat, coyote, cougar, crow, eagle, elk, fisher, fox, hawk, lynx, mink, raccoon, raven, turkey vulture, weasel, and wolf (and for damage pertaining to bee colonies and beehives are bear, deer, raccoon, and skunk).

Producer Obligations/Eligibility:
• No premium or administration fees
• Be a sole proprietor, corporation, partnership or unincorporated association
• Fully cooperate in any audits that may be initiated related to any compensation an applicant may receive as a result of the program
• Have a valid Farm Business Registration number (FBR) or approved documentation issued by the ministry for new/retired farmers that do not qualify for an FBR number, or have a religious exemption approved by the Agriculture Food and Rural Affairs Appeal Tribunal or a confirmation letter provided by the Indian Agricultural Program of Ontario
• Have a Premises Identification number or a confirmation letter provided by the Indian Agricultural Program of Ontario, unless a Premises Identification number is not available in that particular area
• Weight of poultry injured or killed must be more than 25 kilograms
• Apply for compensation under the program using the application form
• Be in compliance with and remain in compliance with all applicable federal, provincial and municipal laws
• A producer must provide their SIN number to be eligible for a payment – required for taxes purposes
• Livestock producers are not eligible if they have filed false information or misleading information, and those that have acted in an abusive or threatening manner toward a valuer, or any other person responsible for administering the program, will be suspended from the program for a specified period of time

Husbandry Requirement:
Yes. Must demonstrate to the valuer that reasonable effort has been taken to prevent incidences of wildlife damage to livestock, poultry, beehives, bee colonies or beehive related equipment to be eligible for a claim. Valuers have the ability to decline claims if the livestock producer has not taken reasonable prevention measures.

Compensation:
• The program provides 100% of the value of the loss, according to fair
market value, up to the prescribed maximum compensation values.

Table 6: Maximum Compensation values for Livestock (Not including values for Poultry)

<table>
<thead>
<tr>
<th>Species</th>
<th>Max. Amount ($ Per Unit)</th>
<th>Species</th>
<th>Max. Amount ($ Per Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle, registered</td>
<td>8,000</td>
<td>Deer Buck, 1 year and older</td>
<td>8,000</td>
</tr>
<tr>
<td>Cattle, non-registered</td>
<td>2,500</td>
<td>Deer, all other</td>
<td>4,000</td>
</tr>
<tr>
<td>Bison bull, 1 year and older</td>
<td>4,000</td>
<td>Alpaca</td>
<td>8,000</td>
</tr>
<tr>
<td>Bison, all other</td>
<td>2,500</td>
<td>Llama</td>
<td>8,000</td>
</tr>
<tr>
<td>Sheep, registered</td>
<td>1,200</td>
<td>Ostrich</td>
<td>3,000</td>
</tr>
<tr>
<td>Sheep, non-registered</td>
<td>300</td>
<td>Emu</td>
<td>500</td>
</tr>
<tr>
<td>Goat, registered</td>
<td>1,000</td>
<td>Rhea</td>
<td>1,500</td>
</tr>
<tr>
<td>Goat, non-registered</td>
<td>600</td>
<td>Donkey</td>
<td>5,000</td>
</tr>
<tr>
<td>Swine, registered</td>
<td>5,000</td>
<td>Mule</td>
<td>5,000</td>
</tr>
<tr>
<td>Swine, non-registered</td>
<td>2,000</td>
<td>Mink</td>
<td>150</td>
</tr>
<tr>
<td>Horse</td>
<td>8,000</td>
<td>Fox</td>
<td>1,500</td>
</tr>
<tr>
<td>Rabbit Breeders for meat production</td>
<td>40</td>
<td>Raccoon</td>
<td>75</td>
</tr>
<tr>
<td>Rabbit, all other</td>
<td>30</td>
<td>Fisher</td>
<td>250</td>
</tr>
<tr>
<td>Elk Bull, 1 year and older</td>
<td>8,000</td>
<td>Martin</td>
<td>250</td>
</tr>
<tr>
<td>Elk, all other</td>
<td>4,000</td>
<td>Lynx</td>
<td>2,000</td>
</tr>
</tbody>
</table>

- Compensation for injured livestock. Those affected by wounding, worrying or pursuing are considered injured.
- No compensation for probable loss
- No compensation for missing animals
- Guard dogs killed or injured by wildlife are not eligible for compensation
- There is no maximum claim per person
- Payments under this program are considered as income for tax purposes

Verification/Investigation Required:
Yes.

Program Operation:
- Livestock producer must notify the municipality within 48 hours of discovering an injury or death.
- Within 3 days of receiving notification, the valuer will make a full investigation and then submit a written report within 10 business days after receiving notification to the municipality, the producer and the Ontario Ministry of Agriculture, Food and Rural Affairs.
• The report will include: what caused the injury or death, the extent and amount of the damage, and the amount allowed/required for compensation of the livestock owner.
• Where it is determined that the claim is valid, the municipality is not liable to pay more than is required under the program guidelines.
• Payments are made by the Municipality to the claimant, and in turn the Municipality is reimbursed by the Government of Ontario.

Losses or Amounts Paid Out for 2010:
Nearly 50% of claims submitted for cattle depredation incidents were associated with either wolves or coyotes. During 2009 the Ontario Government paid out $1.4 million to producers, however, the amounts per species were not available. Black bear, wolves, and coyotes were the worst offending predators.

Strengths:
Information not available.

Weaknesses:
Under the current eligibility guidelines applicants require a valid Farm Registration Number. This eliminates people such as hobby farmers, who are unable to meet the requirements for a Farm Registration Number Process. There are many complaints that this requirement disenfranchises small farmers, and leaves a large group of people no longer able to qualify for compensation. To be Eligible for a Farm Business Registration Program, a farm business must gross $7,000 or more annually. Users are also displeased that there is no compensation for guard dogs.

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Collected from community commentary/feedback from Ontario Federation of Agriculture and newspapers.

References:
Saskatchewan
Wildlife Damage Compensation Program

Program Type:
Ex post

Administration:
The Saskatchewan Crop Insurance Corporation (SCIC). Policies developed by Saskatchewan Livestock Predation Program Committee consisting of representatives from the Ministry of Agriculture, Ministry of Environment and members from various associations for sheep, cattle, equine, as well as other livestock species. SCIC hires adjustors and predator control specialists to verify claims and help identify prevention measures.

Funding:
Cost shared 60% by the federal government and 40% by the provincial government for the first 80% of compensation. The provincial government contributes the remaining 20% amount of compensation. Provincial funding handled by the Ministry of Agriculture. Funds under the Growing Forward agreement on behalf of Provincial and Federal governments.

Eligible Livestock:
Cattle, sheep, goats, bison, horse, hogs (excluding wild boar), elk, fallow deer, llamas and donkeys; ostriches, emus, ducks, geese, chickens and turkeys; and any other less common species that is raised domestically for agricultural production. Compensation is also available to beekeepers for bear damage (to hives, huts, production loss and larvae loss).

Eligible Predators:
Coyotes, bears, cougars, lynxes, foxes, wolves, eagles, birds of prey, scavenging birds, raccoons, skunks, badgers, minks, weasels or any other wild animal that causes injury or death to eligible livestock. Principal predators are coyotes and wolves.

Producer Obligations/Eligibility:
• No costs or premiums paid by livestock producers.
• All evidence of the attack should be preserved for the adjuster to view. An adjuster will assess loss or injury.
• Receipts for veterinary costs and drug expenses are evidence of treatment.
• Producers with purebred livestock will be required to provide evidence of the livestock’s value.
• Compensation is tied to husbandry practices.

Husbandry Requirements:
Yes. Producers are expected to utilize the recommended prevention programs that are
available to protect their livestock. Failure to fulfill these responsibilities and implement predator control measures recommended by specialists will result in a producer being denied further predator control services or compensation. Prevention measures may include engaging people to hunt and trap predators, and/or undertaking education programs to help control or reduce the impact of predators on livestock.

Compensation:
- Producers can receive 100% compensation without any cost or premium.
- 100% compensation for death of livestock due to predation
- Producers can receive up to 80% of an animal’s value to cover veterinary costs when they are injured, and the additional 20% if the animal dies
- 50% compensation for suspected/probable predation cases
- No compensation for missing animals

Compensation details:
- Minimum of $400 for beef calves, $150 for foals, $60 for lambs and $60 for goat kids
- For beef calves, pricing determined using Can Fax market sales data the week before, the week of, and the week after the loss. Producer is compensated for the highest of these three values. If the market price is lower than the set minimum, the producer will receive the $400 minimum.
- Compensation for other species will be determined using market sales data. Prices will be set using months when sales volumes are high and based on the value at the time of death not on any future cash potential.
- Registered livestock, fowl, and eligible specialty animals are compensated at 1.5 times the commercial value. Proof of registration is required.

Verification/Investigation:
Yes.

Program Operation:
- The producer must contact SCIC as soon as a predator attack is apparent, and an inspection is required before compensation is paid.
- An adjuster employed by SCIC conducts the investigation.
- Claim assessments are based on the evidence of the carcass, the attack/kill site, and evidence indicating the presence of carnivores.
  - Evidence indicating the animal was alive prior to the predator attack is required. Two-thirds of a carcass should be present to evaluate the attack. If this evidence is not present, compensation may not be paid.

Additional Subsidies:
Some costs associated with prevention measures and recommendations are subsidized: a $100 subsidy for livestock guard dogs and $4000 for a producer to fence off feed stacks.
Losses or Amounts Paid Out for 2010:
For all predators there were 3,508 cattle claims with $1,489,132 paid out for the year.

Table 7: Reported Predator Attacks for all Livestock in Saskatchewan for 2010.

<table>
<thead>
<tr>
<th>Predators</th>
<th>Attacks</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>18</td>
<td>&lt;0.5%</td>
</tr>
<tr>
<td>Fox</td>
<td>20</td>
<td>1%</td>
</tr>
<tr>
<td>Raven</td>
<td>32</td>
<td>1%</td>
</tr>
<tr>
<td>Unknown</td>
<td>40</td>
<td>1%</td>
</tr>
<tr>
<td>Cougar</td>
<td>71</td>
<td>2%</td>
</tr>
<tr>
<td>Bears</td>
<td>77</td>
<td>2%</td>
</tr>
<tr>
<td>Wolf</td>
<td>211</td>
<td>6%</td>
</tr>
<tr>
<td>Coyote</td>
<td>3,328</td>
<td>87%</td>
</tr>
<tr>
<td>Total</td>
<td>3,815</td>
<td>100%</td>
</tr>
</tbody>
</table>

Strengths:
No information available.

Weaknesses:
No information available.

Recommendations:
Current program requires an adjuster to verify the cause of livestock injury or death. This is hindered by the length of time it takes for an adjuster to access a site. This increases the amount of time carcasses have to be protected/preserved by livestock producers. Program users have recommended allowing/giving authority to community pasture managers (managers employed by the Department of Agriculture in the Saskatchewan Pastures Program supervising Crown Land) to justify/verify cause of livestock injuries and deaths.

Source for Strengths, Weaknesses, and Recommendations:
Collected from community resolutions from the Saskatchewan Association of Rural Municipalities.

Special Note:
Saskatchewan also has a Crop Damage Compensation program as part of the Wildlife Damage Compensation Program. Provides 100% compensation for damage caused by bears, as well as, many other animals. Compensation is available on claims $150 and over.

• Eligible Crops: Stacked hay, silage, and bales
• Producer Obligation: Producers are required to allow hunters reasonable access to farmland where wildlife damage occurs.
References:

UNITED STATES OF AMERICA

Defenders of Wildlife
In 1987, Defenders of wildlife created the first compensation program for wolf depredation events in the Northern Rockies of the United States. The program then expanded into Southwestern U.S. in 1996, and in 2000, was renamed the Bailey Wildlife Foundation Wolf Compensation Trust after a generous donation from the Bailey Wildlife Foundation. The Trust compensated for wolf and grizzly bear activity, and all funding was/is collected from private sources.

For livestock losses attributed to wolves and grizzly bears, the Defenders of Wildlife had paid $1.5 million to livestock producers in Idaho, Montana, and Wyoming between 1987 and August 2010. Compensation was 100% for livestock losses (market value up to $3,000 per animal) and guard dogs. Probable losses received 50% of market value up to $1,500. Livestock producers were obligated to provide documentation of the value of their animals, and a standardized investigation report. To remain eligible claimants had to demonstrate reasonable non-lethal control measures and responsible animal husbandry methods. These methods may include, but were not limited to, increased human presence (e.g. herders or range riders), predator-proof fencing, livestock guard dogs, removal of dead or dying livestock, and/or electronic alarm systems.

In most cases, funds were used in each state to supplement any state compensation programs already in place. Now that the U.S. federal government has created a wolf predation compensation program that provides funds for State governments to initiate/sustain their own compensation programs, Defenders of Wildlife is phasing out its compensation payments in Idaho, Montana, Wyoming, Washington, Oregon, Arizona and New Mexico. Funding for State operated compensation programs will come from a federal grant, the 2009 Wolf Loss Demonstration Project bill (i.e. Public Law 111-11). This provides up to $1 million annually for 5 years to states (excluding Alaska) and tribes
with wolves and wolf caused damage. State programs are required to match 50% of the federal contribution with state funds or private donations (federal cost-share not to exceed 50%).

Compensation from Defenders was scheduled to end in 2010 for all states, however Defenders continued to offer support to State programs throughout the transition period (e.g. helping States satisfy their matching funds requirement). Defenders of Wildlife still assists livestock producers with proactive-nonlethal methods, deterrents and strategies for reducing conflict, and continues its Grizzly Compensation Trust program and prevention work as usual.

Table 8: Defenders of Wildlife Compensation Payments by State from 1987 to October 2009.

<table>
<thead>
<tr>
<th>State</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Other</th>
<th>Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montana</td>
<td>353</td>
<td>656</td>
<td>28</td>
<td>$429,880</td>
</tr>
<tr>
<td>Wyoming</td>
<td>391</td>
<td>368</td>
<td>32</td>
<td>$360,301</td>
</tr>
<tr>
<td>Idaho</td>
<td>376</td>
<td>1,314</td>
<td>22</td>
<td>$433,384</td>
</tr>
<tr>
<td>Arizona</td>
<td>74</td>
<td>10</td>
<td>6</td>
<td>$47,756</td>
</tr>
<tr>
<td>New Mexico</td>
<td>94</td>
<td>0</td>
<td>4</td>
<td>$67,910</td>
</tr>
<tr>
<td>Oregon</td>
<td>1</td>
<td>24</td>
<td>0</td>
<td>$3,900</td>
</tr>
</tbody>
</table>

Table 9: An example of the proposed allocation of funds from the Wolf Livestock Demonstration Project (Does not total full $1,000,000):

<table>
<thead>
<tr>
<th>State</th>
<th>Proposed Allocation</th>
<th>State</th>
<th>Proposed Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MN</td>
<td>100,000</td>
<td>WY</td>
<td>140,000</td>
</tr>
<tr>
<td>MI</td>
<td>90,000</td>
<td>AZ</td>
<td>60,000</td>
</tr>
<tr>
<td>WI</td>
<td>140,000</td>
<td>NM</td>
<td>60,000</td>
</tr>
<tr>
<td>ID</td>
<td>140,000</td>
<td>OR</td>
<td>15,000</td>
</tr>
<tr>
<td>MT</td>
<td>140,000</td>
<td>WA</td>
<td>15,000</td>
</tr>
</tbody>
</table>

References:

Arizona and New Mexico
The Mexican Wolf Interdiction Program

Program Type:
Ex post
Administration:
The U.S. Fish and Wildlife Service (Service) in cooperation with the National Fish and Wildlife Foundation, established the Mexican Wolf /Livestock Interdiction Fund (Interdiction Fund). The Mexican Wolf Interdiction Program appointed an 11-member Interdiction Fund Stakeholder Council (Stakeholder Council), which has the authority to identify, recommend, and approve conservation activities, identify recipients, and approve the amount of the direct disbursement of funds to qualified recipients.

Funding:
Based on limited resources while fundraising activities are occurring.

Husbandry Requirements:
Information not available.

Compensation:
- Calf: $ 750
- Yearling: $1,000
- Cow: $1,200
- Bull: $2,000
- Probable depredations will be paid at a rate of 50% of confirmed depredations.
- Injured animals may also be compensated at the discretion of the Council.
- If livestock other than cattle are depredated by wolves, compensation will be determined at the discretion of the Council.
- Pets that are depredated by wolves may also be compensated at the discretion of the Council and based on the claim and estimated value of the animal.
- Compensation will be reduced by the amount compensated by a private insurance policy or compensation process other than that offered by the Interdiction Council.

Verification/Investigation Required:
Yes.

Program Operation:
- Contact a local USDA APHIS-Wildlife Services (Wildlife Service) field representative, or the Interagency Field Team, who will coordinate an investigation.
- The Wildlife Services representative will provide a depredation report to the owner/manager of the animal. The report should provide a reasonable and complete record of evidence based on the Wildlife Services’ Criteria for Classification of Reported Depredation Incidents.
- If the investigation report verifies that wolves were the cause, or probable cause, of the depredation (death or injury), the livestock owner can seek compensation from the Interdiction Fund by submitting the following information:
  - A completed copy of the USDA Wildlife Service’s standard investigation
report form.
  
  - Complete contact information for the livestock owner including phone number, mailing address, Tax Identification Number, and best time to contact in case we have questions.

  - Claims should be submitted within six (6) months of the date of the investigation.

Additional Subsidies:
Funding will be applied to initiatives that address management, monitoring, and other proactive conservation needs for Mexican wolves as they relate to livestock, including alternative livestock husbandry practices, grazing management alternatives, livestock protection, measures to avoid and minimize depredation incidents, habitat protection, species protection, scientific research, conflict resolution, compensation for damage, education, and outreach activities.

Strengths:
Information not available.

Weaknesses:
Program users are dissatisfied with the program compensation process.

Recommendations:
- Consulting one-on-one with livestock producers to develop alternatives to the current compensation program.
- Instill a sense of livestock producer ownership for mitigating depredation events and increase current knowledge regarding depredation mitigation activities.
- Develop a “peer” support network.

Source for Strengths, Weaknesses, and Recommendations:
Academic/Scientific literature.

References:

Colorado Game Damage Program

Program Type:
Ex post
**Funding:**
The program is funded by the appropriation of sportsmen’s dollars from the Game Cash Fund. USDA/APHIS (56%) and State of Colorado/cooperative agreements (44%) such as livestock associations, county funding, park fees, etc.

**Eligible Big Game:**
Elk, deer, bear, mountain lion, pronghorn, moose, and bighorn sheep.

Not dogs, birds, coyotes, or bobcats.

**Producer Obligations/Eligibility:**
- Claimant cannot unreasonably restrict hunting.
- Cannot charge more than $500/person in access fees.
- Claimant has a duty to mitigate damage.
- Claimant has filed paperwork in a timely manner.

**Husbandry Requirements:**
Yes. Livestock producers have a duty to mitigate damage.

**Compensation:**
- Claims for livestock losses are capped at $5000/animal.
- Compensation also for commercial orchards, nurseries, growing and harvested crops, forage, fences, and apiaries.

**Verification/Investigation Required:**
Yes.

**Program Operation:**
- Claimant should contact Colorado Parks & Wildlife immediately upon discovery of damage.
- CPW staff ensures the correct paperwork is completed and answers any questions.
- The claimant is responsible for timely notifications, completion of forms, efforts to mitigate the damage, and assisting CPW personnel investigating the claim.
- The claimant must be able to prove the damage was caused by big game and that the amount of money being claimed is reasonable.
- Claims over $20,000 and all denied claims are reviewed by the Parks & Wildlife Commission. This provides an opportunity for the claimant to offer additional support for the claim.

**Additional Subsidies:**
Colorado Parks and Wildlife distributes materials to qualified landowners for the protection of their crops and livestock. Funds are used to purchase bulk fencing materials and pyrotechnics. The division anticipates the fencing needs, and materials
are distributed to qualified landowners for crop and livestock protection.

**Qualifications for Subsidies:**

- Have experienced (or the potential for) damage to harvested/growing crops, orchards, nursery, or livestock by big game species.
- Hunting on the property for the problem species is not unreasonably restricted, public land access is not restricted, and hunting rights are not leased. Fees in excess of $500 per animal are not charged.
- Producer agrees to install the materials as specified for damage purposes only and maintain them for a specified period.

**Strengths:**

Information not available.

**Weaknesses:**

Information not available.

**Recommendations:**

Information not available.

**References:**


Colorado Department of Natural Resources. (2012). Game Damage Program. Retrieved April 17, 2012, from [http://wildlife.state.co.us/LandWater/PrivateLandProgram/GameDamage/Pages/GameDamage.aspx](http://wildlife.state.co.us/LandWater/PrivateLandProgram/GameDamage/Pages/GameDamage.aspx)


**Idaho**

**Idaho Wolf Depredation Compensation Program**

**Program Type:**

Ex post

**Administration:**

 Compensation is entirely the responsibility of the State. A compensation board of eight county commissioners or their designees from each of the counties meet at least twice each year to review and make decisions on claims submitted under this program.

**Funding:**
State of Idaho is the recipient of a grant through the federal Wolf-Livestock Demonstration Project. Funding for 2012 and the future uncertain.

**Eligible Livestock:**
Cattle, sheep, and dogs.

**Eligible Predators:**
Wolf (now managed as a big game animal similar to black bear and cougar).
No compensation for coyotes.
In the past compensation was also provided for mountain lion/cougar depredations.
Compensation is available for damage caused by bears to berries and honey operations.

Table 10: Project predation losses by livestock producers in Idaho for 2010 (Losses not necessarily claimed and compensated).

<table>
<thead>
<tr>
<th></th>
<th>Coyotes</th>
<th>Mountain lion or Bobcat</th>
<th>Dogs</th>
<th>Vultures</th>
<th>Wolves</th>
<th>Bears</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>74</td>
<td>29</td>
<td>10</td>
<td>-</td>
<td>570</td>
<td>8</td>
<td>61</td>
<td>1,150</td>
<td>1,900</td>
</tr>
<tr>
<td>Calves</td>
<td>1,130</td>
<td>181</td>
<td>139</td>
<td>13</td>
<td>1,991</td>
<td>29</td>
<td>126</td>
<td>592</td>
<td>4,200</td>
</tr>
</tbody>
</table>

**Husbandry Requirements:**
Information not available.

**Compensation:**
- This program recognizes three types of livestock losses and proactive approaches for possible compensation:
  - Confirmed kills based on field investigations and examinations (verified kills)
  - Probable field kills (verified)
  - Not confirmed or probable but livestock missing and wolves observed in the area
  - Proactive programs/activities that reduce the opportunity or likelihood for wolf-livestock interactions
- Verified losses, both confirmed and probable, take priority and are paid at market value.
- Not confirmed or probable losses are compensated if funds are available.
- Compensation for proactive efforts is up to 100% of actual costs incurred for the current year, proactive, out of pocket expenses. Approaches included, but not limited to, renting pastures away from known sites were depredation events have occurred or are inevitable, hiring extra range riders and herders, using/acquiring guard dogs, etc.
- In cases where there is insufficient evidence to determine livestock losses, above those expected from other causes, a multiplier will be applied. This multiplier
will be determined by the compensation board on a case-by-case basis, and dependent on funds.

Verification/Investigation Required:
Yes.

Program Operation:
• Livestock producers contacts the local United States Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS)-Wildlife Services field representative for an examination and field report.
• Documentation confirming livestock loss.
• Any claims for unverified or missing livestock will require documents pertaining to other depredation incidents or confirmed wolf presence in the area. Documentation of costs associated with non-lethal/proactive control efforts, records of livestock unaccounted for after grazing season, and historic death loss.
• Claims are submitted to the State Governor’s office.
• Two types of claims are accepted: verified or unverified losses.
  o Claims for verified losses can be submitted at anytime, however the compensation board meets in the fall at the end of the grazing season to review and make decisions on claims for verified losses.
  o Claims for unverified losses are reviewed at the board’s annual meeting in February. Payments to eligible claimants will be disbursed though the county.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
Information not available.

References:
Michigan

Program Type: Ex post

Administration: Program handled by the Department of Agriculture.

Funding: The Department of Agriculture Administers the State fund which changes annually depending on budget appropriation.

Eligible Livestock: For death, injury, or loss of livestock, domestic animals, pets. Livestock are defined by the Michigan Department of Agriculture and Rural Development as, but are not limited to, cattle, sheep, new world camelids, goats, bison, privately owned cervids, ratites, swine, equine, poultry, aquaculture and rabbits.

Eligible Predator: Wolves, coyotes, and cougars.

Husbandry Requirement: No. Law requires compensation regardless of the owner’s efforts to reduce depredation risks.

Compensation: • Reimbursed fair market value. • Feeder market value for young of the year or replacement value for adult (1+ years) livestock or domestic animals. These values do not to exceed the maximum amount for that animal type as established by the commission. • For pets, the department shall reimburse the claimant the fair market value based upon recent sale records for similar animals, up to a maximum of $2,500.00 per animal. • For an entire herd or flock, the department shall reimburse the claimant based upon 100% of the fair market value of that type of animal as appraised for the purpose for which the livestock or domestic animal was intended, not to exceed an average of $4,000.00 per animal in the flock or herd.
• While captive deer or elk raised in enclosures are defined as livestock, due to conditions placed on donated funds they are not compensated.
• Compensation is not available for dogs lost to wolf depredation.
• Missing animals maybe eligible for compensation.
• Compensation is reduced by the amount received any other sources, including, but not limited to, indemnification by the United States Department of Agriculture, insurance, or salvage value.

Verification/Investigation Required:
Yes.

Program Operations:
• Report the incident within 24 hours of discovery of a dead or injured animal or when the animal is missing.
• Must provide necessary property access to officials to investigate the depredation site.
• File a claim specifying the type and number of animals for which compensation is requested.
• Payment usually within 30 days of the department receiving the compensation claim. If the claim is not paid out within 30 days the person is entitled to receive from the department twice the amount of the original claim.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
Information not available.

References:

Minnesota
Program Type:
Ex post

Administration:
Minnesota Department of Agriculture.

Funding:
State funds through the Department of Agriculture.

Eligible predators:
Wolf

Table 11: Projected predation losses by livestock producers in Minnesota for 2010
(Losses not necessarily claimed and compensated).

<table>
<thead>
<tr>
<th></th>
<th>Coyotes</th>
<th>Mountain Lion or Bobcat</th>
<th>Dogs</th>
<th>Vultures</th>
<th>Wolves</th>
<th>Bears</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>208</td>
<td>22</td>
<td>28</td>
<td>-</td>
<td>67</td>
<td>-</td>
<td>-</td>
<td>75</td>
<td>400</td>
</tr>
<tr>
<td>Calves</td>
<td>741</td>
<td>40</td>
<td>29</td>
<td>-</td>
<td>792</td>
<td>-</td>
<td>109</td>
<td>389</td>
<td>2,100</td>
</tr>
</tbody>
</table>

Husbandry Requirements:
Information not available.

Compensation:
- Livestock producers are entitled to fair market value. Owner is entitled to the fair market value of the destroyed livestock as determined by the commissioner, upon recommendation of the fair market value by a university extension agent.
- Compensated for confirmed kills and injuries
- No compensation for probable losses or missing animals.
- Compensation cannot be for a value less than $100, and may be up to $20,000.
- Compensation will be reduced by any value that a producer receives from an alternative insurance or compensation source.

Verification/Investigation Required:
Yes.

Program Operations:
- Producers must report a suspected wolf kill within 48 hours of discovery, and a DNR conservation officer or county extension educator will investigate and verify the wolf kill for compensation.
- A university extension agent, conservation officer, an official from the Animal and Plant Health Inspection Service of the United States Department of Agriculture, a peace officer from the county sheriff’s officer, or a licensed veterinarian may inspect an attack site.
The application should include a list of everyone who is financially involved with the livestock, the existence and any details of insurance coverage, and information regarding the circumstances of the loss. The investigator makes an on-site inspection of the site and submits a report to the MDA including photographs and details regarding the results of the investigation.

- Producers complete an application for state compensation.
- MDA reviews the application for completeness and sends it to U of MN Extension Educator for market value determination of the livestock.
- The U of MN Extension Educator determines the actual fair market value of the destroyed livestock based on the following criteria: type and breed of animal, estimated size and weight, estimated age, registration of the stock, and the replacement cost of the animal, as displayed on the form available on MDA’s guide for Minnesota farmers & ranchers living in wolf territory page.
- Request is then sent to the MDA for payment.

**Strengths:**
Information not available.

**Weaknesses:**
Information not available.

**Recommendations:**
Information not available.

**References:**


Montana
Montana Livestock Loss Reduction and Mitigation Board

Program Type:
Ex post

Administration:
Overseen by the Montana Livestock Loss Board as drawn out in the Montana Wolf Conservation and Management Plan. The board is administratively attached to the Montana Department of Livestock and continues to be supported by the USDA Wildlife Service (federal) and the Montana State Wildlife Service (state).

Funding:
A combination of state, county, federal, and private contributions. Some funds from tax on livestock owners, and donations from Montana Cattlemen’s Association and Montana Farmers Union for a logo license plate contest. Funding for Montana’s predation management program include USDA/APHIS/WF, state of Montana, Montana Fish, Wildlife and Parks, a livestock buy-sell “head tax”, and supplemental county “head tax” in certain counties for selling cattle and sheep.

Eligible Livestock:
Cattle, swine, horses, mules, sheep, goats, llamas, and livestock guard animals on state, federal, and private land and on tribal land.

Eligible Predators:
Wolf.
Coyotes not compensated.

Table 12: Losses reported by producers in Montana during 2010 (Losses not necessarily claimed and compensated).

<table>
<thead>
<tr>
<th></th>
<th>Coyotes</th>
<th>Mountain lion or Bobcat</th>
<th>Dogs</th>
<th>Vultures</th>
<th>Wolves</th>
<th>Bears</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>48</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>440</td>
<td>65</td>
<td>37</td>
<td>410</td>
<td>1,000</td>
</tr>
<tr>
<td>Calves</td>
<td>1,1970</td>
<td>218</td>
<td>-</td>
<td>-</td>
<td>853</td>
<td>97</td>
<td>67</td>
<td>995</td>
<td>4,200</td>
</tr>
</tbody>
</table>

Producer Obligations/Eligibility:
All Montana livestock producers are eligible for coverage for losses by wolves

Husbandry Requirements:
Information not available.

Compensation:
• Confirmed and probable livestock losses are reimbursed at an amount not to exceed fair market value.
  o Confirmed means that upon investigation there was reasonable physical evidence that livestock was actually attacked or killed by a wolf.
  o Probable means the presence of some evidence to suggest possible predation but a lack of sufficient evidence to clearly confirm predation by a particular species. A kill may be classified as probable depending on factors including but not limited to recent confirmed predation by the suspected depredating species in the same or a nearby area, recent observation, and telemetry monitoring data, sightings, howling, or fresh tracks suggesting that the suspected depredating species may have been in the area when the depredation occurred.

• Other losses may be reimbursed at rates determined by the board and dependent on funding.
• Injured Livestock compensated depending on program funding.
• No compensation for missing animals.
• A producer may provide documentation that a registered animal has a fair market value above the average price, in which case the board shall seek additional verification of the value of the animal from independent sources.

Compensation Details:
FAIR MARKET VALUE
For commercial sheep more than 1 year old, the average price of sheep of similar age and sex paid at the most recent livestock sale ring or other ring as determined by the board; for commercial lambs, the average market weaning value: for registered sheep, the average price paid to the specific breeder for sheep of similar age and sex during the past year at public or private sales for that registered breed.

For commercial cattle more than 1 year old, the average price of cattle of similar age and sex paid at the most recent livestock sale ring or other ring as determined by the board; for commercial calves, the average market weaning value; for registered cattle, the average price paid to the owner for cattle of similar age and sex during the past year at public or private sales for that registered breed.

For other registered livestock, the average price paid to the producer at public or private sales for animals of similar age and sex.

A producer may provide documentation that a registered animal has a fair market value above the average price, in which case the board shall seek additional verification of the value of the animal from independent sources. If the board determines that the value of that animal is greater than the average price, then the increased value must be accepted as the fair market value for that animal.

Verification/Investigation Required:
Yes.

**Program Operation:**
- Contact USDA Wildlife Services to request an investigation.
- USDA WS investigator will send your investigation report to USDA’s state director in Billings.
- USDA’s Billings office will send a copy of the investigation and Livestock Loss Board’s claim form to the livestock owner.
- The livestock owner may now submit a claim to the Livestock Loss 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.
- The Livestock Loss Mitigation Coordinator prints a USDA Market Report from Billings, Montana to determine current animal value or the board may determine a value.
- Typical claims are processed that same day. Non-typical claims are presented to the full board to determine values.
- Livestock owners will receive a letter stating what the payment amount will be and a copy of this letter is given to Department of Livestock’s accounting staff.
- Payment is sent to the livestock owner by Department of Livestock accounting staff.

**Losses or Amounts Paid Out for 2010 and 2011:**
The amount of claims paid during 2010 and 2011 for confirmed and probable losses attributed to wolves are below:

**Table 13: Confirmed and probable losses due to wolves for Montana for 2010.**

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goats</th>
<th>Horses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed</td>
<td>90</td>
<td>65</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Probable</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>$76,752.32</td>
<td>$13,481.91</td>
<td>$1,370.00</td>
<td>$7,950.00</td>
</tr>
<tr>
<td>Owners</td>
<td>55</td>
<td>10</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Table 14: Confirmed and probable losses due to wolves for Montana for 2011.**

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goats</th>
<th>Horses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmed</td>
<td>65</td>
<td>9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Probable</td>
<td>18</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>$75,389.31</td>
<td>$4,327.59</td>
<td>$1,500.00</td>
<td>$4,638.00</td>
</tr>
<tr>
<td>Owners</td>
<td>37</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Strengths:**
Information not available

**Weaknesses:**
Information not available

Recommendations:
Information not available

References:

Oregon

Program Type:
Ex post

Administration:
State Board of Agriculture
Counties establish county advisory committees and develop their compensation plan. Counties submit grant applications to the Oregon Department of Agriculture. County Programs are responsible for developing a procedure, which prioritizes potential program users for grant moneys received under the County Program. The Advisory Committee of the County Program establishes compensation rates based on market values, and that compensation for death and injury takes precedent over missing livestock. Within areas of known wolf activity, the County Program must establish compensation rates for missing livestock attributed to wolf activity. This value will be lower than death or injury, and at the discretion of the county advisory. County Program also establishes eligibility requirements for compensation.
Funding:
From the Wolf Management Compensation and Proactive Trust Fund.
All moneys in the fund are appropriated to the State Department of Agriculture for the purpose of paying compensation and financial assistance.

Eligible Livestock:
Ratites, psittacines, horses, mules, jackasses, cattle, llamas, alpacas, sheep, goats, swine, bison, domesticated fowl and any fur bearing animal bred and maintained commercially, or otherwise, within pens, cages or hutches.

Husbandry Requirements:
Yes. Livestock Producers are required to provide an estimate of the potential cost of the livestock management technique used to discourage wolf depredation.

Compensation:
• Provides 100% market value compensation for losses or injuries due to wolf depredation.
• The department shall compute the market value of livestock using the following guidelines:
  o Males that are at least one year old have a market value equal to the purchase price of the animal or the average price paid for other males, whichever is higher. If sales receipts are unavailable to determine the purchase price, the market value shall be the average local market value for animals of the same breed and age.
  o Females that are at least one year old have a market value equal to the average available recorded purchase price of females of the same age, breed and quality from the same herd, and if bred, the value of offspring at weaning.
  o An animal that is less that one year old has a market value equal to the average amount received for other animals of the same gender, age, and breed at the time of planned sale.
• Compensation for confirmed and probable losses/injuries.
• When a working dog or sporting dog is killed or injured. For sporting dogs only if the incident occurs during an authorized hunt, while authorized by State Fish and Game Commission to pursue problem wildlife.
• Probable losses determined by the department but not less than 50%.
• Missing livestock may be compensated as determined by the department.
• Veterinary costs and any reduction in market value, if as a result of the injury, are unable to reproduce, or must be destroyed or sold.
• Compensation amounts will be reduced by the amount that livestock producers are compensated from another source.

Verification/Investigation Required:
Yes.
Program Operation:
- An investigation can be conducted by the State Department of Agriculture, State Department of Fish and Wildlife, the Wildlife Services program of the Animal and Plant Health Inspection Service of the US Department of Agriculture or the US Fish and Wildlife Service. Within 24 hours of receiving a request a department shall investigate the claim.

Additional Subsidies:
Provides financial assistance to implement livestock management techniques or nonlethal wolf control techniques designed to discourage depredation incidents.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
Information not available.

References:

Washington

Program Type:
Ex post

Administration:
Washington Department of Fish and Wildlife

Funding:
State Legislature has not yet provided funding for this program. WDFW received funding from other sources in 2010 to pay compensation for confirmed and probable
losses caused by wolves. This included a $15,000 grant from the U.S. Fish and Wildlife Service provided under the 2009 Wolf Loss Demonstration Project Bill, and a $15,000 donation for the required match from Defenders of Wildlife. WDFW is seeking additional funding to cover the expansion of the compensation provisions.

*Eligible livestock:*
Cattle, sheep, and horses.
To be expanded under the new program to include cattle, sheep, horses, pigs, mules, llamas, goats, and guarding/herding animals.
Domestic pets and hunting dogs will not be compensated, however dogs used for animal control efforts under contract with WDFW or other public entities may be eligible.

*Eligible Predators:*
Wild bears, cougars, and wolves. Coyote not included.

*Producer Obligation/Eligibility:*
- Dependent on available funding
- Livestock producers who have worked with the department to prevent losses, but continue to experience them are eligible to file a damage claim and receive compensation.
- Livestock producer must meet the definition of “eligible farmer”
  - Gross sales of at least $10,000 during the preceding tax year (Under the provisions of the new compensation program the goal is to expand from the current states laws and allow livestock producers to be eligible for compensation regardless of gross sales level during the pervious tax year)
- Not eligible if:
  - Livestock producer has accepted noncash compensation to offset losses in lieu of cash.
  - Damage to livestock was covered by insurance or are eligible for payment from other entities, however, any portion not covered by those program is eligible for compensation through the department.
  - Owner fails to provide on-site access to the department or designee for inspection and investigation of depredation event to verify claim.
  - Owner has not provided a complete claim form with all required information or met the required timelines.
  - Owner allowed the carcass to be scavenged, or disposed of it themselves without allowing an investigation before hand.

*Husbandry Requirement:*
Yes. Livestock producers must provide department with an approved checklist of preventative and nonlethal measures that have been employed, or comply with terms previously set out/defined by the department.
Compensation:

- Compensation is dependant on funding.
- Maximum of $200 for sheep. Maximum of $1500 per head of cattle or per horse, and no more than $10,000 to a commercial livestock owner per claim.
- Minimum damage of $500.
- Payments are based on current market value, which is defined as the value of an animal at the time it would have normally gone to market. Appropriate documentation, such as a contract, previous sales record, or current market reports, will be required to help determine this value.
- Payment will also be reduced by the amount received for any financial gain that the owner receives from the sale of a partially salvaged carcass or other product.
- Compensation for veterinary treatment costs for injured animals, not exceeding their current market value. If injured livestock die, owners will receive compensation for the current market value of the animal. If livestock are injured to the extent that they must be sold prematurely, the operator will receive the difference between the selling price and current market value.

Compensation Details:

Two-Tiered Payment Plan
A two-tiered payment plan is used for confirmed and probable wolf-killed livestock on private and public lands. Payments are higher on grazing sites of 100 or more acres, where the agency determines it would be difficult to survey the entire acreage because it is harder to find carcasses on larger sites. For each animal confirmed as a wolf kill on the larger sites, owners would receive the full current market value for two animals. For each animal documented as a probable wolf kill, owners would receive half the current market value for two animals. The higher payments account for undetected carcasses and would not apply if there were no missing animals beyond the confirmed or probable kills.

On grazing sites not meeting the above criteria, owners would receive the full current market value of each animal confirmed as a wolf kill and half the current market value of each animal documented as a probable wolf kill. On the smaller sites, payment does not include an additional animal because livestock owners should be able to supervise their stock more closely and find nearly all carcasses.

Verification/Investigation Required:
Yes.

Program Operation:

- Livestock producer must notify the department with 24 hours of discovering a depredation event.
- A damage claim assessment of the amount and value of the commercial livestock lost is the primary responsibility of the claimant.
• Must use reasonable measures to protect the carcass and evidence of an attack (federal instead of state officials may be responsible for the investigation when it is suspected that the attack was by a federally listed species).
• Agency personnel will conduct their investigation within 48 hours of receiving a report.
• Investigation conducted by either the U.S. Fish and Wildlife Service and USDA Wildlife Services.
• After an investigation is completed, the complaint will be classified under one of the following categories:
  o Confirmed Wolf Depredation – Reasonable physical evidence that the dead or injured animal was actually attacked or killed by a wolf.
  o Probable Wolf Depredation – Sufficient evidence that the cause of death was depredation, but not enough to clearly confirm that a wolf caused the incident.
  o Confirmed Non-Wild Wolf Depredation – There is clear evidence that the depredation was caused by another species (coyote, black bear, cougar, bobcat, domestic dog), a wolf hybrid, or a pet wolf.
  o Unconfirmed Depredation – Any depredation where the predator responsible cannot be determined.
  o Non-Depredation – There is clear evidence that the animal died from or was injured by something other than a predator (e.g. disease, inclement weather, or poisonous plants).
  o Unconfirmed Cause of Death – There is no clear evidence as to what caused the death of the animal.
• Claimant must request a damage claim application within 10 days of a loss.
• A complete written claim must be submitted to the department within 60 days of an attack.
• Must present form indicating claimant’s gross sales or value of commercial livestock for the previous year, legal proof of ownership of the claimed livestock, records documenting livestock value based on current market price, copy of any additional insurance policy covering livestock, and a copy of any other application for compensation from other sources.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
There is interest in developing the current program to compensate livestock producers for unknown losses assumed to have been caused by wolves. After approval, WDFW will work with a multi-interest stakeholder group to develop an appropriate payment system for unknown livestock losses where there is no direct evidence of wolf
The purpose is to compensate livestock producers for losses in areas where wolves are confirmed to be present, documented wolf depredation is occurring nearby, and differences exist between historical and current return rates of livestock that are not attributable to other causes. Compensation for unknown losses would not be paid in addition to compensation for confirmed and probable losses. A producer could be compensated for one or the other, but not both.

Some criteria that would be essential to a program compensating for unknown losses include: development of a method to validate historical losses as a baseline, demonstration of current year losses, criteria for excluding payment for unusual levels of death losses from non-wolf-related sources (e.g. other predators, weather, disease), and determining the best method for reviewing and validating claims. A mechanism for reviewing this part of the compensation program would need to be established to maintain accountability and assess effectiveness.

For this type of compensation program to succeed, it must establish a high degree of accountability and verifiability.

Source for Strengths, Weaknesses, and Recommendations:
Collected from the Wolf Conservation and Management plan issued by the Washington Department of Fish and Wildlife.

References:

Wisconsin
(Depredation by wolves and other threatened/endangered species)

Program Type:
Ex post

Administration:
Since 1988 the Wisconsin Department of Natural Resources (DNR) and the US Department of Agriculture - Wildlife Services (USDA-WS) have cooperated to provide assistance to livestock producers. The Wisconsin Department of Natural Resources administers the program. In accordance with the Wisconsin Wolf Management Plan Wisconsin producers experiencing verified wolf depredations are eligible for technical assistance and monetary compensation for their losses.
**Funding:**
Federal and state matching funds.
The present compensation program is funded through Department of Natural Resource Endangered Resources Fund (revenues), but following delisting, compensation for damage done by gray wolves may no longer be available.

The Wisconsin Endangered Resource funds come from 3% of state income tax returns that tax payers can voluntarily offer by checking a box on their return forms, and 3% of license plate fees collected from the sale of endangered resources license plates. In most recent years the claims for wolf damage have exceeded the resources available from license plate revenue. Because the WDNR has been directed by the legislature to provide full compensation for wolf depredations, the WDNR Bureau of Endangered Resources has been forced to use additional program funds to make compensation payments.

**Eligible Livestock:**
Bison and other bovine animals, sheep, goats, swine, farm raised deer, equine animals, poultry, ratites, llamas, alpacas, captive game animals, guard animals for livestock and fish. Pets. Hunting dogs.

**Eligible Predators:**
Wolves and other endangered/threatened species. Not coyotes.

Table 15: Projected predation losses reported by livestock producers in Wisconsin for 2010 (Losses not necessarily claimed and compensated).

<table>
<thead>
<tr>
<th></th>
<th>Coyotes</th>
<th>Mountain Lion or Bobcat</th>
<th>Dogs</th>
<th>Vultures</th>
<th>Wolves</th>
<th>Bears</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>158</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>290</td>
<td>53</td>
<td>-</td>
<td>-</td>
<td>500</td>
</tr>
<tr>
<td>Calves</td>
<td>1,302</td>
<td>99</td>
<td>-</td>
<td>3</td>
<td>1,473</td>
<td>28</td>
<td>-</td>
<td>195</td>
<td>3,100</td>
</tr>
</tbody>
</table>

**Producer Obligations/Eligibility:**
- Claimant tags all calves within 2 weeks of birth and provides a list certifying to the department an exact count at the beginning of the grazing season including information on the tag number, date, and sex of all calves.
- Claimant records and provides a list certifying to the department an exact count of all calves rounded up at the end of the grazing season and a list of all tagged calves determined to be missing.
- Claimant provides a list certifying to the department all known deaths and losses of calves during the grazing season.
- Department has documented at least one livestock loss that is verified as a confirmed or probable wolf depredation, and there is evidence that wolves continued to be present on the property during that period of time.
• Claimant certifies that they will cooperate with the department to determine the amount of mortality of missing calves that may have been caused by wolves, if such cooperation does not impact the claimant economically in a significant manner or impose an unreasonable burden or hardship on the claimant.
• Farmers must cooperate with WDNR personnel during investigation, and are required to follow any technical assistance recommendations to remain eligible for compensation payments.

_Husbandry Requirements:_
Yes. Husbandry practices must not have contributed to depredations. Prevention practices could be maintain healthy well-fed animals, using guard animals, moving calving or lambing activities closer to a barnyard, predator-proof fencing, and/or proper carcass disposal.

_Compensation:_
• Compensated full market value for confirmed and probable wolf depredations.
• Compensation will be also provided for missing animals following the criteria listed above in the Producer Obligation/Eligibility section.
• Value must not exceed the established maximum for that animal type established annually by the department.
• Hunting dogs and pets: The department shall reimburse the claimant fair market value based upon recent sale records for similar animals of hunting dogs or pets killed by E/T species or wolves up to a maximum of $2,500 per animal.
• The department shall pay for all veterinary expenses incurred in the treatment of livestock, hunting dogs or pets. If the animal dies from the injury, the veterinary treatment costs shall be paid in addition to the fair market value of the animal.
• No limit to the amount that one individual can be compensated for.
• The department shall reimburse the claimant for missing calves beyond those that would be lost according to the normal mortality rate determined by U.S. Department of Agriculture and additional research, and pursuant to the eligibility requirements described above
  o The U.S. Department of Agriculture annually calculates the normal calf mortality rate for beef cow-calf operations nationwide (e.g. 2003 rate was 2.3%). The department conducts scientific field research in Wisconsin to determine how much mortality to missing calves can be attributed to wolves.
• The department shall reimburse livestock producers regardless of any other insurance the owner may have on the animals that were killed or injured

_Verification/Investigation Require:_
Yes.

_Program Operation:_
• Report the kill. Must provide the location and description of animal
missing/injured/killed.

- Upon receipt of a possible wolf depredation complaint, WDNR will immediately notify USDA-WS agents responsible for investigating complaints.
- Kills should be reported directly to USDA-WS. USDA-WS will contact the complainant by phone within 24 hours and arrange an onsite inspection within 48 hours if it appears to be legitimate.
- A USDA specialist will examine the site. If the examination suggests a wild animal killed the livestock, producers complete an application for state compensation.

**Incident Categories:**

- **Confirmed Depredation.** Clear evidence that wolves were responsible for the depredation.
- **Probable Depredation.** Carcass missing or inconclusive but presence of good evidence.
- **Confirmed Non-Wolf Depredation.** Conclusive evidence that something other than a wolf killed the animal.
- **Unconfirmed Depredation.** Any depredation or livestock loss that does not meet the above criteria. This could be missing animals, animals that died of other causes, and even animals killed by wolves but unconfirmed because of lack of evidence.
- Only “Confirmed" and "Probable" will warrant further action. If the depredation complaint is classified as "Confirmed Non-wolf Depredation" or "Unconfirmed Depredation", no further action will be taken.

- Claimant submits a claim for reimbursement within 14 days of the loss. The report will then be sent to the DNR mammalian ecologist for review.

**Strengths:**
Information not available.

**Weaknesses:**
Program not improving user perception of wolves, and users displeased with the requirement of evidence for compensation.

**Recommendations:**
Information not available.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from academic/scientific research.

**Additional Notes:**

- Attempted changes to the program:
  - Opposed a $250 deductible per claim
  - Opposed a $15,000 cap on payments per claimant per year
o Objected to a 5 mile rule – restricting payment for hunting dogs hurt by wolves on public land to only once per year at a given site (subsequent losses within 8 km of that site would not be compensated)
o Abandoned stipulating “best management practices” before payment
o “Sunset” clause – Endangered Resources funding would end when wolves were reclassified as a game species
o Passed - Payments for missing livestock

References:

Wisconsin Compensation Program: Wisconsin Damage Abatement and Claims Program (WDACP) (Depredation by bears)

Program Type:
Ex post

Administration:
Wisconsin Department of Natural Resources.

Funding:
State funding. A $2 surcharge on all hunting licenses sold and a $4 surcharge on all Conservation Patron licenses sold generates roughly $2.3 million a year for use on
wildlife damage and abatement. In addition, revenue generated from the sale of resident ($12 each) and non-resident ($20 each) bonus antlerless deer permits.

**Eligible Livestock:**
Cattle, sheep, goats, bison, swine, farm-raised deer, equine animals, poultry, ratites, llamas, alpacas, captive game animals, guard animals for livestock, and fish.

**Eligible Predators:**
Black bear. Coyotes are not covered.

**Producer Obligations/Eligibility:**
- Farmers must be enrolled in the program prior to filing any claims
- They must also have allowed hunting access on their property.
- Enrolled property must have been in production for at least 5 years.

**Husbandry Requirements:**
Yes. Livestock producers are required to follow abatement measures prescribed by county damage specialists including having shooting permits, temporary abatement measures and/or permanent fences to control bears.

**Compensation:**
- For damage compensation there is a $500 deductible on each claim. After the deductible is paid, the program compensates 100% up to $5,000 and anything beyond $5,000 is compensated at 80 percent up to a maximum claim payment of $10,000.
- The price to be paid is determined by the county wildlife damage technician checking prices at local cattle auctions or by contacting a local agriculture extension agent.
- Compensated for livestock killed
- Injured Livestock: Yes. Compensation for veterinarian bills.
- Probable Loss: Yes, if bears are in the region.
- Missing Animals: Yes, if it can be determined that a bear caused the depredation.

**Verification/Investigation:**
Yes.

**Program Operation:**
- Livestock producer must notify the county damage specialist within 14 days of the damage occurring to be eligible for compensation.
- In order to be eligible for compensation it must be verified that the loss was a result of bear activity.
- The Wisconsin DNR contracts with USDA-APHIS-Wildlife Services to conduct bear depredation investigations and make that determination.
Additional Subsidies:
Damage abatement (e.g. fencing) is cost shared on a 75:25 basis. The county determines the actual costs and provides 75 percent cost sharing up to a maximum claim of $10,000.

Strengths:
Information not available.

Weaknesses:
Information not available.

Recommendations:
Information not available.

References:

Wyoming
Wyoming Wolf Management Program

Program Type:
Ex post

Administration:
Currently the Wyoming Game and Fish Department is providing compensation for livestock producers under State statute and Wyoming Game and Fish Commission regulation. Wyoming predator management is divided into 23 counties with Predator Management Districts. Each District has a board comprised of 10 members representing cattlemen, sheep producers, trappers/hunters, and environment/outdoor groups. The Wyoming Animal Damage Management Board oversees all 23 Districts and formulates policy. Ranch level focus as opposed to state level.

Funding:
Funding from several sources: Federal, State, and a $1 sales tax on all cattle/sheep sales. Funds are distributed to the counties. 19/23 counties divide the state funds to manage their programs locally, and all together each county receives $150-300,000 annually for predation management. Revenue from application fees for limited big game and wild bison hunting licenses is also used.

Eligible Livestock:
Cattle, sheep, goats, horses, mules, asses, swine, rabbits, llamas and poultry.
Eligible Predators:
Trophy game animals, which are defined as black bear, grizzly bear or mountain lion/cougar and gray wolves. No compensation for coyotes.

Table 16: Projected predation losses by livestock producers in Wyoming for 2010 (Losses not necessarily claimed and compensated).

<table>
<thead>
<tr>
<th></th>
<th>Coyotes</th>
<th>Mountain Lion or Bobcat</th>
<th>Dogs</th>
<th>Vultures</th>
<th>Wolves</th>
<th>Bears</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>79</td>
<td>48</td>
<td>4</td>
<td>-</td>
<td>74</td>
<td>63</td>
<td>-</td>
<td>132</td>
<td>400</td>
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<tr>
<td>Calves</td>
<td>1,628</td>
<td>403</td>
<td>60</td>
<td>-</td>
<td>511</td>
<td>270</td>
<td>116</td>
<td>515</td>
<td>3,500</td>
</tr>
</tbody>
</table>

Producer Obligations/Eligibility:
No award shall be allowed to any landowner who has not permitted hunting on his/her property during authorized hunting seasons.

Husbandry Requirements:
No Husbandry Requirements.

Compensation:
- Compensation for confirmed kills.
- Missing losses. Commission enacted legislation stating: “established through rule making methods, factors and formulas to be used for determining the amount to compensate any landowner, lessee or agent for livestock damaged as a results of, missing as a result of, or killed by trophy game animals”. To use this rule, the livestock producer must have at least one verified claim with evidence of a predator attack.
  - Designated Endangered Species Area: Land adjacent to Yellowstone Park
    - Compensation for wolf depredation is 7 times the market value of livestock.
    - Compensation for Grizzly depredation is 4.2 times the market value of the animal.
    - This attempts to accommodate for higher than average predations taking place that cannot be verified in this region (only up to the total number missing from the producer).
    - Claims for missing livestock must include a total known death less, including missing animals and the known loss of sheep or calves to causes other than carnivores.
    - Must be a confirmed claim with at least 1 calf or 1 sheep injured or killed to apply the multiplier.
    - Other kinds of livestock, such as adult cattle and horses, are covered at actual value for confirmed losses only.
    - Outside of the Designated Endangered Species Area, compensation is at market value.
• Compensation is through Wyoming Fish and Game.
• Veterinary costs can be reimbursed up to the value of the animal injured.

**Verification/Investigation:**
Yes. (Criteria for classification of reported depredation incidents used by USDA Wildlife Services in Appendix I)

**Program Operation:**
• Property damaged should be reported to nearest game warden, damage control warden, US Wildlife Services, supervisor or commission member within 15 days after the damage is discovered.
• Any livestock producer claiming damages shall present a verified claim for the damages to the Wyoming game and fish department not later than 60 days after the damage was discovered. The claim needs to specify the damage and amount claimed.
• Claims shall be investigated by the department and rejected or allowed within 90 days after submission, and paid in the amount determined. In the event the department fails to act within 90 days, the claim will include interest based on local bank preferred rates.

**Strengths:**
• Interest on claims not paid out within 90 days after submission
• Local, county decision-making, which is transparent and results in an increased degree of trust and cooperation.

**Weaknesses:**
• No compensation for the indirect costs associated with depredation events.

**Recommendations:**
• Recommended for additional funding to come from a source that is more representative of all sections of the public as opposed to just hunters and trappers.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Mark Bruscino of Wyoming Fish and Game Department, private consultants report for ARDCorp, and academic/scientific research.

**References:**

INTERNATIONAL

AUSTRIA

Program Type: Insurance

Funding:
Hunters must be members of a hunting association, and part of the membership (about 50%) is used to pay the premiums for private insurance companies that cover some of the compensation of game species.

In the past the World Wildlife Fund (WWF-Austria) contributed to the compensation payments, but now, even if WWF is not financially involved in damage compensation, it is involved in the compensation procedure through the services provided by its bear damage experts.

Eligible predators: Bears and lynx.

Husbandry Requirements:
Information not available.

References:
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-
Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

BOTSWANA

Shorobe Livestock Insurance Initiative

Program encourages farmers to employ livestock protection techniques to reduce conflict.

Facilitating a program that is a mutual insurance scheme with investment by the participants and claims confirmed or denied by community members. The program collects a nominal fee that is subsidized by independent funding sources. This money is placed into a fund that is supervised by the Botswana Predator Conservation Trust, and distributed to farmers with losses to large carnivores employing the protection techniques.

References:

BULGARIA

Program Type:
Ex post

Administration:
The Fund for the Wild Flora & Fauna (FWFF) is a nature conservation NGO with branches in Bulgaria and Macedonia.

Eligible Predators:
Brown bear, wolf, jackal, and red fox.

Husbandry Requirements:
Information not available.

Producer Obligations/Eligibility:
• Use good guarding dogs for the protection of their herd;
• The herd should always be herded by a shepherd;
• The herd should never be left outside the corrals at night.

Husbandry Requirements:
Yes.

**Compensation:**
Provides direct replacement of stock losses due to confirmed predator attacks.

**Verification/Investigation Required:**
Yes.

**Program Operation:**
When livestock depredation occurs the shepherd calls the FWFF team and the case is investigated. The FWFF team will decide how to compensate the farmer depending on the extent to which the farmer has satisfied the eligibility requirements. Replacing any sheep or goats killed with live ones from the FWFF compensation herd of 200 sheep and goats.

**Additional Subsidies:**
- FWFF has provided livestock guarding dogs to shepherds in SW Bulgaria and in the eastern Balkan Mountain.
- Providing forage for the remaining stock.
  - When livestock producers do not fulfill the criteria for full compensation, forage is one of the cheapest things that can be provided to livestock owners.
- FWFF also pays the insurance bill for the rest of the animals in the herd.
  - The FWFF works in collaboration with a private insurance company called HDI.

**Strengths:**
- Providing replacement stock turned out to be the most effective strategy to reduce revenge killings.
- Provides a positive incentive for behavior change from the historical response of livestock producers towards carnivores.
- Improves relationships between Bulgaria’s environmental community and the rural population, and encourages cooperation for future conservation endeavors.
- Local people becoming less negative towards predators.

**Weaknesses:**
- Bad organization of livestock breeding – many shepherds unable to raise and keep guarding dogs (from a loss of traditions on how to breed livestock and guarding dogs)
- Huge number of livestock breeders with very few head of livestock

**Recommendations:**
- The organization of livestock breeding should be improved and fewer owners
should breed larger numbers of livestock. Creation of co-operatives should be encouraged and training of professional shepherds should be started.

- Keeping of Karakachan Dogs in the areas of predator presence should be set as criteria for livestock insurance.
- The shepherds that are grazing their livestock in the National and Nature Parks should be obliged to pay insurance for their livestock.
- Organizing courses for shepherds (how to breed the sheep in accordance with the local circumstances, how to train the guarding dogs etc.)

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Academic/Scientific literature.

**References:**


**FINLAND**

**Program Type:**
Ex post

**Administration and Funding:**
State operated and funded.

**Eligible Livestock/Damage:**
To livestock, reared animals and honey harvest, and to fences, buildings and other similar structures used for keeping animals.
Damage to reindeer.

**Eligible Predators:**
Bear, wolf, wolverine, and lynx.

**Husbandry Requirements:**
Yes. If the claimant has contributed to the damage or has without justification refused to assist in preventing the damage, compensation can be reduced or refused.

**Compensation:**
- Maximum value of the animals or honey. Amount corresponding to the extent to which benefit can still be derived from the animal is deducted from compensation.
• Maximum compensation payable for damage to where livestock are kept is the amount corresponding to the cost of repairing the damaged fences, buildings or other structures.
• Damage to a dog can only be compensated for if the dog was in its owner’s yard, garden or another space intended for it, or it was being used for hunting, shepherding, guarding or any other similar task under supervision.
• Compensation can be paid for damage that has been caused by a predatory animal to game animals farmed for meat production purposes.
• Compensation is not paid for damage to animals kept for game management purposes.
• Compensation for reindeer:
  o The maximum compensation payable for damage to reindeer is twice the amount corresponding to the current value of the reindeer killed or reindeer destroyed because of damage.
  o The part of the animal from which benefit could still be derived will be considered as a deduction.

**Verification/Investigation Required:**
Yes.

**Program Operation:**
Determining damage to reindeer:
• Inform the reindeer owner’s association. The reindeer owners’ association must mark the location in which the damage occurred, recover both ears of each dead reindeer and, without delay, notify the municipal rural business authority and the local game management association of the damage and the number of damaged reindeer.
• If necessary, the municipal rural business authority must carry out a site inspection. The reindeer owners’ association must pay a fee for the performance of the inspection. The fee for each site inspection (including travel costs) may not exceed EUR 100.
• The reindeer owners’ association must, within one month of being notified of the damage to reindeer, submit a compensation claim for the damages to reindeer to the rural business authority of the municipality in which the owner of the damaged reindeer resides.
• The claim must contain details of the reindeer owner, his/her municipality of residence, payee account details, details of the type of reindeer involved and an opinion about the cause of the damage. The amount of the damage to reindeer is determined and the compensation paid to the reindeer owner by the rural business authority of the municipality in which they reside.

**Strengths:**
Information not available.
Weaknesses:
- Compensation paid as a result of other insurance programs is deducted.
- No compensation is paid for costs incurred by the claimant as a result of the damage assessment.
- Compensation for the damage is only paid to the extent that the amount of damage exceeds EUR 250. For this purpose, all damage caused to the claimant by predatory animals throughout one calendar year is considered one damage event.
- If the claimant has contributed to the damage or has without justification refused to assist in preventing the damage, compensation can be reduced or refused.
- Some damage not covered. The state has compensated for the cost of materials for preventive measures but the practical prevention work is left for the claimant to arrange and pay.
- Payment schedule for compensation is considered to be too slow - some delays of up to a year.
- A deduction of EUR 250 is made for each claimant’s own liability on all losses suffered in a calendar year. Particular demands were made that the deductible should be abolished.
- Costs levied for on-site inspection and evaluation of damage should be reimbursed to the claimant.

Recommendations:
- A deduction of EUR 250 is made for each claimant’s own liability on all losses suffered in a calendar year. Particular demands were made that the deductible should be abolished.
- Costs levied for on-site inspection and evaluation of damage should be reimbursed to the claimant.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific Literature collected in government management plans for carnivores.

References:

FRANCE

Program Type:
Ex post

Administration and Funding:
Department of Ecology, Energy, Sustainable Development and Spatial Planning

Eligible Predators:
Bears, wolves, lynx.

Husbandry Requirements:
Information not available.

Compensation:
• A consulting committee in charge of bear damage compensation assesses the depredation site and/or damage, which is compensated up to a price defined by a scale.
• This scale is based on average market prices, updated every year on the advice of the committees, and published.
• Indirect effects of bear damage are also taken into account by an additional payment of a €115 premium to livestock producers to compensate for any extra work involved in depredation events.
• As well, compensation for loss of profits, 10% of lost livestock’s value (minimum of €50), is also paid to offset indirect losses (e.g. abortion, stress).
• These additional payments and financial support are in place of compensating for missing animals.
• Compensation for injured animals (with veterinary care bills).

Verification/Investigation Required:
Yes.

Program Operation:
• Upon suspecting a bear attack, the livestock producer should contact an expert with 48 hours after the discovery.
• The livestock and site will be assessed to determine if the attack was the result of a bear.

Additional Subsidies:
• State aid for employment of shepherds.
• Funding for the development or improvement of pastoral huts.
• Financing for basic supplies. This assistance is in addition to saving time and effort, and a significant improvement of living conditions in mountain pastures and guarding.
• Financial means of communication (e.g. cell phones, radio phones), to allow shepherds to have a usable communication method in case of incident.
**Strengths:**
Increased compensation to account for indirect costs incurred as a result of livestock depredation.

**Weaknesses:**
Delays in receiving compensation.

**Recommendations:**
Shorter repayment periods. Done by simplifying the administrative procedure. The optimum repayment periods for records without particular difficulty is three months.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from regional government documents and documents from Life COEX, an instrument of the European Union’s environmental policy.

**References:**
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

**GREECE**

**Program Type:**
Insurance

**Administration:**
ELGA, the Greek Agricultural Insurance Organization, compensates only natural disasters and damages from wild animals.

**Funding:**
ELGA is a semi-public body whose financial sources come mainly from the obligatory insurance premiums from Greek farmers and livestock raisers. ELGA is considered a self-financed body, but can receive funding from the Greek State in the extreme cases of financial deficits.

**Producer Obligations/Eligibility:**
ELGA demands proper husbandry of livestock, crops, or beehives, especially in cases
where there have been repeated previous depredation events and damages.

**Husbandry Requirements:**
Yes. ELGA demands proper husbandry of the livestock, crops, or beehives.

**Compensation:**
- Damages caused by bears are paid 100% of actual cost.
- Damages caused by wolves are handled the same as other “wild animals” and compensated 80% of actual costs.
- Other wild animals include wild boar, jackal, fox, and feral dogs.
- Past recommendations and changes:
  - Past lobbying has decreased processing time for bear claims, and changed the minimum level of required livestock insurance to cover a larger part of livestock damage (increased coverage for sheep).

**Strengths:**
- Compared with “ex post” compensation, insurance schemes may encourage farmers to apply preventative measures.
- Co-financing insurance systems with public funds can be a valuable tool for increasing rural people’s tolerance towards wildlife.

**Weaknesses:**
Information not available.

**Recommendations:**
- Wolves not considered as “other wild animals” to increase compensation.
- Special incentives and additional support should be provided for achieving specific conservation and social objectives.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from government documents of Life COEX, an instrument of the European Union’s environmental policy.

**References:**
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

**INDIA**

**Hemis National Park in the State of Jammu and Kashmir**

**Program Type:**
Ex post
Administration:
Department of Wildlife Protection initiated a compensation program in 1996 for livestock owners.

Eligible Livestock:
Sheep and goats, yak/cattle, and horses.

Eligible Predator:
Snow leopard and wolf.

Husbandry Requirements:
Information not available.

Program Initiatives:
Direct involvement with increasing/improving preventative measures (e.g. improving night pens).

Strengths:
Information not available.

Weaknesses:
- Livestock owners must travel up to four days to report losses
- On-site verification is rarely possible
- Payment 35% or less of market value and takes up to two years because of budget restraints
- Relationship between villagers and park authorities are poor (mostly due to retributive killing of snow leopards)

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:

State of Uttarakhand near Rajaji National Park
And Interior Villages of Bhadra Tiger Reserve (South India)

Program Type:
Ex post

Administration:
Nation program under the administration of the Forest Department.

Eligible Livestock:
Cattle, buffaloes, goats, sheep.

Eligible Predators:
Leopards and tigers, and dhole.

Husbandry Requirements:
Information not available.

Compensation:
- Compensation for families of victims of physical conflict with wild animals (injury or death)
- To landowners whose houses, livestock, or crops are damaged by wild animals
- Awards range widely from Rs 500 to Rs 100,000 (US$12 to $2,500) (6-20% of the market value)

Verification/Investigation Required:
Yes.

Program Operation:
- Claims must be reported in person to the nearest Forest Department Range Office with 48 hours
- Followed by on-site inspections by mid-level Revenue Department, Forest Department, and relevant medical officials
- Victims are expected to attach valid documents establishing their rights over the land where the loss occurred
- Claim verification is required for an investigation, as well as statements from locals witnesses and the village council corroborating the loss, and an evaluation of the loss by the Forest Ranger
- Claim has to be ratified by the RFO, and then verified and endorsed by the assistant conservator, before obtaining a final sanction from the deputy conservator.

Strengths:
Information not available.

Weaknesses:
- Low compensation levels
  - Compensation was 3% of the overall losses sustained by some villages
from depredation incidents
  o A successful claimant on average was awarded 27% of the value sought in the application
• Applications took an average of 180 days.
  o The bureaucratic claim verification and approval procedure takes more than ten weeks to be completed; compensations for livestock kills took six months, on average, to be discharged.
• Difficult to access to forest offices and non-availability of officers. The insistence of producing documents of land rights to support claims of livestock loss is without basis.
• The filing and follow-up of compensation claims also requires significant financial investment (mostly for travel to forest offices, but occasionally on bribes to obtain land records) on the part of the claimants.
• Corruption in the Forest Department Officials

Recommendations:
  • Compensation payments to better reflect market prices
  • Compensation should address all problematic species not just charismatic mega fauna
  • Compensation should go beyond cash payments
    o Compensation of critical food resources associated with protected wildlife could be provided in kind in the short-term
    o Repaid losses with replacement animals, grains, or seeds
    o One time support for improving prevention infrastructure

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:

Alternatives to India’s National Program
Corbett National Park

Program Type:
Ex post

Administration:
Local NGO and WWF-INDIA provide supplementary on the spot compensation to
farmers for losses of livestock killed by tigers near Corbett National Park (Corbett tiger reserve).

**Eligible Livestock:**
Cattle.

**Eligible Predator:**
Tiger.

**Husbandry Requirements:**
Information not available.

**Compensation:**
Interim Relief Scheme provides on-the-spot monitory help to affected villagers. The Corbett Foundation awards Rs. 100 to informants if a kill case (*i.e.* poaching) is reported to its office within 72 hours.

**Verification/Investigation Required:**
Yes (Still must prove a tiger killed the cow).

**Program Operation:**
- The villagers inform The Corbett Foundation (TCF) offices in Dhikuli and Rathuadhab about any cattle kills in the area.
- TCF team then does an on-the-spot inspection within 24-36 hours. The team, consisting of a kill-inspector, tracker and driver, assesses parameters like whether the kill is done by a tiger or a leopard, the age of the animal killed, the GPS location, etc.
- After the team is convinced about the genuineness of the kill, it pays the applicable Interim Relief to the villager.

**Strengths:**
Information not available.

**Weaknesses:**
Information not available.

**Recommendations:**
Information not available.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Academic/Scientific literature.

**References:**
http://www.corbettfoundation.org/tcf_relief.php

State Himachal Pradesh
Kibber Wildlife Sanctuary in the Spiti Region

Additional Program Initiatives:
With support from the Nature Conservation Foundation, in exchange for monetary compensation for lost grazing, the Kibber village council set aside a part of its regularly grazed rangeland for wildlife, and implemented a moratorium on all forms of extractive use (less water rights for irrigation). Ensuring this area would be free of grazing and human use for 5 years. Nature Conservation Foundation agreed to pay council a yearly sum of Rs 20,000 (US$425). Money being used for collective work and village development schemes. The objective of this initiative was to assist prey populations by reducing livestock densities and/or creation of grazing free areas.

Recommendations:
Preliminary discussions with the local people indicated an interest in contributing the equivalent of US$ 1 (4.8% of the average monthly per capita income) per month to a self-financed compensation scheme. If such a scheme could be developed locally, a committee from the village community would manage the funds and decide the compensation rates, and work with the local wildlife department along with non-governmental organizations.

Advantages to such a program:
• Explicit recognition that the responsibility for conflicts is shared;
• Possibilities of monetary compensation on par with market value;
• A lower likelihood of false claims when premiums are shared; and
• Possibly relieving the overburdened Forest Department of additional responsibilities and permitting them to focus on protecting wildlife and their habitat.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:
ITALY

Program Type: Ex post

Administration: Operated and funded by 10 regional governments. Regional governments are responsible for implementing their compensation laws.

Eligible Livestock: Sheep, hogs, cattle, goats, and horses.

Eligible Predators: Bears and wolves.

Husbandry Requirements: Varies by Region. Eligibility for compensation varied between regions (some regions required prevention methods).

Compensation: 
- Some regions assess damages separately for wolves and dogs.
- Conditional evidence of predator attack
  - Clear signs of depredation to simple declaration by livestock producer
- Value compensated
  - 60-100% of market value
  - Dependent on available funds
- Eligibility for compensation varied between regions
  - Some regions required prevention methods
- Efficiency of payment procedure
  - Some regions established a maximum time lag (ultimately the process ranged from 30 days to two years)

Verification/Investigation: Yes.

Program Operation: Information not available.

Strengths: Information not available.

Weaknesses: Compensation increased to unsustainable levels and becoming politically unpopular. This has led some regions to drastically reduce or even eliminate
their compensation procedures.

- As of 2010, no formal evaluation of any of the regional compensation programs/policies.
- Difficulty in distinguishing between dog and wolf depredations, which results in funds designated for wolf conservation being spent on damages by dogs.
- Lack of standardized procedures between regions.
- Does not appear to be increasing wolf acceptance or preventing illegal killing of wolves.

**Recommendations:**
Data required for critical evaluations of compensation schemes should be regularly collected through standardized procedures.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Academic/Scientific literature and government documents of Life COEX, an instrument of the European Union’s environmental policy.

**References:**
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

**KENYA**

**Two schemes on separate conservancies:**
**Amboseli-Tsavo Region - Mbirikani Predatory Compensation Fund (MPCF)**
**Mara Triangle (Mara)**

**Program Type:**
Ex post

**Administration:**
Indigenous Maasai landowners entered into an agreement with the Ol Donyo Wuas Trust (ODWT) to keep lions and other predators safe on the Mbirikani Group Ranch (1,139mi²).

MPCF is administered through the Maasailand Preservation Trust, a human develop and wildlife conservation NGO based on the ranch. The terms and conditions of the MPCF were negotiated by the Group Ranch Committee and the administrators of the fund,
and continue to be renegotiated annually. The local community administers the program across the ranch, and resolves disputes through an elected advisory committee.

**Funding:**
MPCF’s start-up money came from wealthy donors—mostly from the US, followed by funds from National Geographic Society, KWS, etc. For example, ODWT contributed funds for wages, payments, and scholarships to the community. The group ranch itself contributes 20%-30% of livestock payments from its tourism-based income, leaving 70% plus all operation costs to come from other sources or external donors including ODWT.

**Eligible Predators:**
Mara = Lions and leopards
MPCF = Lions, leopards, jackals, and cheetah and 50% on hyena kills

**Producer Obligations/Eligibility:**
MPCF
- Compensation is paid if local community members do not kill carnivores. If someone illegally kills a lion, cheetah, leopard, spotted or stripped hyena, elephant, or buffalo, those responsible are fined and compensation is withheld for the members of that zone for a two-month period.
- Must be registered members of the Mbirikani Group Ranch.
- Claims are accepted if the carcass is on or within 1.5km of the ranch.
- Must be reported within 24 hours of the animal being killed and claimants are asked to protect evidence.

Mara
- Fencing is required (some of the costs covered by the Conservancy).
- There must be secured boma with a chain link fence for community members to be compensated for cattle. The Mara Conservancy has agreed to pay for 50% of the chain link fence needed to secure bomas within 5km of the Triangle’s border.
- Mara payments are only made to registered heads of the household and bomas within 5km of the conservancy. Registration being conditional on animal husbandry and efforts to fortify bomas.

**Husbandry Requirement:**
MPCF – No (Partially). Will receive reduced compensation if husbandry is not acceptable or if the livestock owner has allowed the animal to stray.

Mara – Yes. Fencing is required in Mara Triangle (some of the costs covered by the Conservancy). There must be secured boma with a chain link fence if community members are to be compensated for cattle.

**Compensation:**
MPCF
Rewards are offered to people coming forward with information when predators are killed.
Amount is not equivalent to the loss - paying average ‘market value’ of livestock.
MPCF pays herders market value for livestock killed.
Kills by hyenas were paid out 50%.
If husbandry was poor, then the claimant receives 30%.
If the owner allowed the animal to stray, then compensation is 50%.
MPCF set compensation levels in annually negotiated renewable contracts with the Group Ranch Committee.

Mara
Lions and leopard will be paid 100% (hyena, jackal, etc are assumed to be due to negligence)

Verification/Investigation Required:
MPCF – Yes.

Program Operation:
MPCF
Verification officers are used to investigate kills. As well as, determine whether negligence or poor husbandry were involved.
A person issuing a false claim can be fined.
Trained verification officer visits the site ideally within a few hours after receiving the report.

Mara
Must report the incident by noon of the next day.
Scene examined by an investigation officer.
Mandatory veterinary necropsy for verification if fraud is suspected.
Carcass needs to be within 1km of boma.
Animal husbandry check (fence material, fence height, dog, herdsman).
Payments are made quarterly, and accompanied by a credit note (copies of which are kept by the owner, veterinarian, and Conservancy management to avoid any potential for disputing payment).

Additional Subsidies:
The national statutory compensation scheme is meant to pay about US$400 to the family of those injured or killed, but is insufficient to cover funeral expenses or hospital bills. For this national scheme the Kenyan Wildlife Service verifies the claim, but the government, through the provincial administration is in charge of payment. The Mara triangle and MPCF schemes are run by the conservancies alone.

Strengths:
MPCF
Accepted by ranch members and being expanded to include the Olglului Group Ranch, as well a neighboring Kuku Group Ranch has adopted the predator.
compensation program with support from the Maasai Wilderness Conservation trust (a group similar to ODWT)

- ODWT is working on creating a trust to support the MPCF in perpetuity, and on expanding the conservation model.

**Weaknesses:**

- Problems with community presence. Program was suspended on several occasions – due to lack of cooperation from community members in identifying a person who had poisoned several carnivores, for attempted fraud by the Group Ranch Committee, due to a disagreement concerning decreased payments for stray livestock claims, and a failure of the committee to hand over a fine for killing two lions on the ranch.

**Recommendations:**

MPCF

- 50% of farmers interviewed thought that current statutory compensation for loss of human life and should be adjusted from Ksh 30,000 to Ksh 1.84 million.

**Measure of Success:**

Measuring/monitoring lion populations.

**Source for Strengths, Weaknesses, and Recommendations:**

Collected from Academic/Scientific literature.

**References:**


**MONGOLIA**

**Program Type:**

Performance Payment

**Administration:**

Snow Leopard Enterprises under the International Snow Leopard Trust.

**Funding:**

Financially supported by The David Shepherd Conservation Foundation, the World Wildlife Fund-Mongolia, the Canada Fund, and the British Embassy in Mongolia.
**Predators:**
Snow leopards.

**Husbandry Requirements:**
Information not available.

**Compensation:**
Program focused on value addition to wool by teaching herders to make hand-crafted products that would end up being more valuable than the raw wool they had previously sold. Snow Leopard Enterprises guaranteed it would purchase a certain number of specially designed handicrafts, and herders signed a contract with specific conservation actions, such as, a ban on the poaching of snow leopards and their prey.

If all herders have honored their conservation commitments then they are awarded an additional 20% bonus, any violations in the project area by persons within the community, or outside, results in a loss of the bonus for all participants. If the person involved in poaching is a member of the program the family loses its membership in the incentive program.

**Strengths:**
Information not available.

**Weaknesses:**
Information not available.

**Recommendations:**
Information not available.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Academic/Scientific literature.

**References:**

**NAMIBIAN**

**Human Animal Conflict and Self Insurance Scheme (HACSIS) and its successor the Human Wildlife Self Reliance Scheme (HWSRS)**

**Administration:**
Communal area conservancies working in the Caprivi and Kunene Regions in partnership
with Namibian NGO Integrated Rural Development and Nature Conservation (IRDNC) and the Namibian Government. Farmers submit claims to the conservancy. A committee consisting of conservancy representatives and the traditional authority assesses the claims, which are monitored by the Ministry of Environment and Tourism and the local conservation NGO (i.e. IRDNC).

The HACSIS has now been aligned with, and subsumed into, a national wide scheme for communal lands, which began in 2011: the Namibian Government’s Human Wildlife Self Reliance Scheme [HWSRS].

**Funding:**
The funding strategy for HACSIS was to share responsibility for financing between the conservancy (50%) and the national and international stakeholders with a matching (50%). Conservancies’ revenue is generated from tourism ventures. The aim is that conservancies would eventually fully fund the scheme themselves. The Namibian Government partly funds the new HWSRS through the Game Products Trust Fund, but their policy and guidelines strongly indicate their expectation is that the broader HWSRS is predominantly funded from Conservancies/ farmers’ contributions.

**Eligible Livestock:**
Cattle, goats, sheep, horses and pigs.

**Eligible Damage Causing Wildlife:**
Lions, cheetahs, hyenas, buffaloes, crocodiles, hippos, and elephants.
The more common predators are hyenas, jackals and leopards.

Although the scheme focuses on species of high commercial value such as lions (i.e. for trophy hunting), it also includes those with little such value but that are protected (e.g. hyenas).

**Producer Obligations/Eligibility:**
• HACSIS ran only in registered communal area conservancies. Only registered conservancy members were eligible to make a claim.
  o Under HWSRS this is not the case – all residents may be eligible and do not have to be registered conservancy members.
• No payment is made if the farmer cannot demonstrate his/her attempt to protect their crops/livestock.
• No payments are made for livestock killed in a protected area or conservancy exclusive wildlife zone.
• Stock deaths must be reported within one day of the incident occurring.
• The cause of death and loss of crops/livestock must be verified by a community game guard (e.g. by checking spoor).
• No payments will be made if the livestock was killed at night without being in a secure kraal or other enclosure.
• Conservancy staff and traditional leaders will inspect stock enclosures and advise where strengthening is required. No claim will be valid if recommended improvements were not carried out.
• Claims will not be accepted if members were warned that predators were in the area and they took no action to bring the livestock to safety.
• Following a successful claim, a member can forfeit any future claim if he/she does not improve enclosures as recommended.

_Husbandry Requirements:
Yes. Participating members have to take mutually agreed proactive measures to protect themselves and their crops and cattle. The adherence to strict payment conditions such as responsible husbandry, as well as, making an effort to guard crops at night that ensures only valid claims were made.

_Compensation:_
• Payments under this scheme are made to cover livestock losses at fixed rates, which do not cover the full value of the animal in question but aim to partially off-set the loss to the farmer.
• Funeral expenses when deaths occur:
  • A payment at a fixed rate [N$ 5,000] is made to cover funeral expenses in the case of the death of a conservancy member or his/her minor child caused by wildlife.

_Verification/Investigation Required:_
Yes.

_Program Operation:_
• Conservancy member reports incident to community rangers in agreed time period
• Rangers investigate immediately
• Conservancy Committee and Traditional Authorities verify claim
• Review panel meets quarterly to approve claims (panel is Conservancy Committee, Traditional Authority, NGO and Government)
• Conservancy pays successful claimants
• In the case of a death immediate funeral payment, but claim still reviewed by panel.

_Strengths:_
Information not available.

_Weaknesses:_
• Scheme could become a drain on conservancy funds if the payments are not capped or if the conservancy is not able to increase their income.
• Challenges in securing sufficient matched funding.
• Physically dealing with all the claims.
• HACSIS experienced a backlog in the number of claims being reviewed. It remains to be seen how HWSRS performs in light of these observed additional issues.

Recommendations:
Some conservancies are thinking about establishing livestock herds that are specifically used to replace animals lost to predators instead of making payments.

Source for Strengths, Weaknesses, and Recommendations:
Collected from a private organization.

References:

NEPAL
Wildlife Damage Relief Scheme in Chitwan National Park (CNP)

Program Type:
Ex post

Administration:
Government of Nepal

Funding:
Since the park is managing the compensation scheme. Funds come from park income and state programs.

Eligible Predators (or damage causing wildlife):
Elephant, tiger, rhino, leopard and bear.

Producer Obligations/Eligibility:
• Any person can claim for compensation for wildlife damage outside the park boundary.
• Wildlife victims are entitled to compensation for their losses if the incident took place inside the park while travelling on the public rights-of-way, or collecting forest products and doing other activities with official permission.

Husbandry Requirements:
Information not available.

Compensation:
- First priority given to human casualties (both death and injury) followed by livestock losses, destruction of vegetables fruit orchards, loss of stored grain, and damage of houses.
- There is no coverage for crop damage, and compensation amounts for the loss of big animals such as buffalo or milking cow is not more than 20-25% of the market price.

Program Operation:
- A victim should make claim to the park office within 35 days of the incident.
- A claim assessment committee under the coordination of a park officer will assess medical bills in the case of human injury and market values in case of livestock/crop losses.
- The Chitwan National Park Office is the main agency to implement the compensation scheme. However, there are more than nine organizations/institutions with separate roles.

Strengths:
Information not available.

Weaknesses:
- Process is complex and bureaucratic
- Delays in receiving compensation.
  - Depending on the type of incident, wildlife victims have to prepare at least six to nine types of documents to apply for compensation. Similarly, the application should pass through at least six layers of government bureaucracy. The system is so centralized that each case requires approval from the Ministry of Finance. Victims generally receive compensation after six months.
- Local people argue that the compensation amount for human death (Rs150 000) is a gross under estimation of human life by the park authority and is not in consistent with other compensation policies of the government [which provides Rs500 000 to the family of a person unlawfully killed in road or in riot].

Recommendations:
- Give more authority to local park staff.
- Have applications sent to the park instead of the Ministry of Finance.
- Properly empowering and educating local buffer zone users, committees and park staff could facilitate more sympathetic assessment of claims and losses.
- A community-based insurance scheme run through local cooperatives could be viable option to improve the process.
- To sustain long term funding Chitwan has two good options to maintain a regular
flow of funds to the compensation program.
  o Earmarking a certain portion of the park income to compensate human wildlife conflict cases [e.g. 15%].
  o Adding a human wildlife conflict management fee into the park entry ticket.

Source for Strengths, Weaknesses, and Recommendations:
Collected from private organization.

References:

NORWAY

Program Type:
Ex post

Administration and Funding:

Eligible Livestock:
Sheep, semi-domestic reindeer, cattle.

Eligible Predators:
Lynx, wolverine, bear, wolf, and golden eagle.

Husbandry Requirements:
No specific husbandry requirements other than acting responsibly to avoid losses.

Compensation:
• If carnivore damage is identified or highly probable, the farmer receives compensation for documented and undocumented losses after subtraction of an estimated non-carnivore mortality rate.
• Compensated full slaughter value.
• There is no need to verify all cases of carnivore depredation for compensation claim purposes. It is enough to prove carnivore presence and some verified losses.

Verification/Investigation Required:
Yes (Partially). Conducted by trained field personnel.

Strengths:
Information not available.

Weaknesses:
No control over how many animals compensated are actually killed by predators
Call for payouts to be monitored

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Academic/Scientific literature.

References:

PAKISTAN

Type:
Insurance scheme

Administration:
Project Snow Leopard (PSL) was initiated in 1999 in the community of Skoyo in the Baltistan region of northern Pakistan. The insurance scheme itself is meant to be managed locally. A Village Insurance Committee (VIC) was established, and comprised of villagers nominated by their community.

Funding:
Largely self-sustaining through annual premiums and ecotourism activities.

Eligible Predators:
Snow leopard.

Producer Obligations/Eligibility:
Entitlement to monies in Fund 2 is restricted to those members of the community who have paid premiums into Fund 1.
Husbandry Requirements:
Information not available.

Program Operation:
• Premiums are paid annually.
  • Farmers pay a premium to a fund, Fund 1, per head of livestock.
    o Fund 1 is managed and administered by the community, who also keeps
      a record of individual premium contributions to Fund 1.
    o Premiums rate may rise in the years following a claim and compensation
      pay out.
  • A second fund, Fund 2, is established, organized and operated jointly by the
    community and PSL staff.
    o Fund 2 generates income from snow leopard based ecotourism activities.
• Claimants file applications with the VIC, which verifies killings and makes
  recommendations.
• The following steps are taken should the VIC recommend compensation:
  o Claimant receives his/her individual accumulated premium amount from
    Fund 1 as compensation.
  o If the claimant’s accumulated premium amount in Fund 1 is not high
    enough to cover the full value of the loss incurred, money is taken from
    Fund 2 to cover the remaining costs.

Additional Subsidies:
The members are entitled to interests earned on the total amount, paid out annually, in
proportion to their individual accumulated premiums.

Strengths:
• Emphasis on community participation and innovative financial design.
• PSL integrates local institutions in the management and operation of the
  scheme.
• Compensation attempts to remove any perverse incentive of farmers to
  persecute snow leopards.
• Ecotourism income provides farmers with a positive incentive to conserve the
  snow leopard.
• One major advantage of this two-tier financial scheme is that, unless the entire
  village colludes and decides to cheat, it is very difficult to abuse the scheme.
  Villagers treat Fund 2 as a collective pool of money generated from their
  common resource (i.e. snow leopard).
• PSL is making an attempt to be self-sustaining program that does not rely on
  donor money. This approach, however, leaves the scheme exposed to potential
  financial crises.

Weakness:
• Doubts regarding sustainability and management.
• Asymmetric information, moral hazard, and cheating through fraudulent claims.
• A potential drawback is the reliance on an economic incentive approach to conservation instead of other institutional motives based on aesthetic, religious, and cultural aspects.
• In difficult economic circumstances, local farmers cannot be concerned with the survival of snow leopards. The PLS must bear this in mind when addressing livelihood issues of the local people.

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:

POLAND

Program Type:
Ex post

Administration:
The State: Nature Conservation Departments in every Polish province are responsible for damage assessment and payment of compensation to farmers.

Predators Eligible:
Bears and wolves.

Producers Obligations/Eligibility:
Provinces have also developed damage prevention programs for local farmers. Farmers who refuse to be involved in the prevention programs may not be reimbursed when depredation events occur.

Husbandry Requirements:
Yes. Provinces have damage prevention programs for local farmers.

Compensation:
Provincial offices have current price lists for livestock that form a basis for estimation of the compensation payment. Potential future values are not taken into consideration.

Verification/Investigation Required:
Yes.

*Program Operation:*
Attacks are investigated, and signs for predators and prevention methods are assessed.

*Strengths:*
Information not available.

*Weaknesses:*
Information not available.

*Recommendations:*
Information not available

*References:*
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

**PORTUGAL**

*Program Type:*
Ex post

*Administration:*
The Portuguese State

*Funding:*
Established on an annual basis and come solely from the budget of the State.

*Eligible Predator:*
Wolf.

*Husbandry Requirements:*
Information not available.

*Strengths:*
Information not available.

*Weaknesses:*
- Problems with delays in payments.
- When animals are lost and not found again it hinders eligibility for
compensation.

Recommendations:
Some livestock producers do not approve of the possible replacement of the current scheme by compensation in advance. While the current system may have some flaws, livestock producers do not believe that flat-rate payments would be a better solution and seem to prefer receiving payments as a consequence of damage, not wolves’ presence.
  o The major issue being the degree of uncertainty associated with depredation events. This could lead to situations where most farmers would receive a flat rate payment consistently above or below their yearly losses.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature and government documents of Life COEX, an instrument of the European Union’s environmental policy.

References:
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

RUSSIA
Khasan District

Program Type:
Ex post and Performance Payment

Administration and Funding:
Tigris Foundation and Phoenix Fund.

Eligible Livestock:
Project focuses on sika deer farms.

Eligible Predators:
Tigers and Amur leopards.

Producer Obligations/Eligibility:
  • Deer farms have to sign an agreement with Phoenix. This agreement states:
    o Farm staff will not take actions that can harm tigers or leopards.
- Staff will report all available information regarding the activities of tigers, leopards, and poachers.
- Inspectors of the anti-poaching team are allowed free access to farm grounds.
- Staff will leave livestock kills undisturbed until after they have been investigated.
- Other farms are eligible for compensation payments without signing an agreement.

**Husbandry Requirements:**
Information not available.

**Compensation:**
Three Types of Compensation:
- Two deer farms receive financial compensation for individual livestock killed.
- One deer farm receives financial compensation for the presence of tigers and leopards on or near their farm.
- Deer farms occasionally receive practical assistance, such as:
  - Deer fodder in case deer cannot eat grass due to a thick or hard snow cover.
  - Petrol and repairs for a truck that transports deer fodder.
  - Payment for building sheds to protect deer fawns.

**Verification/Investigation Required:**
Yes.

**Program Operation:**
- Livestock producers contact the local Inspection Tiger anti-poaching team when a leopard or tiger has killed livestock. The team can be reached for this purpose 24 hours a day.
- An inspector checks the kill site within 24 hours.
- Once it is established that a tiger or leopard killed the livestock, the inspector and livestock producer agree on the value of the animal. They draft a statement describing the details of the kill, such as the date, place and circumstances and the compensation agreed upon. Copies of the statement are sent to Inspection Tiger and to Phoenix Fund.
- When Phoenix receives the statement, they pay the compensation with funds that are provided by Tigris Foundation.

**Program Initiatives:**
OUTREACH
This project is advertised in Khasan with articles in local newspapers and announcements on boards in public buildings. This increases awareness of compensations.
**Strengths:**
Information not available.

**Weaknesses:**
- Sustainable funding
- Issues improving husbandry
- Similar programs in this region only worked on a local level and were highly dependent on personal relationships between livestock producers and researchers.

**Recommendations:**
Information not available.

**Source for Strengths, Weaknesses, and Recommendations:**
Collected from Academic/Scientific literature and a private organization, the Tigris Foundation.

**Additional Note:**
The goal of this program is not to prevent depredation events. This program supports protecting fawns, but not mature deer because they are a critical food supply for endangered Amur leopards. Instead their target is to compensate livestock producers, and address the burden of conservation.

**References:**

**SOUTH AFRICA**

**Program Type:**
Ex post

**Administration:**
National Cheetah Management Program (NCMP)
Funding:
The NCMP requires a minimum donation of R 15,000 per cheetah when they are delivered to a new owner/conservation area. These donations maintain the Compensation Fund. Additional expenditures such as veterinary expenses, transport expenses etc. are covered by some of these funds. Additional funds left over from a donation payment remain in the Compensation Fund to keep it self-sustaining. The NCMP may also use these additional funds to sponsor cheetah related conservation projects.

Husbandry Requirements:
Information not available.

Compensation:
• Landowners are compensated a fixed donation for each live cheetah, trapped on their property.
  o The Provincial Conservation Authority must be satisfied that the cheetah was captured legally.
• In 2003, an amount of R 10,000 (US$ 1,000) per cheetah was paid to landowners.

Program Operation:
• The goal is to take excess cheetahs or perceived "problem" cheetahs to protected areas rather than to simply destroy them.
• Farmers are compensated for excess and/or perceived "problem" cheetahs that have been captured alive using methods approved by the NCMP (e.g. trap cages).
• Cheetahs are only captured legally after permits have been issued by the conservation authorities or with their permission.
• Captured cheetahs are then relocated by the NCMP into approved conservation areas in South Africa.

Strengths:
• "Problem" cheetahs are paying for themselves.
• Farmers would rather capture these cheetahs alive due to the "financial" value they have, than killing them on the spot.
• Any additional funds generated get put back into cheetah conservation projects in SA.

Weaknesses:
The NCMP believes this is a short-term solution and not sustainable over the long term.

Recommendations:
Information not available.
Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:

SPAIN

Program Type:
Ex post

Administration:
Varies by regional governments. The power for wildlife management is at the regional government level.

Eligible Predators:
Bears and wolves (dependant on region).

Husbandry Requirements:
No. In regions that pay compensation for all damages, in no case is the payment of compensation dependent on how livestock is managed; in other words, farmers who leave their stock unattended in the countryside and visit it once a week have the same right to compensation as those who watch over their stock with dogs by day and shut them in at night.

Compensation:
Regions that only pay compensation in protected areas (e.g. Galicia Region): Only pays compensation in a hunting reserve that accounts for a tiny part of the wolf range; in the rest of the region, livestock owners must assume the losses themselves.

Regions that pay compensation for all damage (e.g. Asturias Region): Administration directly compensates all livestock damage whether it is in Somiedo Natural Park, subject to strict regulations, or in the region’s less protected areas.

When a farmer discovers that wolves have killed an animal, they must inform an official ranger (employed by the regional administration), who investigate the site. Within a few months the farmer is reimbursed the value of the dead animal. Compensation is not paid for animals that disappear. Other autonomous regions with few wolves also compensate all damage with the aim of either fostering the recovery of wolves as far as possible, or just to ease social tension.

Regions that only compensate owners of insured livestock (e.g. Castilla y León and
Castilla-La Mancha Regions:
In some regions, insurance policies, although very cheap, do not cover all financial losses, regional administrations pay the difference between the amount covered by insurance and the real cost of the damage. If the farmers have not insured their livestock, they are not eligible to receive the shortfall amount.

Verification/Investigation Required:
Yes.

Additional Subsidies/Assistance:
- A technical team visits farmers who wish to put in a damage claim and helps them fill in claim forms. This improves attitudes towards the program.
- In some regions, programs provide an annual budget to help stock farmers adapt to the presence of wolves. Money can be used to fence in traditional pens (not originally built to be wolf-proof), and also to provide farmers with guard dogs free-of-charge.

Strengths:
- Flexibility in regional design

Weaknesses:
- No qualitative studies have been carried out to ascertain farmers’ opinions regarding the different methods of payment, but the farming unions usually prefer direct compensation payments, as in Asturias.
- Livestock producers’ disappointed with differing compensation values between neighboring regions. Some treated more generously than others. This commonly occurs on the boundary between regions operating different compensation schemes or in nature parks or hunting reserves where substantial aid is offered to livestock owners.
- The system of direct compensation is very time consuming for the rangers.
- Excessive delay in making the payments also gives rise to a lot of tension.

Recommendations:
Perhaps farmers should be required to provide their herds with suitable protection in order to be eligible for compensation.

Source for Strengths, Weaknesses, and Recommendations:
Collected from Academic/Scientific literature.

References:
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and
Europe. Pp47.

SWEDEN

Program Type:
Performance payment.

Administration and Funding:
Implemented in 1996 by the Swedish government. Payments made by the Swedish state to indigenous Sami villages.

Eligible Livestock:
Semi-domesticated reindeer.

Eligible Predators:
Wolverines, lynx, and wolves.
Also support for bears and golden eagles.

Husbandry Requirements:
Information not available.

Compensation:
• Payment in 2007, SEK 200,000 per offspring approximately US $29,000 for certified reproductions of carnivores on the villages’ reindeer grazing grounds.
• Sometimes payments are also made for the regular and occasional occurrence of lone wolverines and lynx (SEK 70,000 and SEK 35,000, US $10,150 and US $5,075).
• Payments are irrespective of actual predation incidents.
• Payment is determined to compensate for slightly more than the estimated monetary damage that the offspring are expected to cause throughout their lifetime. Payments must be set high enough and the internal distribution schemes must create a system where is better for individuals to conserve carnivores as opposed to killing them.

Compensation Details:
It is difficult to accurately determine the extent of the damage that a carnivore will inflict. As a number of factors used to determine this value are not certain, but only estimates in themselves. The basis for the estimate should take into consideration market value prices, number of livestock estimated dead for a year, and additional work the presence of carnivores causes the livestock industry. A predator attack can cause extra work beside loss of livestock, such as scattering the herd, breaking fences, or stressing the livestock.
Compensation for loss of wildlife/livestock other than reindeer:
Subject to availability of funds the County Board pays compensation for the loss of wildlife other than reindeer (e.g. Sheep).

Compensation is also paid for dogs injured or killed by predators. State compensation is SEK 20,000 if a dog is killed and SEK 2,000 for an injured dog. A maximum of SEK 5,000 is payable for any excess and veterinary costs. Compensation is payable irrespective of any compensation received from an insurance company. This means that dogs that are not insured are also covered.

Verification/Investigation Required:
No.

Program Operation:
• Searching for carcasses is unnecessary. Instead each winter herders and rangers cooperate and carnivores are inventoried according to very detailed regulations.
• Payments are made to Sami villages, and they have the authority to decide on the use and internal distribution of the funds.
• This system still allows for Sami to conduct protective hunting to remove certain individuals that are causing excessive damage.
• Within the Sami villages they have set up common pool regimes.
  o First off clear boundaries: Sami villages have clearly defined geographical borders.
  o Minimum recognition of right to organize: villages have full rights to manage, use, and distribute the payments in whatever way they see fit (those decisions cannot be overruled).
  o Congruence between appropriation and provision rules: when losses are not equal, monies are distributed proportionately to the number of animals a herder owned (assuming the loss of reindeer is somewhat proportional to the size of the herd – this is also generally seen in larger villages with more members) and in other villages where losses were equal between herders, money was instead spent on community common expenses instead of distributed to individuals.

Strengths:
• Empowerment to design money distribution scheme adapted to particular situations.
• Goal is to reduce the incentive for poaching and hunting carnivores because it reduces the number of offspring for the following season. Incentive to keep carnivores alive.
• Incentives to apply optimal livestock protection are not distorted which reduces the likelihood of moral hazard.
• No time lag between depredation incidents and payments because payments are made for offspring while they are too young to cause damage.
Weaknesses:
- Deciding how to allocate funds.
- Payments for a desired conservation outcome should be paid out to those that are responsible for that outcome (individuals or groups/communities).
  - Useful tool is using land titles i.e. land owners are rewarded for offspring on their plot (however properties have to be large enough to comprise the territory of the animals in question)
- Unclear property boundaries can lead to unequal opportunity as less influential parties are taken advantage of.
- Welfare magnet problems: people moving to a community to benefit from the schemes.
- Requires continual predator inventories (may be difficult and costly to count and verify the number of carnivore reproducions).

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Academic/Scientific literature.

References:

SWITZERLAND

Program Type:
Ex post

Administration:
Federal Office of the Environment (FOEN)

Eligible Predators:
Wolves and lynx.
Husbandry Requirements:
Information not available.

Compensation:
If there is damage to livestock by carnivores, FOEN pays 80% and the regional government 20%.

Additional Subsidies:
Supports livestock producers with money to cover the salary for shepherds, maintain guarding dogs, and buy additional material (e.g. fences).

Strengths:
Information not available.

Weaknesses:
Compensation does not pay for the emotional trauma of depredation events.

Recommendations:
Information not available.

Source for Strengths, Weaknesses, and Recommendations:
Collected from government documents of Life COEX, an instrument of the European Union’s environmental policy.

References:
LIFE COEX. (2007). Improving Coexistence of Large Carnivores and Agriculture in S-Europe: Large Carnivores and Agriculture Comparing Experiences across Italy and Europe. Pp47.

Conclusion
Compensation programs differ greatly. There are ex post schemes that reimburse livestock producers for livestock killed or injured by carnivores, performance payments that reward producers for specific conservation actions, and insurance based schemes.

Even programs of a similar type may vary by their guidelines or requirements. For instance some ex post schemes only pay livestock producers for verified losses, while others pay for probable losses or even missing livestock. Some programs pay the whole market value when livestock are missing, but depredation is not verified, others only pay a part, while a few actually pay more than market value. Some compensation programs have husbandry requirements, while others will pay regardless of the preventative measures employed by livestock producers.
There is no general Canadian, US, or worldwide agreement on the protocols of compensation programs, or guidelines to how or if compensation should be paid in specific situations.

Compensation programs can be improved by learning from the successes and failures of past carnivore management strategies, locally and in other regions. Due to the wide variety of compensation programs instituted in North America and elsewhere around the world, there are numerous programs to assess and use as inspiration for designing and implementing improvements to local compensation programs.

Nyhus, et al. (2003) identify the following core elements of successful compensation schemes:

- **Quick, accurate verification of damage.**
  - Improving the verification/investigation process requires training, adequate tools, and a mechanism for establishing trust between program users and administrators/enforcers to ensure a fair and honest process.

- **Prompt and fair payment.**
  - Timely payments can reduce retaliation against animals or conservation authorities.
  - The process needs to be transparent, to protect against abuse, to account for unverifiable losses (i.e., when it is difficult to determine how livestock were killed or how many), and to be capable of evaluating differences in the market value of various livestock species.

- **Sufficient and sustainable funds.**
  - An inadequately funded scheme may cause problems (e.g. frustration among program users).
  - Wildlife damage will likely vary considerably from year to year, and it is necessary for wildlife managers to plan for contingencies, for long-term sustainability, and/or for an exit strategy.
  - Solid baseline information (e.g., records demonstrating the full impact of carnivore depredation incidents on the livestock industry) is necessary to accurately predict future levels of compensation claims.

- **Site specificity.**
  - Some general guidelines are available to assist wildlife managers in designing and implementing effective compensation schemes, however, it is important to be sensitive to site, species, and culture-specific issues.
  - Shared program ownership between local users and institutions running the compensation schemes may reduce the potential for future conflict and abuse.

- **Clear rules and guidelines.**
  - Successful programs tend to have strong institutional support and clear guidelines.
  - Linked to sound management practices.
- Efforts should not be ad hoc.

- **Measures of success.**
  - Is the compensation scheme achieving its intended outcomes? For example, is there increased tolerance of carnivore populations, are fewer livestock or carnivores being killed, is the information collected able to forecast future carnivore population and future claim levels?
  - Defining measures of success enables a program to be evaluated, and provides an opportunity for making improvements.

The core elements of any compensation program should be determined and agreed upon by program managers and users, and should be tied to the specific goals of the program.
References
APPENDIX I

CRITERIA FOR CLASSIFICATION OF REPORTED DEPREDATION INCIDENTS

USDA Wildlife Services 2003 (Note: Still used as of 2009)

Reported wolf, bear, or lion depredation incidents should be classified as either confirmed, probable, possible/unknown, or other, based on the following criteria. For MIS reporting purposes, “reported” damage may often include incidents described as probable, possible/unknown, and/or other, if the cooperated first reported these incidents as predation.

CONFIRMED – Depredation is confirmed in those cases where there is reasonable physical evidence that an animal was actually attacked and/or killed by a predator. The primary confirmation factor would ordinarily be the presence of bite marks and associated subcutaneous hemorrhaging and tissue damage, indicating that the attack occurred while the victim was alive, as opposed to simply feeding on an already dead animal. Spacing between canine tooth punctures, feeding pattern on the carcass, fresh tracks, scat, hairs rubbed off on fences or brush, and/or eye witness accounts of the attack may help identify the specific species or individual responsible for the depredation. Predation might be confirmed on the absence of bite marks and associated hemorrhaging (i.e., if much of the carcass has already been consumed by the predator or scavengers) if there is other physical evidence to confirm predation on the live animal. This might include blood spilled or sprayed at a nearby attack site or other evidence of an attack or struggle. There may also be nearby remains of other victims for which there is still sufficient evidence to confirm predation, allowing reasonable inference of confirmed predation on the animal that has been largely consumed.

PROBABLE – Having some evidence to suggest possible predation, but lacking sufficient evidence to clearly confirm predation by a particular species, a kill may be classified as probably depending on a number of other factors such as: (1) Has there been any recently confirmed predation by the suspected depredating species in the same or nearby area? (2) How recently had the livestock owner or his employees observed the livestock? (3) Is there evidence (telemetry monitoring data, sightings, howling, fresh tracks, etc.) to suggest that the suspected depredating species may have been in the area when the depredation occurred? All of these factors, and possibly others, should be considered in the investigator’s best professional judgment.

POSSIBLE/UNKNOWN – Lacking sufficient evidence to classify an incident as either confirmed or probable predation, the possible/unknown classification is appropriate if it is unclear what the cause of death may have been. The investigator may or may not have much of a carcass remaining for inspection, or the carcass may have deteriorated so as to be of no use. The investigator would want to consider if the area has been frequented by a predator, or if the habitat is one which the predator is likely to use.
Possible predation may include cases there counts show that abnormal numbers of livestock are missing or have disappeared above and beyond past experience, and where other known cases of predation have occurred previously in the area.

OTHER – Cause of livestock deaths should be classified as other when it is discovered that the cause of death was not likely caused by the animal reported to Wildlife Services during a request for assistance. Examples of other may include cases where the cause of death is confirmed or is likely due to predation by some other animal or cause determined at the time of the investigation such as red fox instead of a coyote or other causes such as, bloat, poisonous plants, stillborn, disease, lightening strike, vehicle collision, etc. If the specific other cause of death can be determined, it should be written in the space provided for Other.
APPENDIX II

CONFIRMED LIVESTOCK AND DOG LOSSES DUE TO WOLF PREDATION IN SEVERAL US STATES
Washington Department of Fish and Wildlife (Tables Extracted from Washington Wolf Plan 2011)

Table 1: Confirmed livestock and dog losses from wolf predation in Idaho, Montana, and Wyoming, 1987-2010 (USFWS et al. 2011)a,b.

|        | 87-90 | 91-94 | 95  | 96  | 97  | 98  | 99  | 00  | 01  | 02  | 03  | 04  | 05  | 06  | 07  | 08  | 09  | 10  | Total |
|--------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Idaho  |       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Cattle | 0     | 1     | 1   | 9   | 11  | 15  | 10  | 9   | 6   | 19  | 20  | 29  | 53  | 96  | 75  | 75  | 75  | 429   |
| Sheep  | 0     | 24    | 29  | 5   | 64  | 48  | 54  | 15  | 118 | 161 | 184 | 205 | 170 | 218 | 324 | 148 | 1,767 |
| Otherc | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 3   | 3    |
| Dogs   | 0     | 1     | 4   | 1   | 7   | 0   | 2   | 4   | 5   | 3   | 9   | 4   | 8   | 12  | 13  | 0   | 73    |
| Total wolvesd | 14 | 42    | 71  | 114 | 156 | 167 | 251 | 263 | 345 | 422 | 512 | 673 | 732 | 846 | 843 | 705 | -     |
| Wolves killed | 0   | 1     | 1   | 0   | 3   | 11  | 7   | 14  | 7   | 17  | 27  | 45  | 50  | 108 | 93  | 78  | 78    |
| Montana |       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Cattle | 14    | 9     | 3   | 10  | 19  | 10  | 20  | 14  | 12  | 20  | 24  | 36  | 23  | 32  | 75  | 77  | 97  | 87    |
| Sheep  | 10    | 2     | 0   | 13  | 41  | 0   | 25  | 7   | 50  | 84  | 86  | 91  | 33  | 4    | 27  | 111 | 202 | 64    |
| Otherc | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 4   | 5   | 0   | 3   | 2   | 2   | 14  | 16  | 6    |
| Dogs   | 1     | 0     | 4   | 1   | 0   | 1   | 2   | 5   | 2   | 5   | 1   | 4   | 1   | 4   | 3   | 2   | 4    |
| Total wolvesd | 10-33 | 29-55 | 66  | 70  | 56  | 49  | 74  | 97  | 123 | 183 | 182 | 152 | 256 | 316 | 422 | 497 | 524 | 566  |
| Wolves killed | 6   | 0     | 5   | 18  | 4   | 19  | 7   | 8   | 26  | 34  | 40  | 35  | 53  | 73  | 110 | 145 | 141 | 724  |
| Wyoming |       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Cattle | 0     | 0     | 2   | 2   | 2   | 3   | 18  | 23  | 34  | 75  | 54  | 123 | 55  | 41  | 20  | 26  | 478  |
| Sheep  | 0     | 0     | 56  | 7   | 0   | 25  | 34  | 0   | 7   | 18  | 27  | 38  | 16  | 26  | 195 | 33  | 482  |
| Otherc | 0     | 0     | 0   | 0   | 1   | 0   | 0   | 10  | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 15   |
| Dogs   | 0     | 0     | 3   | 6   | 6   | 2   | 0   | 0   | 2   | 1   | 0   | 2   | 0   | 7   | 0   | 4    |
| Total wolvesd | 21 | 40    | 86  | 112 | 107 | 153 | 189 | 217 | 234 | 272 | 252 | 311 | 359 | 302 | 320 | 343 | -     |
| Wolves killed | 0   | 0     | 3   | 1   | 2   | 4   | 6   | 18  | 29  | 41  | 44  | 63  | 46  | 32  | 40  | 331  |
| Totals |       |       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |       |
| Cattle | 14    | 9     | 3   | 11  | 22  | 21  | 33  | 32  | 40  | 52  | 64  | 130 | 97  | 184 | 183 | 214 | 192 | 188  |
| Sheep  | 10    | 2     | 0   | 37  | 126 | 12  | 89  | 80  | 138 | 99  | 211 | 270 | 244 | 247 | 213 | 355 | 721 | 245  |
| Otherc | 0     | 0     | 0   | 0   | 0   | 0   | 0   | 0   | 10  | 2   | 0   | 0   | 0   | 0   | 0   | 1    |
| Dogs   | 1     | 0     | 4   | 2   | 4   | 5   | 15  | 11  | 6   | 9   | 6   | 9   | 11  | 8   | 13  | 14  | 24   |
| Total wolvesd | 10-33 | 29-55 | 101 | 152 | 213 | 275 | 337 | 437 | 563 | 663 | 761 | 846 | 1,020 | 1,300 | 1,513 | 1,645 | 1,687 | 1,614 |
| Wolves killed | 6   | 0     | 0   | 6   | 21  | 7   | 23  | 20  | 19  | 46  | 59  | 86  | 103  | 142  | 186  | 264  | 270  | 259   |

a Confirmed losses are defined as those losses verified through physical evidence to have been caused by wolves, as determined by USDA Wildlife Services or the U.S. Fish and Wildlife Service.
b For a variety of reasons (see text), the figures presented here represent minimum estimates of the livestock actually killed by wolves.
c Includes livestock other than cattle and sheep. Losses from 1987-2010 totaled 37 goats, 27 llamas, 18 horses, and 1 domestic bison.
d Minimum number of wolves living in the state(s) during autumn.
e Includes wolves killed and legally killed by ranchers.

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<tr>
<th></th>
<th>80</th>
<th>82</th>
<th>84</th>
<th>86</th>
<th>88</th>
<th>90</th>
<th>92</th>
<th>94</th>
<th>96</th>
<th>98</th>
<th>00</th>
<th>02</th>
<th>04</th>
<th>06</th>
<th>08</th>
<th>Total</th>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td>16</td>
<td>24</td>
<td>10</td>
<td>26</td>
<td>31</td>
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<tr>
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<td>Dogs</td>
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<td>6</td>
<td>1</td>
<td>3</td>
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<td>25</td>
<td>17</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>194</td>
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<tr>
<td>Total wolves(^d)</td>
<td>1,269</td>
<td>1,341</td>
<td>1,416</td>
<td>1,496</td>
<td>1,581</td>
<td>1,700</td>
<td>1,862</td>
<td>2,039</td>
<td>2,232</td>
<td>2,445</td>
<td>2,623</td>
<td>2,814</td>
<td>3,020</td>
<td>3,200</td>
<td>2,921</td>
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<tr>
<td>Wolves killed</td>
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<td>20</td>
<td>36</td>
<td>31</td>
<td>59</td>
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<td>146</td>
<td>105</td>
<td>122</td>
<td>143</td>
<td>143</td>
<td>2,932</td>
</tr>
</tbody>
</table>

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| **Wisconsin** |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| Cattle   | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 0  | 20 | 6  | 36 | 29 | 35 | 39 | 294  |
| Sheep    | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 8  | 0  | 0  | 0  | 0  | 7  | 5  | 6  | 1  | 55   |
| Horses   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  | 0  | 6    |
| Dogs     | 0  | 0  | 0  | 1  | 0  | 0  | 2  | 2  | 5  | 10 | 5  | 10 | 15 | 25 | 22 | 158  |
| Total wolves\(^d\) | 25  | 23 | 18 | 15 | 26 | 34 | 45 | 54 | 99 | 178 | 248 | 327 | 373 | 467 | 626 |
| Wolves killed | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 24 | 18 | 39 | 169  |

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| **Michigan** |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| Cattle   | 0  | 0  | 0  | 0  | 0  | 3  | 2  | 4  | 7  | 9  | 13 | 72  |
| Sheep    | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 3  | 4  | 0  | 24  |
| Horses   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Dogs     | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Total wolves\(^d\) | 10  | 21 | 57 | 116 | 140 | 216 | 278 | 360 | 434 | 520 |
| Wolves killed | 10  | 10 | 6  | 7  | 8  | 44  |

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| **Totals** |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |
| Cattle   | 17 | 24 | 10 | 26 | 32 | 37 | 56 | 82 | 74 | 141 | 103 | 137 | 102 | 129 | 104 | 2,060 |
| Sheep    | 56 | 12 | 92 | 13 | 69 | 112 | 46 | 14 | 21 | 33 | 20 | 65 | 23 | 27 | 23 | 1,115 |
| Horses   | 1  | 0  | 1  | 0  | 0  | 0  | 2  | 1  | 1  | 4  | 1  | 4  | 1  | 3  | 0  | 32   |
| Dogs     | 1  | 2  | 6  | 2  | 3  | 11 | 7  | 10 | 16 | 35 | 22 | 20 | 23 | 31 | 24 | 385  |
| Total wolves | 1,294 | 1,364 | 1,434 | 1,511 | 1,607 | 1,744 | 1,928 | 2,150 | 2,447 | 2,763 | 3,087 | 3,419 | 3,753 | 4,101 | 4,067 |
| Wolves killed | 21  | 20 | 36 | 31 | 59 | 91  | 118 | 172 | 154 | 148 | 146 | 135 | 147 | 190 | 190 | 3,145 |

\(^a\) Excludes poultry losses.
\(^b\) Total losses for all years from 1976 to 2008.
\(^c\) Interpolated population estimates based on average population growth between actual population estimations in mid- to late winter.
\(^d\) Minimum number of wolves in mid to late winter based on actual counts or population estimations.
### APPENDIX III

#### MATRIX OF CARNIVORE COMPENSATION PROGRAMS

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Region</th>
<th>Predators</th>
<th>Livestock</th>
<th>Compensation</th>
<th>Additional Subsidies</th>
<th>Verification Required</th>
<th>Husbandry Required</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export</td>
<td>Alberta</td>
<td>Cattle, bison, sheep, swine, and goats</td>
<td>Wolves, grizzly bears, black bears, cougars, and eagles</td>
<td>Verifiable Yes</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>British Columbia</td>
<td>Coyotes, wolves, bears, and cougars</td>
<td>Cattle</td>
<td>Verifiable Yes</td>
<td>Probability No</td>
<td>Injury: No</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Manitoba</td>
<td>Wolves, black bears, coyotes, cougars, and foxes</td>
<td>Cattle, hogs, horses, sheep, donkeys, wild bear, geese...</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
<td>Flexible compensation rates dependent on program funding, No support for implementation of best management practices.</td>
</tr>
<tr>
<td></td>
<td>Nova Scotia</td>
<td>Black bear, fox, coyote, raven/grow, any birds of prey</td>
<td>Livestock and exotic game species (not listed)</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
<td>Large number of predators and livestock covered, Eligibility requirements prevent &quot;hobby&quot; farmers from receiving compensation.</td>
</tr>
<tr>
<td></td>
<td>Ontario</td>
<td>Bear, bison, Cottontail, Coyote, Cougars, Crow, Eagle, Fox, Hawk...</td>
<td>Apeca, bison, Cattle, Deer, Fans, Gamebird, Farm dollar, Farming dog...</td>
<td>Probability No</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saskatchewan</td>
<td>Coyotes, bears, cougars, lynxes, fates, wolves, eagles...</td>
<td>Cattle, sheep, goats, deer, hogs, ravens, donkeys...</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
<td>Compensation for crop (sheep) and building damage, Delay in verification and investigation.</td>
</tr>
<tr>
<td></td>
<td>Arizona/New Mexico</td>
<td>Mexican wolf</td>
<td>Cattle</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Colorado</td>
<td>Bear and mountain lion</td>
<td>Verifiable Yes</td>
<td>✓</td>
<td>✓</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Idaho</td>
<td>Wolf, mountain lion, and bears</td>
<td>Cattle, sheep, and dogs</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>✓</td>
<td>Multiples added to account for missing livestock</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Michigan</td>
<td>Wolves, coyotes, and cougars</td>
<td>Cattle, sheep, calves, swine, cattel, pork...</td>
<td>Verifiable Yes</td>
<td>Injury: Missing: Sometimes</td>
<td>✓</td>
<td>x</td>
<td>If compensation is not paid within 30 days, claimant is entitled to receive twice the claim</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minnesota</td>
<td>Wolves</td>
<td>Cattle, swine, horses, mules, sheep, geese...</td>
<td>Verifiable Yes</td>
<td>Probability No</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Montana</td>
<td>Wolf and grizzly bear</td>
<td>Cattle, swine, horses, mules, sheep, geese...</td>
<td>Probability Yes</td>
<td>Injury: Yes</td>
<td>Missing: No</td>
<td>✓</td>
<td>Creative means for squaring funds</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Species</td>
<td>Threats to livestock, crops, infrastructure</td>
<td>Verdict</td>
<td>Eligibility</td>
<td>Compensation</td>
<td>Additional info</td>
<td></td>
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<tr>
<td>Oregon</td>
<td>Wolves</td>
<td>Rattles, animals, horses, cattle, llamas, sheep, goats, swine...</td>
<td>V</td>
<td>P</td>
<td>Y</td>
<td>Two-tiered payment depending on herd size.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>Wild bears, cougars, and wolves, Coyote not included.</td>
<td>Cattle, sheep, horses...</td>
<td>V</td>
<td>P</td>
<td>Y</td>
<td>Producer must meet state definition of &quot;vulnerable farmer&quot;.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Wisconsin</td>
<td>Wolves and other endangered/threatened species.</td>
<td>Deer, cattle, sheep, goats, swine...</td>
<td>V</td>
<td>P</td>
<td>Y</td>
<td>Count in-kind compensation for missing livestock. Active role for program users.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wyoming</td>
<td>Black bear, grizzly bear, mountain lion/coyote and gray wolves</td>
<td>Cattle, sheep, goats, horses...</td>
<td>V</td>
<td>P</td>
<td>Y</td>
<td>Compensation multipliers account for missing livestock. No compensation for indirect costs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>Lynx, wolves, bear, wolf, and golden eagle</td>
<td>Sheep, semi-domestic reindeer, cattle</td>
<td>V</td>
<td>P</td>
<td>M</td>
<td>No requirement to verify all losses. Call for payouts to be monitored.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Brown bear, wolf, jackal, and red fox</td>
<td>Sheep and goats</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Replaces lost livestock from a compensation fund. Additional subsidies offered.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Finland</td>
<td>Bear, wolf, wolverine, and lynx</td>
<td>Livestock, honey harvest, fences, buildings...</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Process too slow. Deductions applied to claims.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>France</td>
<td>Birds (other predators such as foxes and doves)</td>
<td>Cattle, buffaloes, goats, sheep</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Additional subsidies, increased compensation to account for indirect costs. Delays in receiving compensation.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>India</td>
<td>Leopards and tigers, wild boar</td>
<td>Cattle, buffaloes, goats, sheep</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Low compensation levels. Long delays and system corruption.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>Wolves</td>
<td>Sheep, hogs, cattle, goats, and horses</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Compensation programs vary/ flexible by region. No formal evaluations as of 2010. Compensation increasing to unsustainable levels.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Kenya</td>
<td>Lions, leopards, jackals, and cheetahs, and hyena kills</td>
<td>Cattle, goats, sheep, hogs, and porcupines</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Rewards offered for poaching information. Payments/program renegotiated annually. Compensation for loss of human life too low.</td>
<td></td>
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</tr>
<tr>
<td>Namibia</td>
<td>Lions, cheetahs, hyenas, buffaloes, crocodiles</td>
<td>Cattle, goats, sheep, hogs, and porcupines</td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Funeral expenses offered. Potential drain on conservancy funds.</td>
<td></td>
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</tr>
<tr>
<td>Poland</td>
<td>Bears and wolves</td>
<td></td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Prevention programs in place for livestock producers.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Portugal</td>
<td>Wolf</td>
<td></td>
<td>V</td>
<td>Y</td>
<td>M</td>
<td>Compensation for missing animals.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>South Africa</td>
<td>Cheetah</td>
<td></td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Livestock producers paid for safely capturing cheetahs.</td>
<td></td>
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</tr>
<tr>
<td>Switzerland</td>
<td>Wolves</td>
<td></td>
<td>V</td>
<td>Y</td>
<td>Y</td>
<td>Additional support for preventative measures. Compensation does not cover emotional trauma.</td>
<td></td>
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<tr>
<td><strong>Insurance</strong></td>
<td><strong>Performance/Payment</strong></td>
<td><strong>Combination</strong></td>
<td><strong>Ex post/Insurance</strong></td>
<td><strong>Ex post/Performance Payment</strong></td>
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<tr>
<td>Austria</td>
<td>Bears and lynx</td>
<td>Verified: Yes</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>Bears, wolves, and other wild animals</td>
<td>Verified: Yes, ✓</td>
<td>✓</td>
<td>Insurance program co-financed with public funds. Compensation amounts vary by wild animals (unequal).</td>
<td></td>
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</tr>
<tr>
<td>Newfoundland and Labrador</td>
<td>Roaming dogs, coyotes, lynx, and bears</td>
<td>Verified: Yes, ✓</td>
<td>✓</td>
<td>Premiums may not be able to sustain rising compensation levels.</td>
<td></td>
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</tr>
<tr>
<td>Mongolia</td>
<td>Snow leopards</td>
<td>Sheep</td>
<td>Program agreement with villagers to prevent poaching in return for bonuses.</td>
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</tr>
<tr>
<td>Sweden</td>
<td>Wolves, lynx, wolves, bears, and golden eagles</td>
<td>Semi-domesticated reindeer</td>
<td>No time lag between depreciation and payment. Difficult to distribute money, determine value, and monitor predator populations.</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>Wolves and bears</td>
<td>Sheep and other livestock</td>
<td>Verified: Yes, ✓</td>
<td>✓</td>
<td>✓</td>
<td>Flexibility by region</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*... indicates additional eligible species.*