Meeting Report
Wolf-Livestock Stakeholder Subgroup
September 23, 2013

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

California Department of Fish and Wildlife

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1.0 Introduction

On September 23, 2013 the Wolf-Livestock Interactions Subgroup (WLIS) of the California Wolf Stakeholder Working Group (SWG) convened for the first time in Sacramento. The WLIS was formed during the August 29, 2013 general SWG meeting to help the Department develop a consensus-driven framework of management strategies for effectively dealing with wolf-livestock interactions, which may become incorporated into the draft wolf management plan. The purpose of the September WLIS meeting was to create a foundation for consensus building through a discussion of what other western states have learned in their efforts to reduce livestock depredation from wolves, and to possibly discuss a work plan and timeframe for achieving objectives.

2.0 Meeting Objectives and Mechanics

The meeting was conducted in the conference room at the California Department of Fish and Wildlife's (CFDW) Office of General Counsel in Sacramento.

The stated purpose of the meeting was to:

Hold a group discussion of what we hope to accomplish.

Objectives of the meeting as initially planned were:

1. Introductions (including what you bring to this dialogue)
2. Purpose
3. Discussion of lessons learned document
4. Methods (a discussion of how we can reach an endpoint and accomplish objectives)
5. Planning (develop a work plan strategy, including products and timeframes)
6. Next steps (scheduling, commitments)

The meeting was attended in person by eight stakeholders and three CDFW staff, with one stakeholder attending via conference line. Appendix A provides a list of participants, their affiliations, and their contact information.

The meeting began with introductions led by CDFW Senior Policy Advisor Mark Stopher, who serves as the chair of the WLIS. Next Mr. Stopher expressed his view of the group's purpose, which is outlined in the agenda for the meeting (Appendix B): that of building a wolf-livestock management strategy with consensus by the various stakeholders. The bulk of the meeting involved discussion of two documents developed by Mr. Stopher: Wolf-livestock Lessons from the Northern Rocky Mountains (Appendix C), and Methods Used in Other Western States to Reduce Livestock Depredation (Appendix D). The stakeholders also expressed their desire for the Department to share

reference materials that will be cited in the management plan. The meeting concluded with scheduling the next WLIS meeting.

3.0 Meeting Outputs

Wolf-Livestock Lessons from the Northern Rocky Mountains

Mr. Stopher began this discussion by expressing his hope that individuals will postpone establishing positions about which wolf-livestock management tools we incorporate until we've had some time to discuss what the issues are and what lessons we can learn from the experiences of other states. As a starting point for that discussion Mr. Stopher drafted a list of "lessons learned" which he derived from reading wolf management plans from other states and relevant documents drafted by the U.S. Fish and Wildlife Service (USFWS), and extracting what appeared as consistent themes from those documents. Mr. Stopher read each item in the list and elicited responses from the group.

Lesson #1: Where wolves become reestablished, depredation on livestock is very likely.

WLIS comments for #1:

- This should be clarified to reflect that depredation on livestock will only occur where there are livestock; as stated it is overly broad
- It would be helpful to have citations for each of these
- You should define "very likely", otherwise it is hard to agree with the statement

In response to these comments and suggestions, Ms. Kovacs stressed that these lessons learned are generalities, and that at this point we are looking for general agreement on these as basic points that will be fine-tuned in subsequent meetings. Before moving to Lesson #2 Mr. Stopher commented that the he suspects the stakeholders will ask for citations for all of the "lessons" listed and the group can accept that as a given.

Lesson # 2: Depredation incidents on cattle generally take 1 – 2 animals/incident.

WLIS comments for #2:

- Anecdotally this seems accurate, but the literature describes a difference between documented versus actual losses which should be reflected in this statement

Lesson #3: Depredation incidents on sheep often result in much larger numbers of dead animals (compared to cattle).

WLIS comments for #3:

- That's a fair statement; sheep are smaller and unable to protect themselves; they flock together

Lesson #4: "Confirmed" wolf depredation tallies under-count actual mortality.

WLIS comments for #4:

- It may be difficult to confirm mortality which adds to the lower count

Mr. Stopher elaborated on this point: sometimes dead animals are not found or, if found it may be difficult to document the actual predator that killed the animal. He asked if this item requires clarification on how the source of livestock mortalities should be determined and accounted for, to which several stakeholders replied yes.

Lesson #5: USDA NASS depredation data overstates actual depredation mortality.

WLIS comments for #5:

- Producer estimates for coyotes were more accurate than expected and did underestimate actual losses
- It's not appropriate to completely discount the NASS reports
- NASS reports losses by wolves in places where wolves do not occur
- If we're going to make statements questioning the validity of the NASS data we should talk with NASS to get more information about their methods for confirming reports from producers
- We should try and determine a baseline on depredation causes before wolves arrive

In response to this discussion Mr. Stopher stated that while confirmed counts of mortalities are likely undercounts, and the NASS producer-reported mortalities are likely over counts, the actual mortalities of livestock are likely somewhere between the two. The Department's goal is to figure out how to most accurately count mortalities and determine their causes once wolves are in California. The group generally agreed that this is important, but that baseline data on livestock mortalities before wolves arrive

would be very important to help determine how much impact wolves have after they arrive. California Farm Bureau representative Noelle Cremers informed the group that her organization is in the process of surveying producers in northern California for information on losses and gains, and that she would be willing to share the survey questions. Ms. Kovacs expressed interest in CDFW collaboration with the Farm Bureau in developing survey questions that may help in teasing apart the various environmental factors that may impact the degree and types of mortalities impacting a livestock herd, including which predator species are killing livestock. Ms. Donlan informed the group that baseline data will have to be established for the purposes of the California Environmental Quality Act (CEQA) and Administrative Procedure Act (APA), because we will need to develop thresholds of significance.

Lesson #6: Wolves (and other predatory wildlife) harass livestock, leading to adverse but non-lethal effects.

WLIS comments for #6:

- Instead of "…leading to.." I would prefer it says "…can lead to…" because the science doesn't say it always does
- There is clear evidence of wolves' nonlethal effects on livestock as compared to mountain lions

Ms. Kovacs concurred with the assessment that it appears likely that wolves' nonlethal impacts on livestock could be greater than that of other predator species. She explained that, while mountain lions are ambush predators which stalk and pounce on their prey, and depend on being unseen, wolves are on the landscape and are seen by their prey. Mr. Stopher concluded that sub-lethal effects of wolves on livestock is a subject for which we need to engage in additional fact-finding so that we can develop a more definitive and well-researched statement that will help us devise a strategy for managing those impacts.

Lesson #7: Impacts on individual livestock producers can be important.

WLIS comments for #7:

- I think there are published papers that show what percentage of producers have suffered what percentage of loss (relative to coyote/sheep depredation)
- The effect is partly geographic; it's where you're located relative to wildlife (i.e. predator) distributions, geography, neighboring land uses and movement patterns for livestock and wildlife. It's important to remember that while the

impact to some will be limited or moderate, it can be devastating to some; we can't use averages to describe this

Lesson #8: In Idaho and Montana those years with highest numbers of wolf mortality through control actions, trapping, and hunting, positively correspond with the highest years of wolf-livestock depredation.

Mr. Stopher explained the meaning behind statement #8: that while some folks have the perception that wolf hunting and lethal control actions should reduce livestock depredation by wolves, this is not necessarily what occurs. The breaking up of the pack structure increases the number of wolves not associated with a pack, thus causing them to behave differently. He stressed that there is a limited number of years of data on this subject, but in both Montana and Idaho they did not see a decrease in livestock depredation with the implementation of hunting and lethal control.

WLIS comments for #8:

- I get the opposite interpretation, which is when wolf numbers are high hunters are more successful and livestock depredation is greater so lethal control of wolves goes up
- In Idaho the wolf population was nearing carrying capacity and the elk herds were declining so that would increase the likelihood of livestock depredations
- Discussing the impacts of pack stability is more supportable than this statement
- I'd like to find a way to word this that supports what this group might want to say about social structure disruptions that may be correlated with increased lethal take of wolves
- I'd like to see more information on how to address when alphas are teaching livestock depredations to their young
- The social structure disruption and its impacts on livestock depends on the situation and the carrying capacity
- When hunters, trappers, and Wildlife Services take selective problem animals you'd expect a correlation between damage and higher take, but that would not mean the more you trap the more livestock you lose; it could be the opposite

Mr. Stopher ask the group to consider that in the management plan when we discuss what consequences are for the various management tools at our disposal, we will have to explain that hunting and trapping wolves may not reduce livestock depredations, and that unintended consequences may occur. Ms. Kovacs expressed interest in learning more about those situations when the USFWS decided to remove entire packs from the experimental populations when depredation events were occurring chronically.

Lesson #9: Depredation by wolves on livestock is a very small fraction (<5%) of the overall depredation by wildlife (e.g. coyotes, bears, lions) on livestock.

WLIS comments for #9:

- Does this refer to statewide depredation or only in areas of a state where wolves occur?
- You need to compare areas with different wolf densities and no wolves
- A paper out of Idaho showed that wolves are much more likely to prey on domestic animals than are other mammalian predators

Mr. Stopher explained that the data he read were for the whole state. For example in Idaho, with 2 million head of cattle, the chances of a cow being depredated was about 1 in 24,000. Ms. Kovacs agreed that it would be of value to think about the risk of depredation on a regional basis as well as statewide. This discussion led to the consensus that the Department should look into a way to share documents with the stakeholder group, because several members have documents that they would like to share on this and other topics. It was decided that Ms. Kovacs and Ms. Converse would discuss how to provide access to the CDFW document library.

Lesson #10: Depredation by wolves on livestock is a very small fraction (<1%) of livestock mortality from all causes.

Lesson #11: Impacts on the livestock industry at a regional scale from wolf depredation are very small, almost un-measureable.

WLIS comments for #10 and #11:

- You need to consider where wolves are in terms of population growth; you would expect to see an increase in depredation as the population grows
- You have to be careful with averages; these interactions occur on a one-to-one basis

Ms. Kovacs expressed the need to better understand the role of wolves in relation to depredation by other predators; i.e. whether wolf depredation is additive relative to overall livestock depredation and mortality. Mr. Stopher requested that stakeholders with additional references provide them so that they can be added to the document library. Specifically, references on livestock depredations relative to wolf populations.

Methods Used in Other Western States to Reduce Livestock Depredation

Please see Appendix D for the list of methods used, and Appendix E for the list of stakeholder comments made regarding this document. The discussion of this topic also provided an opportunity for stakeholders to explain some terminology to CDFW staff. Specifically, night penning occurs when herders keep sheep in a particular area at night to better protect them from predation. They typically have guard dogs and remain with the sheep through the night, and may sometimes erect temporary fencing around the herd. A lamb shed is where ewes are brought when giving birth. It allows producers to protect the lambs from predation during the early hours of life. Range riders are folks who stay with livestock on horseback or ATV and chase off predators that attempt to depredate. All of these methods may be used whether in wolf country or not as they may be effective against other predator species as well as wolves.

Specific to the topic of disposal of dead livestock, Mr. Stopher suggested that USDA Wildlife Services may have suggestions for how best to legally do so. He also stressed that which of these methods will be allowed in California will be dependent upon which regulatory scenario is in place when wolves are in the California landscape. If wolves are state listed it would be a violation of the California Endangered Species Act (CESA) to pursue them.

One final area of concern that was expressed during this topic was that of expense. These non-lethal methods of preventing livestock depredation are expensive, and several stakeholders were interested in whether there would be funding available to help producers implement them. They were also concerned about other aspects of implementing this program, such as radio-collaring and tracking wolves, notifying ranchers of their proximity, etc. Further, stakeholders were interested in what effect federal delisting will have on available funding for a wolf program. Mr. Stopher stated that it is uncertain at this point which elements of a wolf program will be implemented in California, but that once the plan is developed we will know what kind of funding to request to support those elements.

Summary and Wrap-up

Mr. Stopher summarized the meeting by reminding the group that there is some joint fact-finding and information sharing that will be done pursuant to today’s discussions. The topics for fact-finding include:

- Different predators and their likelihood to depredate livestock
- A need to understand how NASS data is accounted for
- Information on how livestock are affected by harassment

The next meeting was scheduled for Tuesday, November 12 in Willows, and the meeting was concluded.

Action Items

1. Provide SWG members access to DFW's Document Library for viewing of information gathered on gray wolves compiled to date by DFW.

2. Invite Dennis Orthmeyer (Wildlife Services Director) to a future WILS meeting to provide information on data gathered on livestock depredation in California.

APPENDIX A. WORKSHOP PARTICIPANTS

Name	Affiliation	Email
Stakeholders		
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APPENDIX B.

PROPOSED AGENDA

Wolf-Livestock Subgroup

1-4 PM September 23, 2013
Room 1341 1416 Ninth Street, Sacramento
888.379.9287 Participant Code 476990

1. Introductions (including what you bring to this dialogue)
2. Purpose (a group discussion of what we want to accomplish)
3. Discussion of lessons learned document
4. Methods (a discussion of how we can reach an endpoint and accomplish objectives)
5. Planning (develop a workplan strategy, including products and timeframes)
6. Next steps (scheduling, commitments)

APPENDIX C.

September 19, 2013

Wolf-Livestock Lessons from the Northern Rocky Mountains:

1. Where wolves become reestablished depredation on livestock is very likely.

2. Depredation incidents on cattle generally take 1-2 animals/incident.

3. Depredation incidents on sheep often result in much larger numbers of dead animals (compared to cattle).

4. “Confirmed” wolf depredation tallies under-count actual mortality.

5. USDA NASS depredation data overstates actual depredation mortality.

6. Wolves (and other predatory wildlife) harass livestock, leading to adverse but non-lethal effects.

7. Impacts on individual livestock producers can be important.

8. In Idaho and Montana those years with highest numbers of wolf mortality through control actions, trapping and hunting positively correspond with the highest years of wolf-livestock depredation.

9. Depredation by wolves on livestock is a very small fraction (<5%) of the overall depredation by wildlife (e.g. coyotes, bears, lions) on livestock.

10. Depredation by wolves on livestock is a very small fraction (<1%) of livestock mortality from all causes.

11. Impacts on the livestock industry at a regional scale from wolf depredation are very small, almost un-measureable.

APPENDIX D.

Methods used in other western states to reduce livestock depredation

- Exclusion fencing
- Guarding animals
- Frequent checking of stock (herders)
- Night penning
- Lamb sheds
- Range riders
- Removing bone piles, burying carcasses
- Moving sick and injured livestock
- Delaying cattle turnout
- Avoiding grazing near den and rendezvous sites
- Light and noise devices
- Hazing with non-lethal methods
- Fladry, including electrified fladry
- Relocation of depredating wolves
- Lethal control
- Compensation for losses

APPENDIX E. LIST OF WLIS COMMENTS AND QUESTIONS BY TOPIC

General comments/Questions

Question before we start going through these. So these are just your opinions, where did these come from?
It would be helpful if there were key citations for each of these; not a full bibliography but so we can read the same things you have; would allow us to be better informed before we agree or disagree on these statements
that would be not only helpful for us but for the public; the stuff you sent out on for example difference in vigilance between native and domestic ungulates was very useful for me to read; I think the public would like to know about that as well
this list you put together is it gives a place to start but also becomes kind of components of what the chapter can be addressing; each issue is what the public will need accurate info about to understand why the steps are being taken to build the plan
is the Dept able to use Google Docs or Google as a platform for sharing? I know federal agencies aren't able to use that
even if we could get a list so we could then say okay I don't need to look at seven papers on wolf habitat modeling but here's something interesting so we know to ask you for it
I have a general question about joint fact finding: about helping us with synthesizing it; there are a ton of papers out there; to avoid a situation where some of have read a few papers and we choose them selectively because we choose the papers that support our view and maybe don't look at other papers; is there a way in this joint fact-finding effort to have a summary of what papers support what? Will it be up to us to synthesize on our own?
as a follow-up to that I wonder if we connect with scientist who do this full time on specific topics; ask them to join us on the phone for a half hour, maybe they can quickly synthesize for us and we could ask questions; that may be one approach
has the Dept considered the impact for administering of this program totally?
the federal legislation that provides for comp also provides for nonlethal methods for funding; we need to start working the federal end to potentially bring in additional funding to help with nonlethal methods
if federally delisted will that affect them funding for us?
I think that's where the relationships that we're strengthening through this process are going to behoove us when we can put boots on the ground and lobby for this work we've done collaboratively
WA just passed a law to allow a tack on of $10 for personal license plates, and an additional $10 fee for their renewal down the road that will go specifically for wolf management for proactive and compensation; may go big in CA; they didn't say for a specialized plate they just said any plate you get will now have this $10 tacked on; they think it will generate $800k to $1mill a year
there's a lot of competition for the money from personalized plates

Lesson #1. Where wolves become reestablished depredation on livestock is very likely.

there has to be livestock there first for depredation to be likely; just to qualify that a bit; it's not true that everywhere wolves establish there will be livestock depredation; it'll be likely only if there is livestock there; it's an overly broad statement
how likely is very likely; from a statistical perspective is very likely more than 80% or 60%; without definition it's hard to agree with or not; if it said likely I would probably agree with it
there's also a question of scale; if you put it that way "wolves become established in CA conflict is very likely". Somewhere yes that's likely but if you're looking at a wolf here and livestock over there will there likely be a conflict in every circumstance? That's a different question too, the scope of I guess geography matters too.
important to recognize that there is a lot of habitat provided by livestock producers and that needs to be recognized, the value of that open space; the reason there are opportunities for wolves to come back is because of the land that has been protected by livestock producers
if those 30 million acres were to be developed we wouldn't be having this conversation

Lesson #2. Depredation incidents on cattle generally take 1-2 animals/incident.

there are different figures about how many are documented versus the actual losses; on open range it's hard to know if that's accurate; I'd like to see a citation on this and maybe why we think this

Lesson #3. Depredation incidents on sheep often result in much larger numbers of dead animals (compared to cattle).

perfect example is the unfortunate incident in Idaho recently where they lost 200 after using a variety of tools to keep wolves away unfortunately in that incident; so that's a definite fair statement to say that sheep are smaller and unable to protect selves; they flock together

Lesson #4. "Confirmed" wolf depredation tallies under-count actual mortality.

depending on the state you're in the process may be difficult to confirm; adds to the lower count

Lesson #5. USDA NASS depredation data overstates actual depredation mortality.

there is noise in the data but it depends on who is counting and how and what interpretations they give
for coyotes back in the 70s and 80s producer estimates were more accurate than

imagined and also tended to be underestimates but it really depended on habitat characteristics
in the NASS docs Mark sent on the total calf predator losses by predator in each state in 2010 it indicates losses by wolves in KY, TX, ND, OK and that just can't be; no wolves in those states in order for there to be wolf predation; so that's not a matter of expertise that's a matter of why are these numbers in this column?
unless they are including wolves that are partially domestic animals; on the vulture matter I think there is some evidence that black vultures in the east can take livestock
unless the person making the investigation has some experience and seen it before and has some breadth of experience it's sometimes difficult to interpret
the statement makes me feel like we should discount this because we think it's overstating; I think it's certain there are inaccuracies and some could be literally someone mis-entering something in a column but I don't think it's appropriate to completely discount producer statements; people forget that ranchers are out on a daily basis and have some understanding of what different kills look like
look at points 4 and 5 together, they complement each other well to show that the NASS figures may be overstating, the confirmed figures may be understating, and if you take them together maybe we have a truer figure
I think that for one of the fact findings this would be worth talking to NASS about their methodology; I know it's based on producer surveys and interviews but getting information as to how they double check what they're getting back
I think it's important to have a baseline on depredation though, I think it's really important
not only on mortality but performance because when we get down to harassment #6 leading to adverse effects whether it's abortion of calves from stress or loss of gain or whatever they can be economically as significant as the actual kills if not more; baseline data before wolves arrive would be very good to have for anyone that wants to see the effect wolves has been after they arrive; I don't know if any states have done that to any extent
so, we're trying to gather that information; putting together a survey to ask members in NE CA and then hopefully expand to start gathering information on when they are gathering off the allotment what are their loss figures now, both their deaths and gains so we have the baselines before wolves arrive; we think it's really important; we can get you the list of questions
for that baseline data it would be great to get at the suspected or determined cause of mortality not just loss but what was the cause; that's the kind of baseline data we need get a full picture of
I think it's important to keep in mind here, people have a hard time wrapping their heads around this, that we have members with allotments of 200,000 acres; you might not see your cows for a long time so you can't go out and say oh this one was killed by a lion or a coyote; the first step is what's our baseline for everything that we have become accustomed to in terms of loss, and then let's add in ok here's this drastic change
the best information is probably going to come from those producers who have the ability to look closely and pinpoint the cause of death rather than someone who can just report they lost 30 cows and you don't know where they've gone
It shouldn't be a snapshot; at this point we have a blank slate that may give us 10 yrs of

data; when you have 5 or 10 years' worth of data, before you have established numbers where you can see a pattern; those numbers won't change much unless an significant event; you're not going to lose significantly more calves in a drought they're just going to weigh less; becomes more difficult if you get into subjective losses like weights, percent cows that come back bred; in cases like that you will have to tease in the kind of year it is; more years of info you have more reliable it is; from the survey we need to look at it as not a snapshot it's an ongoing effort until the wolves arrive and then we look at the patterns

Lesson #6. Wolves (and other predatory wildlife) harass livestock, leading to adverse but non-lethal effects.

there is research in OR ongoing
a veterinarian from Montana I believe who put together an overview; it's not published but it had some examples of weight losses; cows coming in 60 lbs lighter
I'd like to finesse this statement a little; instead of leading to adverse effects, can lead to because it's just saying that if they harass livestock it will lead to adverse effects; I don't think there's science that says that's always the case
I don't think there science that says that's not the case
"can lead to" it just seems like we are moving away from the recognition of the impacts in favor of wolves with these changes and that's hard for me; we have to recognize the social piece of this; when I hand this to my members as is they will be offended by it; if we make further changes to say it may lead to nonlethal they will be even further offended
my purpose is not to wordsmith to disrespect ranchers my purpose is to wordsmith to be as factual, accurately with the knowledge we have vs making suppositions if we don't have data to support it
looking at the vigilance between mt. lions and wolves, that was a clear picture to me of this non-lethal effect; cattle didn't change their consumption rate when lions present; the impact from mt. lions is, if a mt. lion takes a calf or cow the producer loses that animal; the impact from wolves is very different because it's not just direct loss but cattle not eating as much because of concern with wolves being out there, they're being run more
there's probably some stuff in the behavioral literature about stress in the presence of predators to domestic animals; not sure if specific to any species but probably for canids and domestic livestock
it's my understanding was that this doc is more of an introduction and encouragement for us to figure out where we want to do joint fact finding so rather than force ourselves to agree on specific wording; maybe we can agree that we'd like to know more about sub-lethal effects on livestock and then once we have a better picture of that we can then fine tune further

Lesson #7. Impacts on individual livestock producers can be important.

that really parallels the coyote-sheep situation in many ways; and I think there are

published papers showing what percentage have suffered what percentage of loss; the other thing is that through time the ranchers suffering the highest losses won't be there in few years; it snowballs
it's partly geographic where you're located and if wildlife is feels comfortable in the habitats you're grazing on; some of it's hard to know why some get hit harder but some is geography an movement patterns and which predator it is
important to recognize that there will be some with no impact, some with moderate, and some will be devastated; I want to make sure we don't look at averages; we have to recognize that there is no average producer and some people could lose their ranches

Lesson #8. In Idaho and Montana those years with highest numbers of wolf mortality through control actions, trapping and hunting positively correspond with the highest years of wolf-livestock depredation.

when I read this I got the opposite: in times when wolf numbers were high you would expect that you would be more successful in hunting, there would higher incidences of livestock depredation; and therefore higher incidences of lethal control in areas where legal
there's a lot going on here that isn't in this statement; in ID the wolf population was increasing toward carrying capacity while the elk population, at least in the Lolo herd was dwindling to almost bare survival; so if you implement hunting and trapping to try and mitigate that effect on the elk you obviously have a large population of wolves w/out enough to eat so increases the likelihood of depredation on livestock
I think discussing the impacts of pack stability is a statement that is more supportable than this
there's this whole social structure disruption that seems to be happening when there's a lot more wolf hunting or trapping; in Idaho packs splintered, which made a lot more younger structured packs or packs that were apart and individual animals taking livestock; this whole concept of split of structure is important from a scientific perspective but I'd like to find a way to word this that supports both what you'd like to see and what I might like to see or what anyone else here might like to see to account for that social structure disruptions that seems to change wolf behavior and whether or not that is correlated with increased lethal take of wolves
the other point that I'd be interested in getting more info on is if you have a pack where the alphas are teaching young to go to livestock how do we address those issues?
part of what you need to know is if wolves taken by hunters and trappers and Wildlife Services trying to take selective problem animals in which case then you'd expect there would be a correlation between damage and higher take; but that would not mean that the more you trap the more livestock you're going to lose; it could in fact be the exact opposite
some people would argue that you shouldn't do lethal control because you take out an animal and you don't know if the new animal coming in is going to be more likely or less likely to be a problem; there are not good studies one way or the other but some evidence that those coyotes taking livestock are the pair holding territory because they have greater food needs which means that perhaps taking those alphas out or at least

one of them might cause depredations to be lower because you've interrupted that pair that was holding territory; people argues both sides; I don't think wolves are necessarily the same as coyotes because coyotes are ok alone or in pairs wolves need more of a pack structure
if you look at the old 1994 nonessential experimental designation, they had started with a couple of depredations in a one year calendar period; they quickly moved to 45 days; if you didn't have another depredation after 45 days then the clock started all over again
they started out with translocating, and then when they got to the point where they were having wolf saturation where they were putting wolves where there were already wolves that didn't do the wolves any good; but I don't think they went from 0 to 60

Lesson #9. Depredation by wolves on livestock is a very small fraction (<5%) of the overall depredation by wildlife (e.g. coyotes, bears, lions) on livestock.

on the basis of a state or on the basis of only where wolves are found
what you need to look at in particular are impacts in high density wolf areas versus areas with low density of wolves versus no wolves
I ran across a paper last week while looking for wolf literature, I think out of ID that showed the likelihood of any major predator for taking livestock; it made some assumptions but it did a good job of stating that wolves much more likely to prey on domestic animals than the other large mammalian predator species

Lesson #10. Depredation by wolves on livestock is a very small fraction (<1%) of livestock mortality from all causes.

AND

Lesson #11. Impacts on the livestock industry at a regional scale from wolf depredation are very small, almost un-measureable.

you also need to consider where we are with wolf population development, we're in the infancy in current times; it's not unreasonable to expect that the depredation will increase as they become established in their full range; less than 1% or almost unmeasurable are statements that we want to believe the wolves aren't going to have an effect; I think we have to be open-minded and visionary and at least consider that once they become fully established there will be an effect
I think we can compare that to the way we think about climate change; it changed half a degree this year but what are the long-term impacts; if you can mentally arrange it the way analysis is done for climate change; you're compacting impacts; that might help in terms of addressing the issue
if you're talking about additive vs compensatory there are studies from the northern Rockies (relative to interactions of wolves with other predators and wild ungulates).
I'm just saying you're making an assessment with #10 and 11 in a relatively wolf-absent time; wolves aren't established at least here in CA and it's likely to change that's all I'm

saying
have to be careful with averages; these interactions take place on a one to one basis; we have to manage with what happens when one producer loses one cow because that's where the pressure is coming from; it's not on an average

Methods Used in Other Western States to Reduce Livestock Depredation

on this list I think it would be valuable to state that there are nonlethal methods that sometimes work and other times don't; should be on the lessons learned
expensive and only practical for certain applications
not sure llamas are effective with wolves
I think Becky Weed with Nine Mile, one of the predator friendly certified sheep operations in MT uses llamas including with other things but also wolves
talking to those folks in the mountains states, even the guard dogs not necessarily effect with wolves
you need the sheepherders out with the dogs so they can be alerted; more than one dog
in the most recent ID case the herders were right there in the middle with the dogs and they still lost almost 200 sheep; they're doing those controls to protect their livestock but it doesn't mean they're always effective
sometimes they'll erect temporary fences; sometimes in high country areas there's no way to get fencing up there
I talked to a range rider who said that wolves being nocturnal they hardly ever see them; also the ranges are huge;
if you have a 1200 pound cow that's been killed in the back country moving it can be hard
in the Juniper country you can't dig in rocky country
the other thing that goes with the digging and the permits you can't do that - its illegal
even on private land; you can't compost or bury red meat animals in CA
some producers have carcass pits like the one OR7 was hanging around
no it's a pile; a lot of producers have dead piles; I don't think burying is illegal, it's illegal to compost mammalian tissue; if you have flat land you can move the deads into a pile and that can be an attractant; but it gets back to we can't do averages because… dealing with it on flat land is a challenge but you can do something with it because if you can get equipment in you can dig; in the high country you have to find the carcass
can you place lime on it or burn it?
you can't do that without prior consent; it would have to go through an environmental review
burning in high fire risk areas is a bad idea; I talked to the predator friendly folks in the mountain states who are trying to deal with the carcass issue and they said they've tried explosives and burning, they work together and they have essentially a rendering truck but only works in small operation centrally located
many places in CA have no rendering facility
water quality issues
groups have collaborated with others where they share feed so cattle can be kept in a

certain area instead of putting out to a grazing allotment where they'd normally go; that way they're still getting fed;
if you have federal ground moving all these pieces are really difficult; you are so tied specifically to when you turn out or bring in; there's not a lot of extra allotments out there
you can sublet with BLM you can't with USFS
in the SW the USFS have been helpful in working with USFWS and the ranching community to identify alternative allotments and identifying proactive projects to fence off areas; in some areas has been very collaborative; this thing about birth pulses, I understand every operator has a different model; in some areas ranchers collaborate to do joint timing; in SW collaborators are even looking at an insemination facility so they all give birth together; models are evolving in other places and it might be something to look at here
financially you are better off if you get that birth pulse and come to market with a single bigger lot; buyers pay more, but that means you have to have the labor available to check more frequently during the pulse; so they make trade offs
another issue with alternate range is lots of cattle have a homing instinct, they will end up on their home range because they've been there for years
I understand these animals have strong homing instincts but maybe that's the best time to employ range riders to move them out of those sites
They have radio-activated boxes but they also have motion detectors as deterrents; pluses and minuses because they might get habituated so they've moved them around to avoid habituation
are these methods considered to be harassment? If so can they be used if the wolf is listed in CA?
harassment that's not injurious would be like yelling, throwing rocks in the air, shooting off a cracker shell would be legal; the nonlethal but injurious, you would not be able to shoot bean bags or hit a wolf or chase after them in your ATV
I think we should be able to employ these tactics; like house training a puppy – he waddles toward a corner you don't just let him piddle you take him outside or something to change the behavior; you'd think it would be to the benefit of the wolf to not develop certain behaviors
Compensation would take legislative action correct?
just adding the word CA to the federal legislation that allows for that funding to go to other states
in early discussions with the Dept there was some concern about doing it because you don't compensate for any predations
I think it was in the WA plan; they talk about location information for wolves under the different scenarios
is that public information or only goes to local ranchers? That can be used in other situations; people want to go see wolves - ecotourism
in WA the agency is giving only to specific ranchers; they set up a wolf advisory group made up of livestock and hunter organizations and conservation groups to help them implement the wolf plan; one of the things they are implementing is the compensation information to ranchers but it's not generally available
in OR it's the same; they can text to ranchers to let them know; to follow up on Pat's point, that's the number one thing our members say is they ability to protect your

livestock and having that information helps to feel that they have some control
expensive increases in management practices where there’s wolves