



**Meeting Report
Wolf-Livestock Stakeholder Subgroup
February 3, 2014**

CDFW Headquarters Building
1416 9th Street, Room 1341
Sacramento, CA 95814



California Department of Fish and Wildlife

Table of Contents

1.0 Introduction	3
2.0 Meeting Objectives and Mechanics	3
3.0 Meeting Outputs	4
Introductions and Updates	4
Review of November Wolf-Livestock Interactions Subgroup Mtg. Report	5
Review/Discuss Dec. 27 th Version of State-by-State Comparison of Management Strategies	6
Discussion of Dec. 27 th Version of Lessons Learned Document	8
Methods: A Discussion of How We Can Reach and Endpoint and Accomplish Objectives	9
Additional Action Items	10
APPENDIX A. WORKSHOP PARTICIPANTS	11
APPENDIX B. AGENDA	12
APPENDIX C. WOLF-LIVESTOCK INTERACTIONS: STATE-BY-STATE COMPARISON OF MANAGEMENT STRATEGIES (Jan. 30, 2014 version)	13
APPENDIX D. DRAFT OVERVIEW OF LESSONS LEARNED FROM THE WESTERN UNITED STATES REGARDING WOLF-LIVESTOCK INTERACTIONS (Jan. 28, 2014 version)	21

1.0 Introduction

On February 3rd, 2014 the Wolf-Livestock Interactions Subgroup (WLIS) of the California Wolf Stakeholder Working Group (SWG) convened in Room 1341 of the California Department of Fish and Wildlife's headquarters in Sacramento. This was the fourth meeting of the WLIS, which was established to help the California Department of Fish and Wildlife (CDFW, Department) develop a consensus-driven framework of management strategies for effectively dealing with potential wolf impacts on California's livestock populations.

2.0 Meeting Objectives and Mechanics

The purpose of the meeting was to continue building consensus through discussion of potential topics for inclusion in a Wolf-Livestock Interactions chapter in the California Wolf Plan.

Objectives of the meeting as initially planned were:

1. Introductions and Housekeeping
2. Review January meeting (What did we accomplish? Comments on meeting report?)
3. Review/discuss January 28th version of State by State Comparison of Management Strategies
 - a. Review updated items on this version
 - b. Identify any inaccurate or incomplete statements
 - c. Identify any other elements/categories which will be useful to developing a California strategy
4. Discussion of January 28th version of lessons learned document. Note changes made based on January meeting and continue discussion.
5. Methods (a discussion of how we can reach an endpoint and accomplish objectives)
6. Planning (develop a work plan strategy, including products and timeframes)
7. Next steps (scheduling, commitments)

The meeting was attended in person by nine stakeholders and two CDFW staff, with two additional CDFW staff attending via conference line. Appendix A provides a list of participants, their affiliations, and their contact information. The agenda for the meeting is captured in Appendix B.

The meeting began with introductions led by Mr. Mark Stopher, who serves as chair of the Wolf-Livestock Subgroup (WLIS) and housekeeping items (location of bathrooms, agreement on time for lunch break). The bulk of the meeting consisted of discussing the

updates to the Draft Wolf-Livestock Interactions: State-By-State Comparison of Management Strategies (Appendix C), and the Draft Overview of Lessons Learned from the Western United States Regarding Wolf-Livestock Interactions (Appendix D). These documents were developed by Mr. Stopher as a means of facilitating discussion among the subgroup members, to inform them of strategies used in other states, and to attempt to reach consensus on strategies the Department may adopt for managing wolf-livestock interactions in California. After completing their discussions of the two documents, the group decided they would work within their caucuses to develop recommendations for wolf management strategies in California, and will begin discussing those recommendations at the next meeting on February 19th, 2014. The meeting then concluded.

3.0 Meeting Outputs

Introductions and Housekeeping

Mr. Stopher informed the group that the level of detail that will be going into the meeting reports may be reduced due to the increased frequency at which the various wolf working groups will be meeting in the coming months. Staff responsible for generating the reports are also responsible for developing chapters in the management plan, and they will have less time available for providing such detail in future meeting reports. The group concurred that it is more important to have a summary of meetings available in advance of subsequent meetings, than to have such highly detail reports.

Mr. Stopher also solicited thoughts from the group about the last meeting, and about the stakeholder process overall. One member expressed concern that our emphasis so far has been on wolves from the Northern Rocky Mountain group, but that we should also consider the New Mexico wolves. Although this is a different subspecies of wolf, with different management, the effects to the land users are similar, especially to northeastern California. Ms. Kovacs explained that the reason we have emphasized wolves from the north is simply that that area is where we expect to get wolves first so that is where we have focused. However she and Mr. Stopher concurred that it is important for us to include all relevant information, and that we will be looking more closely at Mexican wolves as the management planning process moves forward. Scientific information derived from wolf systems in the Great Lakes region, having different ungulate species and very different livestock systems, may be less relevant than that deriving from the southwest, but any information that can inform California's wolf planning will not be excluded from consideration.

Review/Discuss January 30th Version of State by State Comparison of Management Strategies

This document was last presented to the Wolf-Livestock Subgroup at their January 7th, 2014 meeting. Department staff wanted to present various management options that may be available in California under the various potential state and federal listing scenarios. The purpose of developing this comparison table was, therefore, to help the stakeholders and Department staff to reach a common understanding of the practices in use by other states in the western U.S., and ultimately to decide on approaches for California. During the January meeting, the group made recommendations for corrections and additional information in the document. In addition, Mr. Stopher has engaged the wolf biologists from western states' fish and wildlife agencies. The January 30th version, which incorporates those recommendations and findings, was presented for further comment during the February 3rd, 2014 meeting, and represents Appendix C of this report.

Stakeholder group member's questions, comments, recommendations:

- Is there a plan to update the information with as new figures are released, and as this information is incorporated into the California management plan?
- Does Oregon also count OR7 in their population size and state wolf population objectives? This will be important when we begin discussing our conservation objectives, and how wolves that are moving across borders are counted toward conservation objectives.
- Does Oregon not allow lethal take if on an allotment? #7 says "on their property"
- There is some discrepancy for Oregon between Row 11 and Row 5; in Row 11 is says you can rely on USDA Wildlife Services for confirmation of a depredation, but in Row 5 it says only ODFW or a peace officer can confirm.
- Row 18 for California says zero budget; didn't you tell us there was an allocation of \$300,000?
- Is the federal money listed in Row 18 for Oregon mostly Section 6 money?

CDFW comments and responses to Stakeholder questions, comments, recommendations:

- Oregon added the Special Status Game Mammal designation to allow the ODFW to utilize some federal funding for staff to engage in wolf management. This is a new designation under Oregon law that did not exist previously. Ms. Kovacs explained that utilizing the various types of federal fund sources can be problematic in that each fund constrains the types of activities for which states can use the monies. The Special Status Game Mammal designation that Oregon has

established allows them to broaden their funding base for wolf management activities.

- Mr. Stopher pointed out that he has begun to incorporate end notes into the document to provide additional information as needed.
- When there is a pack that crosses borders, the state in which the den site is located is the one that counts those animals in their population census so that animals are not double-counted.
- Idaho had a livestock depredation compensation program but they discontinued it when federal funding ended. It will be important to consider the reliability of funding when assessing whether compensation is an appropriate strategy for California.
- Wyoming has designated wolves in the northwest part of the state as Trophy Game Animals, and wolves in the remainder of the state as Predatory Animals. A flex area was also established, in which wolves are designated as Trophy Game Animals from October 15 through February 28, and as Predatory Animals for the remainder of the year. The compensation program is utilized only in the Trophy Game Animal areas, and claims are awarded up to a 7 to 1 ratio of the known depredated animals, where a confirmed depredation has occurred. Confirmation is provided by either Wyoming Game and Fish or USDA Wildlife Services, and the producer must file for compensation within 60 days. If California establishes a compensation program for livestock depredations it will be important to consider the frequency at which such claims will be allowed.
- In Oregon a peace officer can confirm a livestock depredation, which will qualify the livestock producer for compensation and financial assistance grant program, but ODFW must also provide confirmation for the event to qualify toward eventual lethal control. Wildlife Services does not provide confirmation that qualifies for either compensation or toward lethal control.
- In Washington I believe they require a 3rd party appraisal for all claims
- Oregon does not allow for lethal take of wolves by a livestock producer while on an allotment, and the code has changed for Washington as well, such that lethal take is also allowed only on private property
- With respect to ODFW's recommendations for deterrence measures, if a depredation occurs within a designated Area of Known Wolf Activity, the agency begins making recommendations to area producers.
- For purposes of compensation in Oregon, ODFW must provide the confirmation of a depredation; but in western Oregon where wolves are still federally listed, federal agencies can make determinations.
- CDFW requested and received a Section 6 grant from the USFWS for \$300,000 for 3 years for wolf planning; this is being used to offset staff time, and there is also a plan to fund the facilitator for stakeholder meetings; the grant has to be matched at 25% with either state money or in-kind services; we can add those funds to the

table and clearly distinguish its purpose for planning from that of actual day-to-day wolf management

- Federal money listed in Row 18 for Oregon is Pittman-Robertson and State Wildlife Grant funds

Discussion of January 28th Version of Lessons Learned Document

This document represented the next iteration of the “Lessons Learned” document that was discussed at the previous Wolf-Livestock subgroup meeting on January 7th, 2014. The purpose of the document is to develop the group’s understanding of other states’ experiences with respect to managing wolf-livestock interactions. Mr. Stopher elicited comments and recommendations from the stakeholders at the January meeting, and the January 28th version, which incorporates those recommendations, was presented for further comment at today’s meeting, and represents Appendix D of this report.

Mr. Stopher began by drawing stakeholders’ attention to Table 1 in the document. He explained that most of the changes in the table are for Wyoming’s estimates of wolf packs, agency lethal control, and other wolf mortality. This is because Wyoming varies year-by-year in how they report some of the statistics in their annual reports. As a consequence some data reported for Wyoming in Table 1 was changed from the last version. He also added a row for Average Pack Size for all states. This information is less valuable than most of the other information provided in the table because the year-end estimates of pack size are based on a small subsample, with large variation. It is therefore difficult to draw conclusions from these data.

Next, Mr. Stopher explained the changes to the numbered text portion of the document. Numbers 11-14 in the last version were re-formatted based on stakeholder recommendations to 11a – 11d. This format more accurately conveys the differences in how the interaction between mortality and population is characterized, and how these differences can be interpreted. For example, figures as presented in 11a can be interpreted by some to say that 50.1% of the wolf population died in 2012. However 11b goes on to demonstrate a more informative way of characterizing the rate of mortality: by dividing the known mortalities for the year to the known population *at the end of the year* PLUS the known mortalities for the year. This accounts for recruitment into the population, and gives a mortality estimate of 34.7%. Another way of looking at overall mortality is to compare the minimum known population from year to year; comparing that figure in 2012 with the same figure in 2011 shows a decline in the population of 5.7%.

Stakeholder group member’s questions, comments, recommendations:

- Since the Northern Rocky states allow a producer to take a wolf in the act of depredating livestock, where would that be characterized here?
- Do the annual reports include the number of breeding pairs? It might be worth including that information in this table so we can see the trends
- When USFWS issued statements on population change for the region, they indicated a decline of 7%; their NRM DPS does include Oregon and Washington, so why is their figure different than what you came up with?
- If using these data in the conservation chapter, parse the numbers out according to mortality source, rather than lumping all mortality; 1. Segments of society are open to using lethal methods for repeated livestock depredations, but not to hunting and trapping; it's valuable to know what percentage of mortality is due to lethal control versus hunting and trapping; 2. From a biological standpoint it would be useful to know sources of mortality from hunting and trapping versus lethal methods for livestock depredation, versus illegal poaching, versus other mortalities
- Add a parenthetical to #14 about animals being GPS collared
- Back to 11b and c again, overall mortality figures are appropriate in the conservation chapter, but mortality that pertains to wolf-livestock conflict would be more valuable in this chapter
- On 15c can we include scale? Some of these methods may lose effectiveness before the end of even one calving season
- At many sites there are multiple methods in use; maybe there should be a sub-d statement to that effect

CDFW comments and responses to Stakeholder questions, comments, recommendations:

- Wolf mortalities by livestock producers are recorded in the "Other Known Wolf Mortality" category of Table 1
- State annual reports do include number of breeding pairs; will add that to Table 1
- The figure of 5.7% includes Oregon and Washington, which have lower relative mortality which brings the overall figure down; USFWS may not have included Oregon and Washington in their calculations.
- The numbers are likely an undercount of the actual population or mortality, and the system is intended to do that rather than to overstate; there is a potential to use figures selectively to support one's view, so it's important that we present a range of ways to convey the information to show different interpretations of what may be actually occurring. For example it's useful to be able to show that an approximately

35% mortality level led to an approximately 6% decline in the population. This can help to circumvent some selective presentation of figures.

- With respect to 11d, this is an observation based on the data in the table; even in years when the total number of wolves decreased the number of packs increased; will add the number of breeding pairs for comparison; the hypothesis is that if alpha individuals are killed the subordinates may stay together but may also disperse and form new packs
- It would be of value to have the percentages of various types of wolf mortality; there will likely still be some variability; may even split out Yellowstone National Park
- Will add “including, for example, GPS and radio collars” to #14 to preserve our last discussion on this item
- Some of the parsed out pieces of wolf mortality are in Table 1 as raw numbers; there is some under “Other” that includes at least some mortalities from individuals taking them in the act of depredation; it’s useful to have specific data on wolves taken to prevent depredation
- #15 is intended to capture the opportunities as well as the limitations of non-lethal deterrents

Methods: A Discussion of How We Can Reach an Endpoint and Accomplish Objectives

After completing the discussion of the Lessons Learned, Mr. Stopher expressed his hope that the group has fine-tuned these two documents sufficiently to now begin populating the comparison table with information for California. He asked the group to discuss how to proceed with that task, and suggested some options: we could discuss the table row-by-row; we could go away and work on it separately. He has scheduled two additional meeting dates and hopes to have draft language in place by the end of the second meeting.

One suggestion was to use a process similar to that of the predator management discussion with the Wildlife Resources Committee of the Fish and Game Commission. The Committee elicited recommendations from various stakeholders who developed them separately, and the Committee then made their own proposals based on those recommendations. Alternatively, the Department could complete the table with their proposals, which would then provide discussion points for the stakeholders at the upcoming meetings. The group did discuss how to accommodate the as-yet undecided federal and state listing statuses when making recommendations for wolf management strategies for California. Ultimately the group decided to make recommendations for multiple strategies, each of which will address the various potential listing scenarios.

Each stakeholder “caucus” will work as a team to develop their recommendations for items 5 through 15, and 17 of the comparison table. Mr. Stopher will create a blank table with headings for CESA-listed and Non-CESA-listed columns, and will provide it to the stakeholders to complete. They will send their recommendations to Mr. Stopher no later than Tuesday, February 17th, 2014.

Additional Action Items

- Fix MY to MT in row 6 under Montana
- Convert SWAs to the specific agency acronyms in the Comparison Table
- Look for additional information on #7 for Oregon (another end note?) with respect to additional qualifiers for being able to take wolves while chasing (e.g. no unnatural attractants)
- Double check #7 for Oregon and Washington with respect to lethal take on public vs private property, and add code citations
- Confirm for Oregon what happens if a depredation event occurs where no Area of Known Wolf Activity has been established. Does it count toward compensation? Does it qualify toward lethal control actions?
- Fix typo (principally) in #11 under Wyoming
- For #11 under Oregon, add that for compensation, ODFW must confirm the depredation
- Add “for lethal control” after “qualifying incident” in end note *ix*
- Add the Section 6 grant and state match funds to #18 for California
- Add a row for number of breeding pairs to Table 1 of the Lessons Learned document
- Add the actual numbers that are referenced in 11a
- Correct the percentage figure in 11a; is it 53%, 50%, or 50.1%
- Correct the numbers in 11b (895 s/be 894), (2577 s/be 2576)
- Add “including, for example, GPS and radio collars” to #14
- Parse out the percentages of various types of wolf mortality
- Pam Flick will check with Suzanne if there are published statistics on successes/time threshold for various non-lethal methods
- Develop a matrix for stakeholders to populate with their recommendations for California with CESA and non-CESA columns and insert explanations where not applicable

APPENDIX A WORKSHOP PARTICIPANTS

Name	Affiliation	Email
Stakeholders		
Noelle Cremers	California Farm Bureau	ncremers@cfbf.com
Robert Timm	UC Agriculture and Natural Resources	rtimm@ucanr.edu
Pat Griffin	CA Ag Commission – Siskiyou County	pgriffin@co.siskiyou.ca.us
Jennifer Fearing	Humane Society of the U.S.	jfearing@hsus.org
Lesia Eidman	CA Wool Growers Association	lesia@woolgrowers.org
Sean Curtis	Modoc County Resource and UCCE Farm Advisor	modoccfb@frontiernet.net
Amaroq Weiss	Center for Biological Diversity	aweiss@biologicaldiversity.org
Lauren Richie	CA Wolf Center	lauren.richie@californiawolfcenter.org
Pamela Flick	Defenders of Wildlife	pflick@defenders.org
California Department of Fish and Wildlife Staff		
Karen Kovacs	Wildlife Program Manager, Region 1	karen.kovacs@wildlife.ca.gov
Pete Figura	Environmental Scientist – Region 1 Wildlife Program	pete.figura@wildlife.ca.gov
Karen Converse	Environmental Scientist – Wolf Program	karen.converse@wildlife.ca.gov
Mark Stopher	Senior Policy Advisor – CDFW	mark.stopher@wildlife.ca.gov

APPENDIX B

PROPOSED AGENDA

Wolf-Livestock Subgroup
10-4 PM February 3, 2014
Room 1341
1416 Ninth Street, Sacramento, CA
888.379.9287 Participant Code 476990
Host Code 536467

1. Introductions and Housekeeping
2. Review January meeting (What did we accomplish? Comments on meeting report?)
3. Review/discuss January 28 version State by State Comparison of Management Strategies
 - Review updated items on this version
 - Identify any inaccurate or incomplete statements
 - Identify any other elements/categories which will be useful to developing a California strategy
4. Discussion of January 28 version of lessons learned document. Note changes made based on January meeting and continue discussion.
5. Methods (a discussion of how we can reach an endpoint and accomplish objectives)
6. Planning (develop a workplan strategy, including products and timeframes)
7. Next steps (scheduling, commitments)

APPENDIX C

**WOLF-LIVESTOCK INTERACTIONS: STATE-BY-STATE COMPARISON OF
MANAGEMENT STRATEGIES (JANUARY 30, 2014 VERSION)**

[January 30, 2014](#) draft for consideration by the California wolf-livestock interactions subgroup of the California Stakeholder Working Group

WOLF-LIVESTOCK INTERACTIONS, STATE-BY STATE COMPARISON OF MANAGEMENT STRATEGIES

Indicated management actions by the State Wildlife Agency (SWA) are for those lands where Federal Endangered Species Act listing does not preempt SWA authority.

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
1	Federal Listing Status	Not listed	Not listed	Not listed	Endangered in western 2/3 of the state. Unlisted in eastern Oregon (east of Hwys 395/78/95)	Endangered in western 2/3 of the state. Unlisted in eastern Washington	Endangered
2	State Listing Status	Designated as a "Species in need of Management" ¹	Designated as a big game species	Trophy game animal in NW part of State. Predatory animal in balance of State (some seasonal overlap exists)	Special Status Game Mammal and Endangered Oregon Plan divides state into eastern and western management zones defined by Hwys 97/20/395	Endangered	Nongame mammal CESA Candidate
3	Approximate Wolf Population Size (Jan 1, 2013)	625 (minimum) with ≥ 147 packs 37 breeding pairs. ¹	Estimated at 683 with ≥ 117 packs ⁴ . 35 breeding pairs.	277 (minimum) with ≥ 43 packs Breeding pairs: Yellowstone NP = 6 Balance of state = 15	46 (minimum) in 6 known packs. 6 breeding pairs.	51 (minimum) in 9 known packs. Estimated population is 101 wolves. 5 breeding pairs.	One animal No packs
4	State wolf population objectives	Minimum Objectives: Population: 150 Breeding Pairs: 15	Minimum Objectives: Population: 150 Breeding Pairs: 15	Minimum Objectives: Yellowstone NP and Wind R. Reservation: Population: 50	Phase 1 – Conservation Population Objective: 4 breeding pairs for three consecutive	Established 3 recovery regions (RR). Reclassify to Threatened: 2 breeding pairs	TBD

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
				Breeding Pairs: 5 Balance of State: Population: 100 Breeding Pairs: 10 ⁱⁱⁱ	year in both E. and W. Oregon. Phase II - Management Population Objective (delisted) 7 breeding pairs for three consecutive years in both E. and W. Oregon Phase III – maintenance objective: TBD^{iv}	in each RR for 3 consecutive years. Reclassify to Sensitive: 4 breeding pairs in each RR for 3 consecutive years. Delist: 4 breeding pairs in each RR for 3 consecutive years, and 3 more breeding pairs anywhere.^v	
5	Is there a State managed livestock depredation compensation Program?	Yes. Through the Montana Livestock Loss Reduction and Mitigation Board.	Yes No. Program is postponed indefinitely for lack of funding	Yes, in NW part of the State. No compensation in the Predatory Animal Area. Compensation when depredation of cattle is confirmed is for missing animals up to a 7:1 ratio.	Yes. Two components. A Wolf Depredation Tax Credit also exists (requires ODFW or peace officer^{vi} confirmation of depredation). OR Dept. of Agriculture administers depredation compensation and financial assistance grant program through the counties. Fund also provides for pro-	Yes. Managed by WDFW. Compensation for “confirmed” is full value. Compensation for probable is %50 value. Double compensation for properties >100 acres. Caps of \$200 for sheep, \$1500 for horse/cattle. Total cap of \$10K. Can be	TBD

Comment [MS1]: Develop details on funding level, adequate or not, ratio for compensation, wolf only?

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
					active non-lethal methods	<u>appealed. 3rd party appraisal is compared with the submitted claim.</u>	
<u>6</u>	<u>Is there a state managed program for non-lethal proactive measures to reduce depredation?</u>	<u>Yes. Through Loss Prevention grants by MY Livestock Loss Reduction and Mitigation Board. State funding appears to be a limitation.</u>	<u>No. USDA provides this service when requested by livestock producer.</u>	<u>Rarely requested. The Wyoming Animal Damage Management Board considers and provides funds for animal damage management which may include non-lethal methods</u>	<u>OR Dept. of Agriculture administers depredation compensation and financial assistance grant program through the counties. Also see row 17</u>	<u>Yes. SWA enters into Damage Prevention Cooperative Agreements with livestock producers. Producer can receive up to \$10K in State cost-share for implementation. Annual agreement.</u>	
<u>7</u>	<u>Is lethal take of wolves by private parties while wolf is "in the act" of depredating on livestock allowed?</u>	<u>Yes (actual biting, wounding or grasping livestock or domestic dogs).</u>	<u>Yes. Molesting or attacking livestock or domestic animals. See Idaho Code 36-1107(c)</u>	<u>Allowed statewide</u>	<u>In Phase 1 and II. Yes, by landowners, or lawful occupants <u>(or authorized agents)</u> on their property if biting, wounding or killing <u>livestock or domestic dogs.</u> <u>Landowners, lawful occupants or authorized agents may also take wolves chasing</u></u>	<u>Yes, by livestock owners <u>of domestic animals (or the owner's agents)</u> on private land <u>property.</u> or <u>public grazing allotments</u></u>	<u>TBD</u>

[January 30, 2014](#) draft for consideration by the California wolf-livestock interactions subgroup of the California Stakeholder Working Group

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
					livestock in designated area of chronic depredation		
8	Are wolf lethal take permits issued to private individuals?	Yes	Yes, where depredation is confirmed.	Yes	No in Phase I. Yes in Phase II.	No (until delisted under State law) Yes, after non-lethal measures have been implemented without success. ^{vii}	TBD
9	Does SWA notify landowners of wolf presence?	Rarely	Limited to active den or rendezvous sites.	No	Yes	Yes	TBD
10	Are non-lethal control measures required before SWA permits lethal take of wolves?	No	No	No	Yes. “Qualifying event determination” requires implementation of deterrence measures	Yes	TBD
11	Which entity is responsible for investigating and confirming livestock depredation?	USDA Wildlife Services	USDA Wildlife Services	Principally SWA in NW Wyoming but sometimes USDA Wildlife Services. USDA Wildlife Services Animal Damage Board or local Predator Management	SWA (east of Hwy 395-78-95). USFWS, USDA Wildlife Services or ODFW in western Oregon. ^{viii}	SWA lead with support from USDA Wildlife Services or USFWS	TBD

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Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
				District in balance of state, if done at all.			
12	Does SWA develop wolf-livestock conflict deterrence plans?	No	No	No	Wolf-Livestock Conflict Deterrence Plans are prepared in a designated "Area of Depredating Wolves". ix	SWA enters into Damage Prevention Cooperative Agreements with landowners	TBD
13	Is non-injurious harassment of wolves by landowners allowed?	Allowed – no permit required	Allowed – no permit required	Allowed – no permit required	Allowed – no permit required	Allowed – no permit required	TBD
14	Is non-lethal injurious harassment of wolves by landowners allowed?	Allowed – no permit required	Allowed – no permit required	Allowed – no permit required	Allowed with a permit	Allowed with a permit	TBD
15	Does SWA relocate depredating wolves depredating livestock or domestic animals ?	No	No	No	Not for wolves known to have depredated livestock or pets No	On a case by case basis	TBD
16	Is translocation part of the management strategy?	No	No	No	Yes	Yes	TBD
17	Does SWA provide technical support for non-lethal	Yes	Yes	Rarely requested. Provided	Yes. Provides advice and some resources (e.g. flady.	Yes. SWA enters into Damage Prevention	TBD

[January 30, 2014](#) draft for consideration by the California wolf-livestock interactions subgroup of the California Stakeholder Working Group

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
	control methods?			through Wyoming Animal Damage Management Board or local Predator Management District	RAG boxes. Also see row 12	Cooperative Agreements with landowners livestock producers . Producer can receive up to \$10K in State cost-share for implementation. Annual agreement. ^x	
18	SWA budget for wolf management ^{xi}	State law mandates \$900K/year. Current year (approximate) \$425 K from wolf tag sales, \$325 K Federal, and \$120K PR funds.	FY 2014 \$1.2 M total. Federal contribution was \$380 K this year	Personnel: \$100K Contract staff: \$70K Operating: \$175K Compensation: \$70-170K ^{xii} Approximately \$650 K. Federal contribution in 2012 of \$230 K.	Current annual expenditures: Personnel: \$220K Operating: \$125K Research: \$220K Mostly Federal funds with State match. ^{xiii} 2011-13 budget was \$608,269. (Unclear whether this is for one or two years).	Approximately \$1.4 million/year Current annual expenditures: Personnel: \$501K Operating: ^{xiv} \$130K Outreach: \$41K USDA WS: ^{xv} \$75K Depredation Compensation: \$150K Mostly State funds ^{xvi}	Current - Zero
19	Federal money spent by SWA's on	\$685,402	\$532,686	\$52,694	\$218,746	\$212,814	

[January 30, 2014](#) draft for consideration by the California wolf-livestock interactions subgroup of the California Stakeholder Working Group

Row	Element/State	Montana	Idaho	Wyoming	Oregon	Washington	California
	wolves in 2012 ^{xvii}						
20	Federal money spent by other entities on wolves in 2012 ^{xviii}	USDA WS \$216,232	USDA WS \$397,000 Nez Perce Tribe \$217,500	USDA WS \$207,024 Grand Teton NP \$60,000 Yellowstone NP \$202,500	USDA WS \$26,502 ^{xix}	USDA WS \$5,397 Colville Tribe \$75,000	

ⁱ A breeding pair is ≥ 1 adult male and ≥ 1 adult female in a pack producing ≥ 2 pups that survived through December 31.

ⁱⁱ Idaho determines a pack based on four animals using a defined home range, other states use a threshold of two animals

ⁱⁱⁱ In Wyoming, the State and Yellowstone NP are separately responsible for meeting their respective population and pack objectives.

^{iv} If delisted based on meeting the standard in the eastern part of the State, wolves in western Oregon will be managed as if they were listed until the western Oregon wolf population reaches four breeding pairs.

^v Washington has established an alternative set of objective for delisting from state sensitive, which is met by 4 breeding pairs in each of the three recovery regions and 6 additional breeding pairs anywhere in the state. Under the alternative delisting criteria, the 3 consecutive year criterion is not required.

^{vi} To date, no Sheriff has made this confirmation. However, without ODFW confirmation it is not a qualifying event and there can be no compensation.

^{vii} Source: Personal communication with WDFW 01092014

^{viii} County Sheriff may be a first responder but has no role in making determinations.

^{ix} Ranchers may implement all, some or none of the plan. However, without implementation of deterrent methods consistent with the plan, confirmed depredation is not a qualifying incident.

^x Currently 30 in effect.

^{xi} SWA budgets for wolf management are dynamic. Federal funding is declining. Budgets usually do not account for occasional work on wolves performed by staff whose principal duties are for other activities.

^{xii} Personal communication with Ken Mills, WGFD. 01302014

^{xiii} Personal Communication with Russ Morgan, ODFW. 01162014

^{xiv} Includes some non-lethal deterrent components

^{xv} Includes on-call for lethal and non-lethal implementation and staff person for non-lethal deterrent implementation

^{xvi} Personal communication with Stephanie Simek, WDFW 01242014

^{xvii} Source: Northern Rocky Mountain Wolf Recovery Program 2012 Interagency Annual Report

^{xviii} Source: Northern Rocky Mountain Wolf Recovery Program 2012 Interagency Annual Report

^{xix} Expenditures reported by USDA Wildlife Services in responding to wolf related issues

APPENDIX D

**DRAFT OVERVIEW OF LESSONS LEARNED FROM THE WESTERN
UNITED STATES REGARDING WOLF-LIVESTOCK INTERACTIONS
(JANUARY 28, 2014 VERSION)**

California Department of Fish and Wildlife

Draft overview of lessons learned from the western United States^{±,i} regarding wolf-livestock interactions

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1. Where wolves and livestock are sympatric, depredation by wolves on livestock has been a consistent result.
2. Where wolves and livestock are sympatric, not all wolves and wolf packs, attempt to kill, or kill livestock. For example, in 2010, Montana reported that an average of 35% of packs were confirmed to depredate livestock. In 2012, the Fish and Wildlife Service estimates that approximately 28% of known wolf packs (in the northern Rocky Mountains Distinct Population Segment) were involved in at least 1 confirmed livestock depredation.
3. When characterizing the severity of wolf impacts on livestock, geographic scale for the analysis, context (e.g. grazing practices and landscape conditions) and mechanism (i.e. lethal or non-lethal) of effect are important.
 - a. Depredation by wolves on livestock is a very small fraction (i.e. <1%) of livestock mortality from all causes when analyzed at a statewide scale.
 - b. Depredation by wolves on livestock is a very small fraction (i.e. <5%) of the overall depredation mortality by wildlife (e.g. coyotes, bears, lions) on livestock when analyzed at a statewide scale.
 - c. Depredation mortality by wolves on livestock can be significant for individual livestock producers.
 - d. Sub-lethal effects of wolf presence, harassment and failed attempts to kill livestock can be significant to individual livestock producers.
 - e. Sub-lethal effects can include reduced weights of livestock caused by increased vigilance, reduced foraging, increased physical activity, reduced reproduction; and non-lethal wounds.
 - f. Impacts to individual livestock producers through management efforts to avoid and minimize depredation by wolves can be important, in terms of time and financial costs.
 - g. Relative risk of depredation varies depending on grazing methods, geographic location, local wolf population, habitat (i.e. topography and vegetation) the extent of previous depredation by local wolf populations and the feasibility of applying non-lethal deterrent methods.
4. Most livestock depredation by wolves is of cattle or sheep.
5. Depredation incidents on cattle generally take 1-2 animals/incident.

[±] ~~For purposes of this information, the western United States includes Wyoming, Montana, Idaho, Oregon and Washington.~~

6. Depredation incidents by wolves on sheep often result in much larger numbers of dead animals (compared to cattle).
7. Other livestock species, including goats, horses and llamas are rarely killed by wolves (i.e. 3-20/year).
8. Confirmed wolf depredation on dogs has varied between 2 and 25 animals/year for the last ten years.
9. Statistics based on “confirmed” wolf mortalities, through forensic evaluations under-count actual mortality, because:
 - a. Not all dead livestock are found.
 - b. Some dead livestock, when found, are consumed by scavengers to an extent that a conclusive determination of the cause of death is not possible.
10. Reports of wolf predation from livestock producers, including USDA NASS data, include instances where some other cause of death is ultimately determined or the cause of death cannot be determined. For example, the following figure is presented in the 2010 Montana annual wolf report. The geographic context is not provided but the number of incidents suggests it is a multi-state compilation.

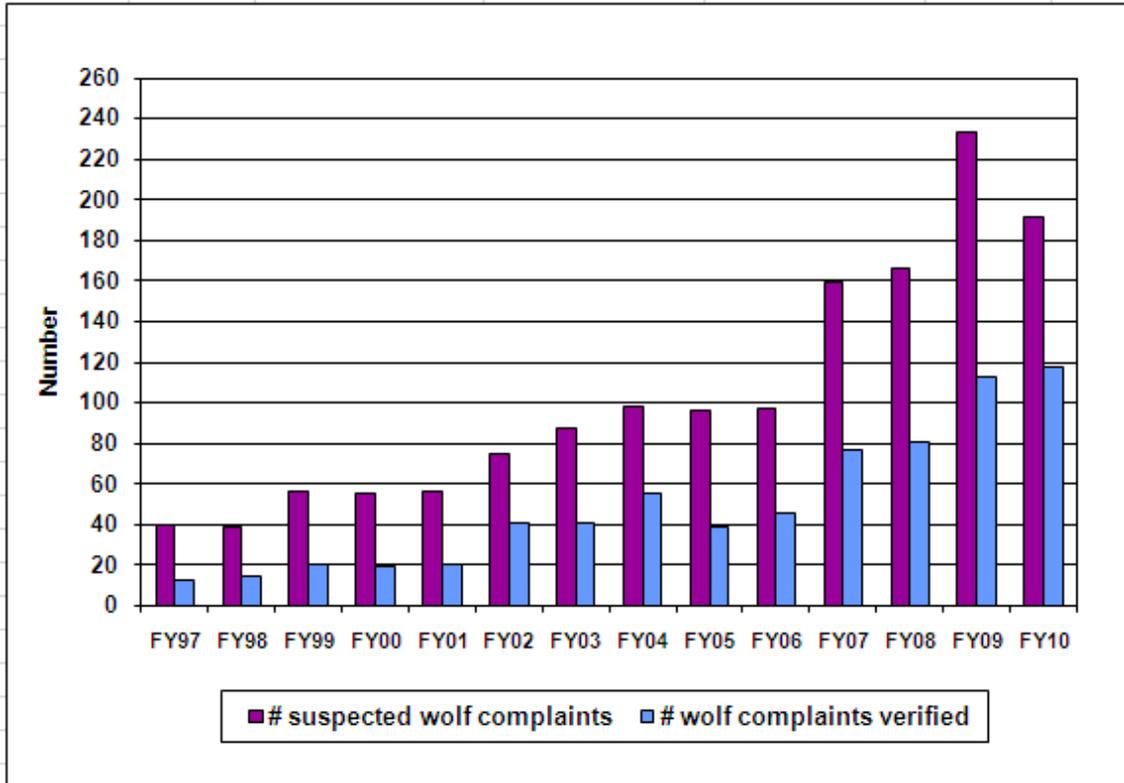


Figure 1. Number of complaints received by USDA Wildlife Services as suspected wolf damage and the percent of complaints verified as wolf damage, federal fiscal years 1997 – 2010. Federal fiscal years from October 1 to September 30.

Data in this table is consistent with an examination of depredation investigations conducted by Oregon Department of Fish and Wildlife, and available at http://www.dfw.state.or.us/Wolves/livestock_loss_investigations_2012.asp. These reports demonstrate that forensic investigations of suspected wolf depredation often determine some other cause of death, or are unable to confirm wolves as the cause of livestock mortality.

11. The relationship between annual wolf population statistics and mortality from all causes can be represented in several different ways. A comprehensive understanding must consider all of these statistics.

a. The number of wolves killed Documented wolf mortality in 2012 by hunting, trapping, lethal control and other causes, amounts to removed approximately 530% of the wolf population known to exist at the beginning of the year (Table 1). However, this method of estimating fractional mortality is insufficient and misleading because it overlooks the fact that wolves are recruited into the population through reproduction and possibly, though to a lesser extent, immigration.

b. A relatively more accurate and informative method of understanding the extent of mortality is to determine the total number of wolves known to exist, at any point in a calendar year. For 2012 this is determined by adding the number of wolves known to exist at the end of the year (1682), to the number of wolves known to have died, from all causes, during the year (895). That number is 2,576ⁱⁱ. The fractional mortality is then calculated by dividing this total into the known wolf mortality number for the year (i.e. 895/2577). By this method, 34.7% of the wolves known to exist in 2012 died in 2012. By combining the 2012 year-end minimum wolf population with known mortality the absolute minimum number of wolves existing at some point in 2012 can be estimated. That number is 2,584 wolves².

c. The minimum known wolf population Documented wolf mortality in at the end of 2012 was 5.7% smaller than the minimum known wolf population at the end of 2011. 2012 reduced the year-end wolf population by approximately 5% from December 31, 2011, compared to December 31, 2012.

d. Since hunting and trapping began in 2009, the minimum number of documented wolf packs has increased each year. Numbers of wolf packs have increased and average pack size has decreased since hunting and trapping have been implemented.

~~11-12.~~ Wolves killed by hunting and trapping may or may not have been involved in livestock depredation.

~~12-13.~~ Confirmed depredation by wolves ~~on cattle~~ has been stable for cattle but variable for sheep over the past ~~four~~ six years (see Table 1).

~~13-14.~~ Currently available methods allow ~~lethal control actions on wolves can to~~ be focused on individual animals or packs reliably determined to have engaged in livestock depredation.

15. Non-lethal deterrent methods:

a. ~~H~~ave successfully reduced wolf depredation on livestock in many applications.

b. ~~Are Non-lethal methods are~~ not always successful in preventing wolf depredation of livestock.

c. ~~May become less effective over time as wolves habituate to particular applications.~~

~~14. In some cases, wolves become habituated to non-lethal deterrents and effectiveness may decline over time.~~

² ~~The 2012 USFWS Annual Report estimates 2,569 but this does not take into account later population revisions.~~

Table 1. Detailed Data by State for Cattle and Sheep Depredation, Wolf Populations and Wolf Mortalityⁱⁱⁱ

		2007	2008	2009	2010	2011	2012
Cattle depredation	Oregon	0	0	1	8	13	4
	Washington	0	0	0	0	0	7
	Idaho	53	96	75	75	71	73
	Montana	75	77	97	87	74	67
	Wyoming	55	41	20	26	35	44
	Totals	183	214	193	196	193	195
Sheep depredation	Oregon	0	0	28	0	0	8
	Washington	0	0	0	0	0	1
	Idaho	170	218	324	148	121	312
	Montana	27	111	202	64	11	37
	Wyoming	16	26	195	33	30	112
	Totals	213	355	749	245	162	470
Wolves (min # at year end)	Oregon	?	?	14	21	29	46
	Washington	?	?	5	19	27	51
	Idaho	732	846	870	705	746	683
	Montana	422	497	524	566	653	625
	Wyoming	359	302	320	343	328	277
	Totals	1513	1645	1733	1654	1783	1682
Wolf Packs (min # at year end)	Oregon	0	1	2	2	5	6
	Washington	0	1	2	3	5	9
	Idaho ^{iv}	83	88	94	87	101	117
	Montana	73	84	101	108	130	147
	Wyoming	36	42	44 37	45	48	43
	Totals	192	216	236	245	289	323
Average Pack Size^v	Idaho	<u>7.7</u>	<u>8.3</u>	<u>7.8</u>	<u>7.1</u>	<u>6.5</u>	<u>5</u>
	Montana	<u>5.7</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>≈6.5</u>	<u>≈6.5</u>
	Wyoming ^{vi}	<u>6.9</u>	<u>5.7</u>	<u>7</u>	<u>6.8</u>	<u>6.1</u>	<u>5.5</u>
	Yellowstone	<u>14.2</u>	<u>9.3</u>	<u>7.1</u>	<u>8.3</u>	<u>10.2</u>	<u>10</u>
Agency lethal control wolf mortality	Oregon	0	0	2	0	2	0
	Washington	0	0	0	0	0	7
	Idaho	50	108	93	80	63	73
	Montana	73	110	145	141	64	108
	Wyoming	63	46	31 2	40	36 7	43
	Totals	186	264	271 2	261	165 6	231
Hunting & trapping wolf mortality	Oregon	0	0	0	0	0	0
	Washington	0	0	0	0	0	0
	Idaho	0	0	134	46	200	329
	Montana	0	0	68	0	121	175
	Wyoming	0	0	0	0	0	66
	Totals	0	0	202	46	321	570
Other known wolf mortality^{vii}	Oregon	1	0	0	1	0	1
	Washington	0	0	0	1	0	2

	Idaho	28	45	45	18	33	23
	Montana	29	51	42	38	31	41
	Wyoming ^{viii}	<u>182</u>	50	<u>19</u>	<u>2718</u>	<u>125</u>	<u>267</u>
	Totals	<u>7669</u>	146	<u>9106</u>	<u>8576</u>	<u>789</u>	<u>934</u>

ⁱ For purposes of this information, the western United States includes Wyoming, Montana, Idaho, Oregon and Washington.

ⁱⁱ The 2012 USFWS Annual Report estimates 2,569 but this does not take into account later population revisions.

ⁱⁱⁱ ⁱⁱⁱ Data sources were USFWS annual interagency reports <http://www.fws.gov/mountain-prairie/species/mammals/wolf/>, annual reports for individual states and updated information available on individual state websites. Where data discrepancies between the USFWS and state reports existed, the most recent state data was used. Such discrepancies were minor. These data reflect confirmed cattle and sheep depredation. Wolf population and mortality data reflect the best efforts of state and federal agencies to document populations which are dynamic and are minimum counts of wolves and wolf packs. There is inherent uncertainty when designating wolves and wolf packs as resident in one state or another when home ranges are near a state line. Dispersing uncollared wolves are difficult to count and detection of all wolves or wolf mortality is impossible. Actual numbers of depredated cattle and sheep, wolf packs and wolves are all likely greater than presented. These data are most useful as indicating trends, rather than absolute numbers.

^{iv} Packs are generally counted when the SWA can document two animals using a defined home range. Idaho uses a threshold of four animals to define a pack, though once a pack is diminished below four animals it may still be counted as a pack

^v Estimated by a subset of documented packs where this can be determined with confidence. These are reported as average pack size with no statistical confidence interval. There are wide variations in pack size from 2 – 20+.

^{vi} The portion of Wyoming outside of Yellowstone NP

^{vii} There are several components to this category, including, but not limited to, vehicle road kill, illegal harvest, disease (e.g. mange, parvovirus, distemper), intraspecific aggression, malnutrition and unknown causes.

^{viii} Accounting for mortality in Wyoming is relatively more difficult than other western states because (1) data for Yellowstone NP, the balance of the state, and sometimes the Wind River Reservation, are accounted for separately, (2) Wyoming has a predator management area and in some years this mortality has been included in agency control actions, in other years as “other”, and (3) Yellowstone NP does not report known mortality of pups in the summer and Wyoming presumably does.