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Department of
Agriculture

Animal and Plant
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Service

Wildlife
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**USDA-APHIS
IDAHO WILDLIFE SERVICES
WOLF ACTIVITY REPORT
FISCAL YEAR 2009**

Introduction

This report summarizes Idaho Wildlife Services' (WS) responses to reported gray wolf depredations and other wolf-related activities conducted during Fiscal Year (FY) 2009 (October 1, 2008 – September 30, 2009) pursuant to Permit No. TE-081376-12, issued by the U.S. Fish and Wildlife Service (FWS) June 16, 2006. This permit allows WS to implement control actions for wolves suspected to be involved in livestock depredations and to capture non-depredating wolves for collaring and re-collaring with radio transmitters as part of ongoing wolf monitoring and management efforts.

Methods

Whenever WS receives a report of suspected wolf depredation, or of wolves harassing/chasing livestock or livestock guarding animals, WS typically responds by sending a field employee to conduct an on-site investigation. Results of each investigation are documented on WS Form 200, Wildlife Services Depredation Investigation Report (WSDIR), (see Appendix A). Specific criteria have been agreed upon by the FWS, Nez Perce Tribe (NPT) and WS to classify reported incidents of wolf depredation as either: confirmed, probable, possible/unknown or other (see reverse side of Appendix A for discussion of these criteria). Information regarding the complaint and subsequent investigation findings is communicated as soon as possible to the FWS, NPT and the Idaho Department of Fish and Game (IDFG), as appropriate, by telephone and/or e-mail. If wolf predation is confirmed, the responding WS employee typically implements either nonlethal or lethal control, or a combination thereof, depending on the direction and authorization provided by the IDFG.

Under the provisions of The Privacy Act, WS is prohibited from providing any private information, including the names and addresses of livestock producers who request assistance from WS, to any third party. WS is not allowed to provide copies of completed WSDIRs to anyone (including Federal and State wildlife agencies) other than the livestock producer who requested assistance, unless all personal information related to the cooperator/rancher is redacted from the document. For purposes of filing compensation claims under the Defenders of Wildlife's privately funded compensation program, cooperators are advised to contact the appropriate Defenders of Wildlife representative directly and provide a copy of the WSDIR form to that individual. WS has been providing copies of WSDIRs (that involve reported wolf depredation) to the NPT, IDFG and the FWS, but any information that could be used to determine the identity of individual livestock producers is redacted from these copies. Names of individuals mentioned in this report are all WS employees, unless otherwise noted.

Results: *Brief summaries that pertain to those investigations which resulted in a finding of confirmed or probable wolf damage are available on request from the ID WS State Office.*

Investigations Summary: WS conducted 226 depredation investigations related to wolf complaints in FY 2009 (as compared to 186 in 2008, an increase of almost 22%). Of those 226 investigations, 160 (~71%) involved confirmed depredations, 43 (~19%) involved probable depredations, 16 (~7%) were possible/unknown wolf depredations and 7 (~3%) of the complaints were due to causes other than wolves.

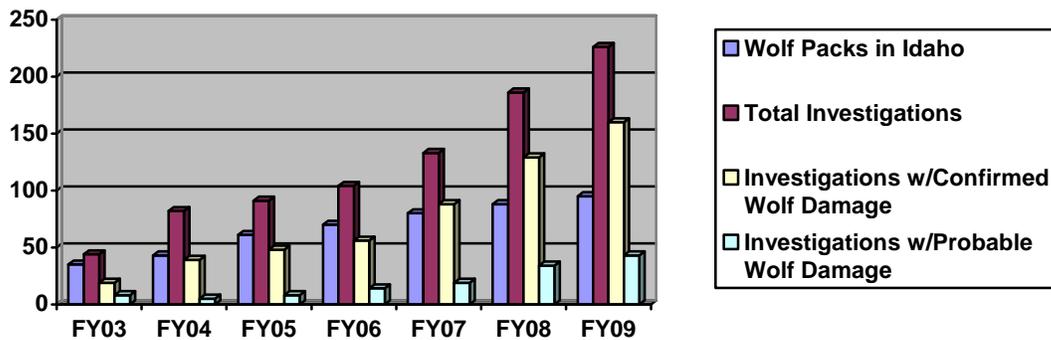


Figure 1. Number of wolf packs in Idaho compared to number of depredation investigations, FY 03-09.

Based on Idaho WS investigations, the minimum number of confirmed and probable livestock depredations due to wolves in FY 2009 was:

Confirmed	Probable
76 calves (killed), 7 calves (injured)	26 calves (killed), 3 calves (injured)
14 cows (killed)	1 cow (killed)
344 sheep (killed), 20 sheep (injured)	156 sheep (killed)
16 dogs (killed), 8 dogs (injured)	4 dogs (killed), 2 dogs (injured)
1 foal (killed), 1 goat (killed)	1 goat (killed)

The number of both cattle and sheep killed and injured by wolves in FY 2009 was the highest ever recorded. The number of cattle killed and injured was only slightly higher than in FY 2008, but there was a dramatic increase in the number of sheep killed and injured, as compared to FY 2008 (Figure 2). Although there were more incidents of wolf predation on cattle than on sheep (Figure 3), the tendency for wolves to kill multiple sheep per incident contributed to the greater numbers of sheep killed. Wolf depredations on cattle and calves more often involve attacks on just a single animal per incident.

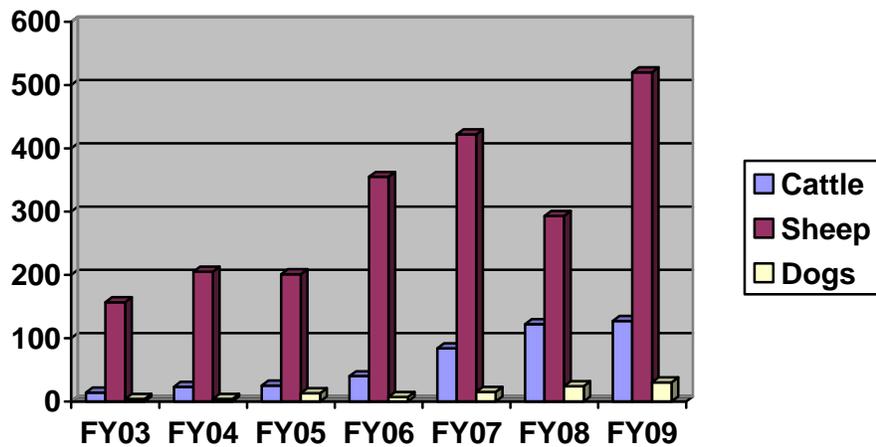


Figure 2. “Confirmed” and “Probable” cattle, sheep and dogs attacked by wolves, FY 03-09.

There were more depredation incidents involving cattle than sheep for the fifth year in a row (Figure 3), probably because of the greater exposure of cattle to wolves. In 2009, there were about 10 times as many cattle in Idaho as there were sheep (NASS 2009), and many wolves have at least some access to cattle all year, whereas most sheep are only in occupied wolf areas for 5-6 months of the year.

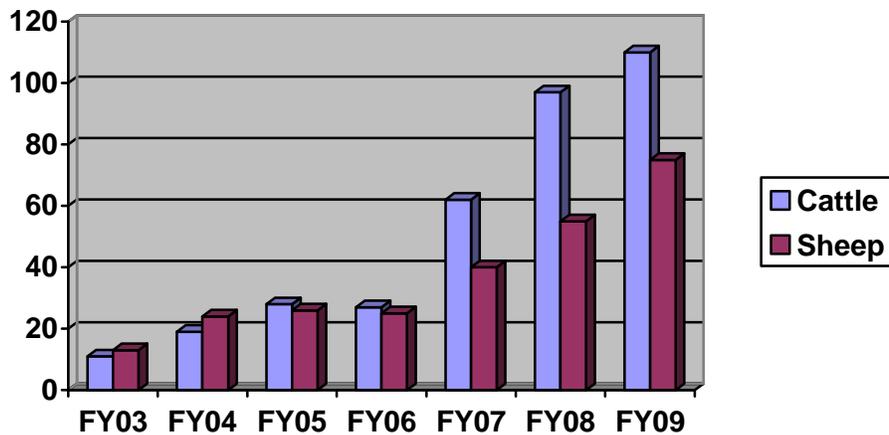


Figure 3. Number of verified wolf depredation incidents by resource.

When wolves commit depredations on livestock, the appropriate IDFG Regional Supervisor typically authorizes WS to initiate some form of incremental lethal control to help resolve the depredation activity. Nonlethal control measures may also be implemented or recommended depending on the specific circumstances, but in many cases, particularly with sheep producers, wolf predation has occurred in spite of ongoing nonlethal efforts to prevent wolf depredations. During wolf control actions initiated in FY 2009, 12 wolves were captured, collared and released on site (as compared to 10 in FY 2008 and 9 in FY 2007) and 107 were killed (as compared to 82 killed in FY 2008 and 48 killed in FY 2007 (Figure 4)).

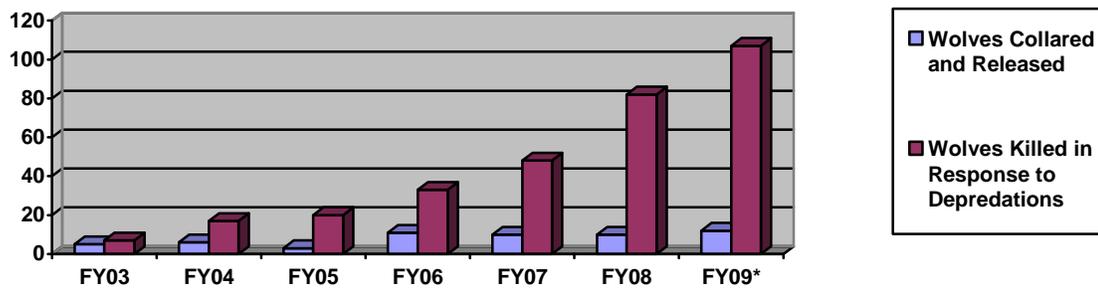


Figure 4. Disposition of wolves during Idaho Wildlife Services wolf control actions, FY 03-09.

*FY09 data includes 12 wolves killed in MT after committing depredations in ID.

For the first time since wolves were reintroduced, wolves from Montana (MT) were confirmed to have killed livestock in Idaho and returned back across the State line. Also for the first time, members of an Idaho wolf pack that had been killing livestock in Idaho were taken by ID WS on the MT side of the border. In coordination with staff from MT WS and MT Fish Wildlife & Parks, a total of 12 wolves were taken by ID WS on the MT side of the border, 5 from the Sage Creek (MT) pack, and 7 from the Middle Creek (ID) pack. These 12 wolves are included in the 107 total wolves killed by ID WS in FY 09. IDFG and MTFWP record wolf mortalities based on where the wolves denned (if known).

From October 1, 2008 – May 3, 2009 (the period when wolves were a listed species), WS killed 30 wolves during control actions. From May 4 – September 30 (when wolves in Idaho were not protected by the Endangered Species Act), ID WS killed 77 wolves during control actions. None of the 107 wolves killed by ID WS in control actions during FY 2009 were north of I-90 where they were listed as endangered until May 4, 2009.

Incidental Takes: There were no incidental takes of any wolves during any WS operations in Idaho in FY 2009.

Chronic Depredating Wolf Packs/Individuals Involved in Livestock Depredation: At the time of the initial reintroduction of experimental-nonessential wolves to Central Idaho, the FWS addressed the issue of chronic depredating wolves in their 1994 10j rule [at 50 CFR 17.84(i)(3)(vii)] with this specific language: "*All chronic problem wolves (wolves that depredate on domestic animals after being moved once for previous animal depredations) will be removed from the wild (killed or placed in captivity).*" Significantly, this language did not specify that chronic depredating wolves "may" be removed from the wild, but that they "will" be removed from the wild. Removal of chronic depredating wolves had been required under the 10j rule since 1994.

Under the 1994 10j rule, wolves that had been involved in as few as 2 confirmed depredations on livestock could be considered "chronic" depredating wolves. The APHIS-WS program in Idaho has historically considered 3 verified depredations in a single year as the threshold for labeling a pack as a chronic depredating pack. (Note that under the FWS definition of chronic depredating wolves, a wolf might be involved in only a single depredation in a year, but could be considered a chronic depredating wolf if it killed livestock even once more in any subsequent year.)

Technically, the 1994 10j rule definition of a chronic depredating wolf involved relocation of depredating wolves, but this approach has not been practiced in any areas of the Northern Rockies for a number of years, since relocation is no longer necessary to ensure viable wolf populations, and since all the suitable wolf habitat is essentially already occupied by wolves. (The FWS, on page 1294 in their Federal Register notice accompanying the 2005 10j rule, provided further rationale for discontinuing relocation of depredating wolves.) Given the increasingly liberal allowances for more aggressive control of depredating wolves in subsequent additions to the original 10j rule, the intent of those rules clearly seemed to call for removal of any wolves involved in multiple confirmed depredations on livestock.

The depredations listed below include both confirmed and probable depredations, but all packs in the following list were implicated in at least 3 confirmed depredations on livestock during FY 09. The number of wolves, if any, removed in response to these depredations is indicated after the number of livestock killed.

- 1) Thorn Creek Pack: 13 depredations – 22 sheep killed (confirmed), 19 sheep killed (probable) – 4 wolves killed.
- 2) B-149 Pair: 12 depredations – 1 cow, 7 calves killed (confirmed), 2 calves killed (probable), 2 calves injured (probable).
- 3) Biscuit Basin Pack: 11 depredations – 77 sheep, 2 dogs, 1 goat killed (confirmed), 3 sheep injured (confirmed), 1 dog killed (probable) – 4 wolves killed.
- 4) Doublespring Pack: 10 depredations – 9 calves, 4 sheep killed (confirmed), 1 calf killed (probable).
- 5) Stolle Meadows Pack: 9 depredations – 2 cows, 5 calves killed (confirmed), 2 calves killed (probable) – 2 wolves killed.
- 6) Lemhi Pack: 8 depredations – 6 calves, 1 sheep killed, 1 calf injured (confirmed), 2 calves killed (probable) – 2 wolves killed.
- 7) Little Wood River Pack: 8 depredations – 3 calves, 25 sheep, 1 dog killed, 1 dog injured (confirmed), 3 calves, 11 sheep killed (probable) – 6 wolves killed.
- 8) Snake River Pack: 8 depredations – 1 cow, 6 calves killed, 3 calves injured (confirmed), 1 calf killed, 1 calf injured (probable) – 9 wolves killed.
- 9) Basin Butte Pack: 7 depredations – 4 cows, 2 calves killed (confirmed), 1 calf killed (probable) – 2 wolves killed.
- 10) Prairie (unknown) Pack: 7 depredations – 3 calves killed (confirmed), 4 calves killed (probable) – 7 wolves killed.
- 11) Steel Mountain Pack: 7 depredations – 50 sheep killed (confirmed), 41 sheep killed (probable) – 3 wolves killed.

- 12) Bluebunch Pack: 6 depredations – 1 cow, 1 dog killed, 1 calf injured (confirmed), 1 cow, 2 calves killed (probable) – 5 wolves killed.
- 13) Middle Creek Pack (removed): 6 depredations – 30 sheep killed, 9 sheep, 1 dog injured (confirmed), 2 sheep killed (probable) – 8 wolves killed.
- 14) Phantom Hill Pack: 6 depredations – 14 sheep, 2 dogs killed, 1 dog injured (confirmed), 8 sheep killed (probable).
- 15) Bear Wallow Pack: 5 depredations – 10 sheep, 1 dog killed, 1 dog injured (confirmed), 7 sheep killed (probable).
- 16) Timberline Pack: 5 depredations – 6 sheep killed, 1 dog injured (confirmed), 1 sheep killed (probable) – 3 wolves killed.
- 17) Applejack Pack (removed): 4 depredations – 1 calf, 4 sheep killed (confirmed), 1 calf killed (probable) – 5 wolves killed.
- 18) Bitch Creek Pack: 4 depredations – 2 cows, 2 calves killed (confirmed) – 1 wolf killed.
- 19) Falls Creek Pack (removed): 4 depredations – 2 calves, 1 foal killed (confirmed), 1 calf killed (probable) – 6 wolves killed.
- 20) Jungle Creek Pack: 4 depredations – 23 sheep killed, 3 sheep injured (confirmed).
- 21) Sage Creek Pack (removed): 4 depredations – 26 sheep killed, 1 sheep injured (confirmed) – 5 wolves killed.
- 22) Hard Butte Pack: 3 depredations – 2 calves killed, 1 calf injured (confirmed) – 1 wolf killed.
- 23) Hornet Creek Pack: 3 depredations – 1 calf, 5 sheep killed, 3 sheep, 2 dogs injured (confirmed) – 2 wolves killed.

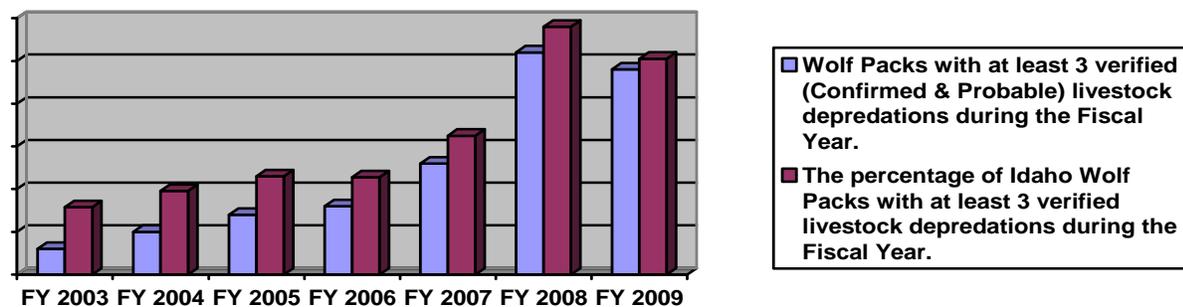


Figure 5. Number of verified “chronic” depredating wolf packs in Idaho from FY 03-09.

The data in Figure 5. indicate that the proportion of Idaho's wolf packs implicated in "chronic" depredations increased until FY 2009, when it dropped slightly. This may be related to the fact that WS has removed more wolves from chronic depredating packs in the last two years than in any previous years.

WS verified wolf depredations in 20 of Idaho's 44 counties in FY 2009 (Figure 6). By comparison, only 9 counties in the State had verified wolf depredations in FY 2005 and only 1 county, Custer, had 15 verified wolf depredations. Custer and Boise counties had more verified wolf depredations (61) in FY 2009 than the entire State of Idaho had in FY 2005 (56). Custer, Boise and Lemhi counties combined had over three times more verified depredations (82) in FY 2009 than did the entire State in FY 2003 (27).

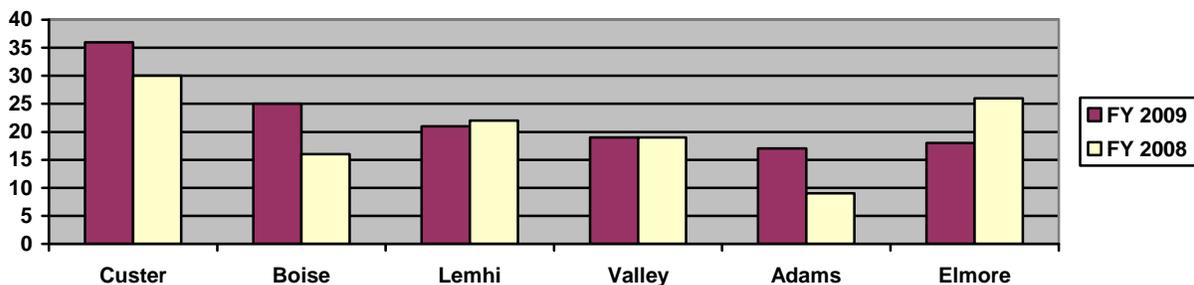


Figure 6. Counties with a minimum of 15 confirmed and/or probable wolf depredations in FY 2009 compared to the same data from 2008. (Counties not pictured but with verified wolf depredations in FY 2009 include: Fremont – 13, Clark – 11, Blaine -11, Idaho – 8, Butte - 5, Camas - 3, Jefferson – 4, Bonneville – 3, Washington – 2, Clearwater -1, Gem – 1, Latah – 1, Shoshone -1, and Teton - 1) *ID WS also confirmed 2 wolf depredations in Lincoln CO, WY for an Idaho producer.

Additional comparisons between wolf damage at the 2005 population level versus the 2009 population level further illustrate the impacts of Idaho's increased wolf population. In FY 2005, WS verified 56 incidents of wolf depredation, 28% of the FY 2009 level. Only 25 livestock producers and dog owners had verified wolf depredations in 2005 compared to 96 this past year. Only 7 wolf packs (11% at the time) met the criteria to be called a "chronic depredating pack" in FY 2005. Now about 25% of Idaho wolf packs are considered chronic depredating packs. WS only had to kill 20 wolves in FY 2005 compared to the 107 killed in FY 2009.

D. Other Wolf-Related Activities: Idaho WS staff participated in a number of wolf-related training, outreach, and other activities during the year. These functions included:

1. October 29, 2008. Rick Williamson attended a wrap-up meeting for the "Big Wood Project" in Hailey.
2. November 8, 2008. Mark Collinge participated in a panel discussion on wolf management during the Idaho Wool Growers Association annual convention in Sun Valley.
3. November 18, 2008. Rick Williamson provided information on WS wolf damage management activities while staffing an informational booth at the Idaho Cattle Association annual convention in Sun Valley.
4. January 22, 2009. Doug Hansen spoke to the Weiser River Cattleman's Association about wolf depredations in western Idaho.

5. February 3, 2009. Rick Williamson participated as a technical advisor during the annual meeting of Idaho's Wolf Depredation Compensation Board in Boise.
6. February 6, 2009. Doug Hansen spoke to 125 students at the Fruitland Middle School about wolf biology and depredations on livestock.
7. May 6, 2009. Alegra Galle presented a paper titled, "Trends in Summer-time Coyote and Wolf Depredation on Livestock in Idaho During a Period of Wolf Recovery" at the 13th Wildlife Damage Management Conference in Sarasota Springs, NY.
8. May 22, 2009. Rick Williamson participated in a film review panel for "*The Lords of Nature*" in Boise.
9. June 15, 2009. Rick Williamson provided nonlethal management training for the Big Wood Project to FS, project employees, livestock producers and two Blaine County Commissioners.
10. July 6, 2009. Rick Williamson attended a project preview meeting with IDFG, FS, several sheep producers and DOW in Hailey about the upcoming Big Wood Project where DOW would put employees in place to protect sheep bands from the Phantom Hill Pack.
11. June 24, 2009. Todd Grimm and Doug Hansen discussed wolf damage management with a group of educators at the Idaho Rangeland Resource Commission Rangeland Ecology class in McCall.
12. August 15, 2009. Rick Williamson provided information on wolf damage management in Idaho, at a meeting of the Upper Snake River Trappers Association in Mud Lake.
13. September 16, 2009. Mark Collinge, Todd Grimm and Doug Hansen spoke to a group of concerned ranchers, IDFG representatives and State legislators at a meeting in Cambridge about wolf/livestock conflicts.

Conclusions/Recommendations:

WS conducted 226 wolf-related investigations in Idaho during FY 2009, compared to 186 investigations during FY 2008 (~22% increase from FY 2008). WS spent approximately \$517,000 of appropriated and cooperative funds responding to complaints of reported wolf predation, conducting control and management actions, (salary and benefits, vehicle usage, travel and supplies) and for other wolf-related costs (equipment and supply purchases, meeting attendance, etc). Of the 226 reported wolf depredation investigations conducted in FY 2009, 160 (~71%) involved confirmed wolf predation. The control actions that followed confirmed depredations involved the lethal removal of 107 wolves (compared to 82 in FY 2008) and the radio-collaring and release of 12 wolves. The slight drop (~2%) in the amount of funds spent in FY 2009 compared to the FY 2008 level, despite the increase in wolf depredations, is most likely related to an increase in operational efficiency experienced after the delisting of wolves in May.

The 203 depredation investigations conducted by ID WS that resulted in "Confirmed" or "Probable" wolf-related damage was up almost 25% from the 163 incidents in 2008. Confirmed and probable cattle losses rose 4% from FY 2008 levels, while verified ("Confirmed" & "Probable") damage to sheep rose more than 77% from FY 2008 levels.

The sharp increase in sheep depredations is mostly accounted for by the 2009 wolf depredations in Clark and Fremont counties where 3 different wolf packs (Biscuit Basin, Middle Creek and Sage Creek) were responsible for 148 sheep killed or injured in 21 depredation incidents. In FY 2008, WS only documented 16 sheep killed by wolves in this area. The Middle Creek and Sage Creek packs were both removed after numerous depredations in FY 2009.

The Snake River pack became a problem in the spring when they began killing cattle on private land. A fairly large pack, numbering at least 14, they were responsible for killing a cow and 7 calves, and injuring 4 more calves – all on one ranch west of Bear, ID. WS began incremental removals but the wolves kept attacking cattle. By the end of 2009, WS and the ranch employees had reduced the pack to one individual, B-315.

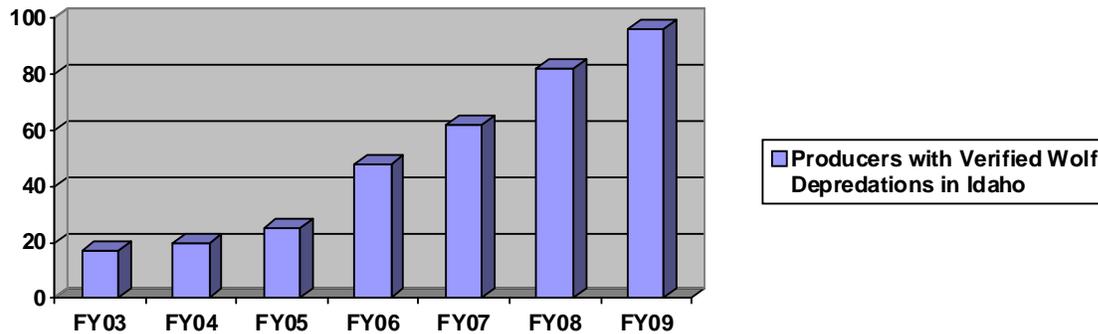


Figure 7. Number of Idaho livestock producers with verified wolf depredations FY 04 – 09.

There were 96 livestock producers and dog owners with verified wolf depredations in Idaho in FY 2009 (Figure 7). Nearly 100 families and small business operations had private property damaged or destroyed by wolves during depredations. These figures do not include producers who had depredations but were, for whatever reason, unable to get the depredations verified by WS, or producers who had wolves in their areas and were able to deter wolves from attacking their livestock. Since FY 2003, at least 125 Idaho livestock producers and dog owners have suffered at least some verified wolf depredations.

Fortunately, 63 of the producers who had verified wolf depredations in FY 2009 only had one depredation. One cattle producer had 8 depredations and 2 sheep producers were hit repeatedly, 13 and 25 verified wolf depredations respectively, despite all of the nonlethal preventive measures they had in place, including use of multiple livestock guarding dogs and significantly increased vigilance by the herders.

As indicated in Figure 8, almost half of all verified wolf depredations in FY 2009 took place on private land. Nearly 2/3 of all verified cattle depredations were documented on private land. This data does not necessarily indicate that wolves kill cattle on private land at a higher rate than they do on public property, but it may be indicative that remains of wolf-killed cattle are more difficult to detect on public land grazing allotments than on fenced private pastures. Many wolf-killed cattle on public lands grazing allotments are probably never discovered (Oakleaf et al. 2003). Of the 23 chronic depredating packs identified above, over 60% of them were involved in depredations on private land.

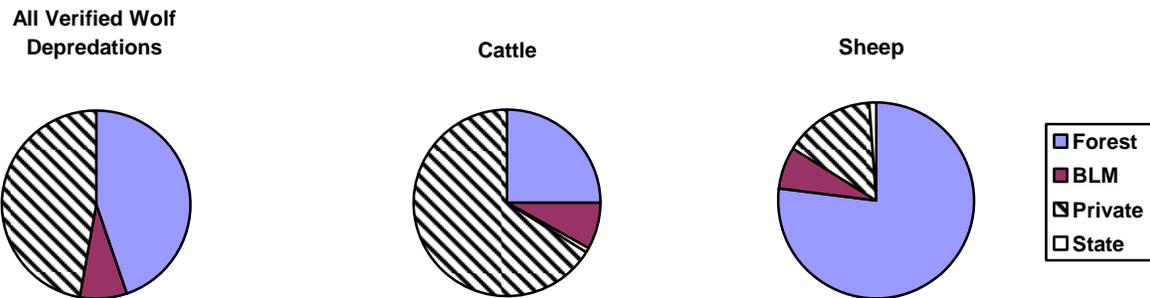


Figure 8. Land status where verified wolf depredations occurred in Idaho in FY 2009.

Some wolf advocacy groups have pointed out that, in relative terms, only a very small proportion of livestock losses (<1% for cattle and <2.5% for sheep) nationwide are typically caused by wolves, and that other predators, such as coyotes, are responsible for many more livestock deaths than are wolves (Defenders of Wildlife 2007). While both of these are valid points, it is also important to recognize that even though predation losses due to wolves represent a relatively minor portion of total overall death losses nationwide, these losses are never evenly distributed across the industry (Mack et al. 1992). Most livestock producers will experience no predation by wolves, while some producers in certain areas may suffer significant losses to wolves. Coyotes, by virtue of the fact that their populations are typically many times greater and more widely distributed than the wolf population, do cause more overall predation losses. But assessing the relative likelihood of predation by individual wolves versus individuals of other commonly implicated livestock predators provides insight as to why wolf predation is a bigger concern to some livestock producers and wildlife damage management agencies than is predation by other species.

Collinge (2008) compared reported numbers of livestock killed by wolves and other predators with the estimated statewide populations of the four species (coyotes, wolves, mountain lions and black bears) most often implicated in predation on livestock in Idaho. By determining the average number of livestock killed per each individual predator on the landscape, and comparing these figures among the four species, it turns out that individual wolves in Idaho are about 170 times more likely to kill cattle than are individual coyotes or black bears. Individual wolves were determined to be about 21 times more likely to kill cattle than were individual mountain lions. These comparisons highlight the importance of being able to implement effective wolf damage management procedures.

For the third year in a row, WS provided technical assistance in conjunction with a cooperative nonlethal wolf management project that took place during the summer grazing season in the Sawtooth National Forest west of Ketchum. The “Big Wood River Project” has employed paid staff, sponsored by Defenders of Wildlife, to monitor the movements of the Phantom Hill wolf pack and actively haze them away from any bands of domestic sheep the wolves might encounter while traveling through their territory. The project employees also use night penning and turbo fladry to keep sheep and wolves separate from each other. This project likely reduced the number of depredations this pack would otherwise have been involved in, but the Phantom Hill wolves still managed to commit verified depredations on six occasions between the first of July and the first of September, 2009. Although this project sponsored by Defenders of Wildlife has been helpful to several livestock producers, the costs associated with this type of labor-intensive

effort will probably limit the likelihood that livestock producers would implement a similar approach on their own.

With wolves no longer considered a listed species in Idaho, the “45-day rule”, a restriction put in place by the USFWS requiring any lethal control of “problem” wolves to be completed within 45 days of the most recent depredation, is no longer in place. While WS always tries to resolve problems as quickly as possible, limiting efforts to 45 days has in some cases prevented most effective resolution of a depredation problem. WS continues to strongly recommend that in those cases where our program’s efforts are unsuccessful in resolving chronic wolf depredation problems within a few weeks of the most recent depredation, particularly if an implicated wolf pack, or group of wolves, has a history of livestock depredations from more than one previous year, that additional management flexibilities be allowed. Allowing control efforts to take place during the late winter months, when some of these packs would be more vulnerable to aerial hunting efforts, is one example of an additional management option which could greatly facilitate more effective resolution of some chronic depredation problems.

It is probably too soon to make inferences about what effect, if any, Idaho’s sport harvest of wolves may have on future wolf depredations on livestock. However, based on an initial review of wolf harvest data, it appears likely that a number of the wolves taken by hunters during the 2009-2010 Idaho wolf season were wolves previously implicated in livestock depredations. Part of the rationale employed in the establishment of quotas for the 12 Wolf Zones was to reduce the number of wolves in areas where the most wolf depredations on livestock occur. Twenty-nine percent of ID WS’ total wolf take for FY 2009 occurred in the first two wolf zones to reach their established quotas (McCall-Weiser and Upper Snake). WS removed 22 wolves in The Southern Mountains Zone in response to confirmed depredations, and wolf hunters in the Southern Mountains Zone reached the quota of 10 wolves just after the new year began. Allowing a higher quota of wolves to be taken in these 3 zones during the 2010-2011 hunting season (if one occurs) might help contribute to a reduction in wolf/livestock conflicts, and a reduction in the need for WS to remove wolves in these zones. Alternatively, WS recommends consideration of procedures to allow for hunter harvest of wolves in localized problem areas even after a quota has been reached in a particular wolf management zone, similar to the “depredation hunts” which are often held on short notice to address specific deer or elk damage problems. Because the primary focus of these hunts would be to resolve damage, they should be in addition to, rather than instead of, WS efforts to resolve a specific wolf damage problem.

WS removed 28 wolves in the Sawtooth Zone, more than in any other wolf management zone. At the time this report is being prepared, about one third of the wolf quota in this zone has gone unfilled. No quota modifications are recommended for this or the other 8 zones not mentioned above for the 2010-2011 wolf season.

Hunting from the ground is not the most effective way to take wolves, and as shown in Figure 9., WS employees take fewer wolves by this method than any other method used. After wolves have been exposed to hunting by the public, it would seem likely that wolves will become even more difficult to hunt as they become more wary of humans. Winter harvest levels of 28-47% are sustainable in wolf populations (Mech 2001), but based on WS experience and information regarding wolf harvest in Alaska (where most wolves are taken by trapping and snaring, rather than hunting), we believe it is highly unlikely that hunting alone could be used to accomplish that level of removal in Idaho.

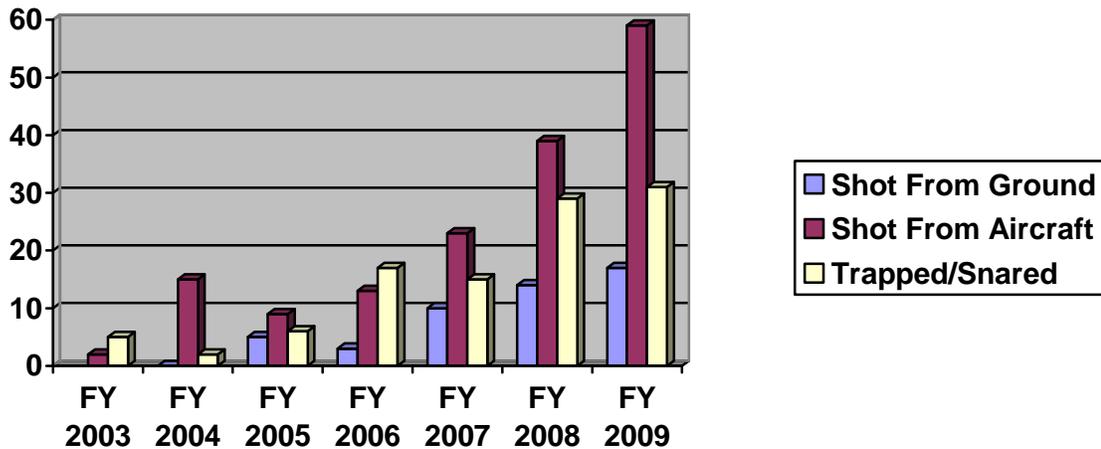


Figure 9. Method of take for wolves killed by Idaho WS from FY 03-09

One approach that has been recommended by a number of recognized wolf experts as a potential means of reducing wolf-livestock conflicts is to consider sterilization of wolves in certain circumstances (Cluff et al. 1995, Mech et al. 1996, Haight et al. 1997). In Idaho, IDFG has increasingly authorized removal of most or all of the members of wolf packs involved in chronic depredations on livestock, particularly where there has been a history of depredations from a previous year or years. In some situations, these territories are re-occupied as soon as the following year, and conflicts with livestock occur again. WS recommends that in some of these chronic problem areas, surgical sterilization of one or both alpha wolves be considered as an alternative to removal of all the pack members. Determinations as to which packs might qualify for this treatment would depend a number of logistical factors. If IDFG authorizes removal of all the members of a chronic depredating pack, WS proposes that in those cases where it is logistically feasible, alternative consideration be given to removing all the members except the 2 alphas, while the alphas would be concurrently live-captured, surgically sterilized, radio-collared and released. Subsequent monitoring would provide information regarding whether or not this approach might be effective in reducing wolf/livestock conflicts in the treatment area.

Given the continually increasing number of wolf depredations on livestock in Idaho, it will be difficult for the Idaho WS program to continue the same level of responsiveness to wolf damage complaints unless changes occur. One change, which would seem unlikely in the current economic climate, would be obtaining additional resources to supplement the WS workforce in order to meet the increasing demand for service. Another option, which is more likely achievable, would be for Idaho wolf managers to exercise more of the flexibility allowed under current management guidelines to reduce the number of wolves and problem packs to a more manageable level. The Idaho Fish and Game Commission has recommended managing Idaho's wolf population at a biologically sustainable level of about 500 animals, rather than the current 800-900 level in Idaho. The data in Figure 10. suggest that if Idaho's wolf population could be maintained at around 500 wolves, WS' wolf-related expenditures would be about half what they were in FY 09.

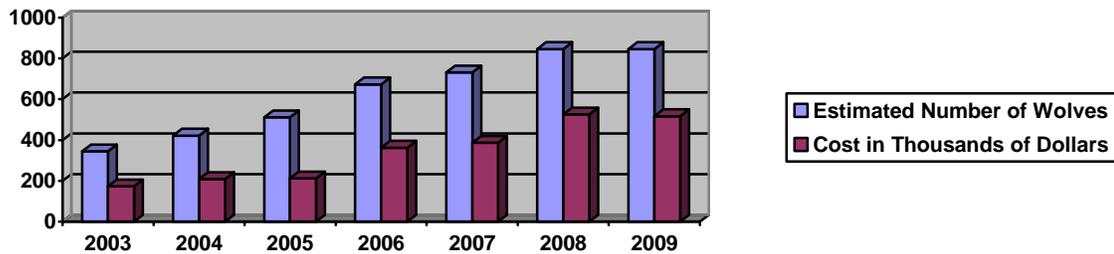


Figure 10. Estimated minimum number of wolves in Idaho compared with WS wolf-related expenditures since FY 2003.

In 2008, the Idaho Fish and Game Commission directed the IDFG *"To develop and aggressively utilize all available tools and methods to control wolf-caused depredation of domestic livestock."* The strategy being implemented in Wyoming for wolf damage management is an example of actions which might approach the charge given by the Idaho Fish and Game Commission. Three years ago, wolf managers in the State of Wyoming began implementing a very aggressive approach to deal with depredating wolves. Instead of continuing with an extended incremental removal approach, which was deemed inefficient and not as effective, the decision was made to move toward a much more aggressive incremental removal. When previously identified chronic depredating packs began preying on livestock, those packs were targeted for removal soon after depredations began again by those packs. In the first year of this approach (2007), confirmed wolf depredations on livestock were reduced >55% compared to the previous year (Jimenez et al. 2008), and depredations in 2008 were likewise reduced significantly from 2006 levels (Jimenez et al. 2009).

Of the estimated 97 wolf packs in Idaho in FY 2009, WS was able to verify that at least 40 of them were involved in livestock depredations. Twenty-three of the packs were involved in at least 3 depredations each and were responsible for over 67% of the total cattle losses and 76% of the total sheep losses. These 23 packs were involved in at least 151 livestock depredations (~76% of the all the verified wolf depredations in Idaho in FY 2009). WS lethally removed 74 wolves, ~75% of the total take by WS, in response to the depredations caused by these 23 packs. Employing the approach used in Wyoming for the last 3 years on at least the worst, if not most, of the remaining chronic depredating packs from 2009 would be consistent with the direction expressed by the Idaho Fish and Game Commission. Wolf removal efforts in Idaho are often more challenging and difficult than they are in Wyoming, because most of Wyoming's depredating wolves can be effectively taken through aerial hunting, whereas a greater proportion of Idaho's wolf problems must be addressed through ground control efforts. A combination of much more aggressive depredation control actions and liberal public hunting and trapping seasons will likely be needed to realistically achieve the Idaho Fish and Game Commission goal of managing for a population of around 500 wolves.

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 Boise, Idaho 83709
 January 30, 2010

Literature Cited:

Cluff, H. D., and D. L. Murray. 1995. Review of wolf control methods in North America. *in Wolves in a Changing World*, L. N. Carbyn, S. H. Fritts, and D. R. Seip, Eds.

Collinge, M. 2008. Relative risks of predation on livestock posed by individual wolves, black bears, mountain lions and coyotes in Idaho. *Proceedings of the Vertebrate Pest Conference*. 23:129-133.

Defenders of Wildlife. 2007. Wolf predation and livestock losses. http://www.defenders.org/programs_and_policy/wildlife_conservation/solutions/wolf_compensation_trust/wolf_predation_and_livestock_losses.php.

Haight, R. G., and D. L. Mech. 1997. Computer simulation of vasectomy for wolf control. *Journal of Wildlife Management* 61:1023-1031.

Jimenez, M.D., D.W. Smith, D.R. Stahler, D.S. Guernsey, S.P. Woodruff, and R.F. Krischke, 2008. Wyoming Wolf Recovery 2007 Annual Report. Pages WY-1 to WY-28 *in* U.S. Fish and Wildlife Service Rocky Mountain Wolf Recovery 2007 Annual Report. USFWS, Ecological Services, 585 Shepard Way, Helena.

Jimenez, M.D., D.W. Smith, S.P. Woodruff, D.R. Stahler, E. Albers, and R.F. Krischke, 2009. Wyoming Wolf Recovery 2008 Annual Report. Pages WY-1 to WY-46 *in* Rocky Mountain Wolf Recovery 2008 Interagency Annual Report. C.A. Sime and E. E. Bangs, eds. USFWS, Ecological Services, 585 Shepard Way, Helena.

Mack, J. A., W. G. Brewster, and S. H. Fritts. 1992. A review of wolf depredation on livestock and implications for the Yellowstone area. Pp. 5-3 to 5-20 *in*: J. D. Varley and W. G. Brewster (Eds.), *Wolves for Yellowstone: A Report to the U.S. Congress, Vol. IV, Research and Analysis*. Yellowstone National Park, WY

Mech, D. L., S. H. Fritts, and M. E. Nelson. 1996. Wolf management in the 21st century, from public input to sterilization. *Journal of Wildlife Research* 1:195-198.
<http://www.npwrc.usgs.gov/resource/mammals/wolfman/altmeth.htm>

Mech, L. D. 2001. Managing Minnesota's recovered wolves. *Wildlife Society Bulletin* 29(1):70-77

NASS. 2009. Agriculture in Idaho. Issue 10-09.
http://www.nass.usda.gov/Statistics_by_State/Idaho/Publications/Agriculture_in_Idaho/pdf/agid10-09.pdf

Oakleaf, J. K., C. Mack, and D. L. Murray. 2003. Effects of wolves on livestock calf survival and movements in central Idaho. *Journal of Wildlife Management* 67:299-306

Appendix A

U.S. DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE WILDLIFE SERVICES		REPORT NUMBER I : 200
WILDLIFE SERVICES DEPREDAATION INVESTIGATION REPORT		
SPECIES	NAME OF INVESTIGATOR(S)	DATE COMPLAINT RECEIVED
NAME AND ADDRESS OF LIVESTOCK OWNER/LEASEE		DATE INVESTIGATED
		TELEPHONE NUMBER
		COUNTY
LAND OWNERSHIP <input type="checkbox"/> STATE <input type="checkbox"/> BLM <input type="checkbox"/> TRIBAL <input type="checkbox"/> PRIVATE <input type="checkbox"/> FS <input type="checkbox"/> OTHER (Specify)		TYPE OF LIVESTOCK/PROPERTY <input type="checkbox"/> SHEEP <input type="checkbox"/> CATTLE <input type="checkbox"/> OTHER (Specify) <input type="checkbox"/> HORSE <input type="checkbox"/> BEES
LOSSES AND/OR PROPERTY DAMAGE (See criteria on reverse side of form)		
No. Confirmed	No. Probable	No. Possible/Unknown
		No. Other (Specify)
SITE DESCRIPTION/PHYSICAL EVIDENCE PRESENT (i.e., tracks, scat, hair, blood, signs of struggle, scrapes, etc.)		
CARCASSES/PROPERTY DAMAGE CHARACTERISTICS (i.e., puncture marks, feeding patterns, measurements between canines, signs of hemorrhage, etc.)		ESTIMATED TIME SINCE PREDATION/DAMAGE OCCURRED (Days/hours)
ACTIONS TAKEN		DATE STARTED
		DATE ENDED
NAME OF WS INVESTIGATOR	SIGNATURE	DATE
NAME OF DISTRICT SUPERVISOR	SIGNATURE	DATE
NAME OF STATE REPRESENTATIVE	SIGNATURE	DATE
DISPOSITION OF CARCASS/PARTS		
WS FORM 200 (OCT 99) COPY DISTRIBUTION: WHITE - State Office YELLOW - District Supervisor PINK- State GOLDENROD- Investigator		

CRITERIA FOR CLASSIFICATION OF REPORTED DEPREDATION INCIDENTS

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 cooperators 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 also be confirmed in 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 **probable** 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 where 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 originally 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 coyote or other causes such as, bloat, poisonous plants, stillborn, disease, lightning strike, vehicle collision, etc. If the specific other cause of death can be determined, it should be written in the space provided for Other.