



**Meeting Report  
Stakeholder Working Group  
Meeting on Wolves in California  
May 28, 2014**

CDFW Wildlife Branch Conference Room  
1812 9<sup>th</sup> St.  
Sacramento, CA 95811



Photo Courtesy of Gary Kramer

**California Department of Fish and Wildlife**

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## **1.0 Introduction**

On May 28, 2014 the California Wolf Stakeholder Working Group (SWG) reconvened to continue their work toward the development of a California wolf management plan. The meeting took place in the conference room of the California Department of Fish and Wildlife's (CDFW, Department) Wildlife Branch office in Sacramento, CA. The group's previous meeting took place on April 30, 2014 at the Department's Office of Training and Development training center.

## **2.0 Meeting Objectives and Mechanics**

The stated purpose of the meeting was to:

Continue to engage the SWG in the wolf planning process and work toward the completion of a California wolf plan.

The stated objective was:

1. Arrive at a common understanding of livestock management in California

The meeting was attended in person by 15 stakeholders, with three additional members attending via conference line. Six CDFW staff attended in person. Appendix A provides a list of participants, their affiliations, and their contact information. Also in attendance was one legislative representative, whose name and contact information are captured in Appendix B. The meeting agenda is provided in Appendix C of this document, and all slides presented are captured in Appendix D.

## **3.0 Meeting Outputs**

The SWG's standing ground rules are:

- Seek to learn and understand each other's perspective
- Encourage respectful, candid, and constructive discussions
- Provide balance of speaking time
- Seek to resolve differences and reach consensus
- Discuss topics together rather than in isolation
- Make every effort to avoid surprises
- Limit sidebars
- Turn off cell phones/switch to non-ring mode

The SWG's goals as presented in the group's operating principles are:

1. If and when wolves establish in California, seek to conserve self-sustaining populations of wolves in the state
2. Manage the distribution of wolves in the state where there is adequate habitat

3. Manage native ungulate populations in the state to provide abundant prey for wolves and other predators, intrinsic enjoyment by the public, and harvest opportunities for hunters
4. Manage wolf-livestock conflicts to minimize livestock losses
5. Communicate to the public that natural dispersal of wolves into California is reasonably foreseeable given the expanding populations in the Pacific Northwest, inform the public with science-based information of gray wolves and the conservation and management needs of wolves in California, as well as the effects of having wolves in the state

## **Introductions and Housekeeping**

Ms. Kovacs opened the meeting with a welcome, and introductions. She then introduced Ms. Karin Vardaman who will be replacing Ms. Lauren Richie as a representative from the California Wolf Center.

## **Updates**

- Petition to list gray wolf and Fish and Game Commission action: Nothing to update from the previous meeting. The Department is waiting for the Fish and Game Commission (FGC) meeting in Fortuna on June 4<sup>th</sup> at which they may render a decision. The recent discovery of a possible mate of OR7's has caused the Department to schedule a meeting to discuss if this impacts their listing recommendation to the FGC. That internal meeting is scheduled for later this morning.
- OR7: A newly discovered wolf in the vicinity of OR7's current location has been in the news. Russ Morgan with the Oregon Department of Fish and Wildlife (ODFW) told the Department that the sex of the new animal is still unconfirmed, and they have not confirmed a den or reproductive activity. They are making scat collection a priority to possibly determine the sex and origin of the new animal. With respect to recollaring OR7, ODFW is waiting for an appropriate time to search for pups and confirm reproduction before deciding.
- Federal proposal for delisting: No changes since last meeting.
- Status of facilitator contract: The contract did go to the Department of General Services (DGS) for their approval, and we are waiting to hear from them.
- Dates for future SWG meetings: The next SWG meeting is scheduled for June 25<sup>th</sup> at the CDFW Office of Training and Development training center, and

Director Bonham will be the first agenda item. Additionally, upcoming subgroup meetings are as follow: Wolf Conservation Subgroup June 17, Wolf-Ungulate Interactions Subgroup June 18, and Wolf-Livestock Interactions Subgroup June 19, all in Sacramento.

- Status of wolf plan by chapter: The Department continues to make revisions and update with new information from stakeholders. If we adhere to our current schedule for plan completion the next four weeks will very busy with reading materials for the SWG.
- Resend of “Table 1. State by State Comparison” April 9, 2014 Wolf Conservation Stakeholder Subgroup Meeting: There was a correction made to that table and Mr. Stopher will be sending out the revised version to the group soon.
- Schedule for Plan Completion: A draft is planned by June 30 which will go to the SWG for review. There is a 4 week period for SWG members to provide feedback to the Department. After revision based on SWG feedback the document will then be sent for peer review.

Some of the SWG members met with Director Bonham prior to today’s meeting, and at this point presented the SWG with the results of that meeting. The purpose of the meeting was to appeal to the Director for an additional three months for completing the draft plan. They informed him that the SWG is at a critical juncture in discussing wolf management strategies, and additional time will provide a greater opportunity for reaching consensus. The Director requested a progress report at the end of June at which time he will reevaluate.

## **Summary of Subgroup Meetings**

### *Wolf-Livestock Subgroup (WLS) – Mr. Kirk Wilbur*

At the May 6 meeting Mr. Stopher provided a first draft wolf-livestock strategy. This Version 1.0 was a rough draft to serve as a discussion starter. The group agreed on several items. At the May 20<sup>th</sup> meeting the group discussed a second version, modified based on the previous discussion, and provided additional comments on the document. The next meeting is scheduled for May 3<sup>rd</sup> in Redding.

### *Wolf–Ungulate Subgroup (WUIS) – Dr. Eric Loft*

This group met on May 20<sup>th</sup> and discussed the second draft of the Wolf-Ungulate Interactions chapter. There was spirited discussion over some tables in the chapter

which estimated the number of elk and deer a wolf population would kill annually, depending upon the size of the wolf population, and the relative percentages of each ungulate species in the wolves' diet. Looking at some additional information from other regions it is very interesting to note the extent to which wolves select elk. The WUIS members were very concerned about the impacts to California's elk population. The Department is currently working to update the chapter based on last week's meeting and will have a next draft available for discussion at the upcoming meeting on June 18.

#### *Wolf Conservation Subgroup (WCS) – Mr. Mark Stopher*

This group has been discussing a paper by Chapron et al (2003) that presents modeling of wolf populations under two different approaches: zones with conservation objectives for each, and no zones but with statewide conservation objectives managed adaptively. Mr. Stopher was tasked at the May 27 meeting with providing these alternative approaches in a side-by-side format for ease of comparison. The group has also been discussing a document that lays out the Department's wolf management operating assumptions for a near term period of 15 years. Focusing on the near term allows a greater degree of confidence in estimating the rate of wolf recolonization. After discussing this document at the last meeting the Department will have a revised version available for further comment at the upcoming meeting on June 17. Lastly, the Department distributed three papers on the concept of minimum viable population, which was suggested reading by the environmental caucus. While the concept was not discussed during the meeting, Mr. Stopher did suggest that members read the documents.

#### **Livestock Industry in California Presentation**

This portion of the meeting was a series of presentations by SWG members from the agriculture caucus. The slides used for the presentations can be found in Appendix D. Mr. Pat Griffin gave a historical and current overview of agriculture in California, and then focused in on one cattle ranch in Siskiyou County that shares habitat with elk. This ranch is located in a region of California with a high potential for wolf colonization, especially due to the presence of elk, and may therefore be subject to livestock depredation conflicts with wolves. Next, Ms. Noelle Cremers presented an overview of cow/calf operations, and the economy of cattle ranching in California. In addition, she explained that there are approximately 34 million acres of rangeland in California which provide significant wildlife habitat to a wide variety of species, including some which are federally and/or state listed. Ms. Lesa Eidman then provided an overview of the sheep ranching industry, including the number of farms and ranches in the U.S., in California, and in potential wolf territory in northern California. She then discussed methods that have been used by the industry to prevent depredations, and pointed out that many sheep dogs have been lost to wolves. The next presenter was Ms. Ann Yost,

Rangeland Program Manager with the U.S.D.A. Forest Service. Ms. Yost explained to the group that the goal of her program is to support the economic sustainability of the livestock industry. Of the 18 national forests in California, 16 have active rangeland programs in place, and there are approximately 200 vacant allotments statewide due variously to their unsuitability for forage, lack of adequate water, or other conditions that prohibit their use. The final presenter was Dr. Robert Timm, Director of the U.C. Agriculture and Natural Resources program's Hopland Research and Extension Center. Dr. Timm presented information on the changing landscape of the sheep industry in California's north coast region including decreasing numbers of tools available to ranchers for depredation control options, and the ongoing research being conducted there on coyote predation patterns.

### **Discussion of:**

#### *New Chapters*

Ms. Kovacs reminded the group of the inclusion of two new chapters that were not originally planned for. One is the wolf-domestic dog interactions which Ms. Kovacs has developed and expects to make available shortly. The other chapter is wolf diseases and has been drafted by one of the Department's staff veterinarians Dr. Deanna Clifford. The chapter is nearly completed, with only the strategies section yet to be drafted.

#### *Wolf Plan Comments from SWG Members*

Ms. Kovacs stressed the importance of considering the context of the chapters when providing comments on them. In addition, since the SWG's origins it has stressed to the Department that they want wolf management planning to be driven by science. Therefore Ms. Kovacs requested of the group that they provide scientific support for their comments.

### **Review of Tabled Items from Previous Meetings**

Ms. Kovacs brought forward a number of tabled items from previous meetings.

#### *Strategy for determining goals for wolf population (Chapter 2 – where, how many)*

- These will be developed by the Wolf Conservation and Wolf-Ungulate Interactions subgroups, so the item will be removed from the SWG table.

#### *Differences between CESA and ESA*

- Because the state listing is undecided as yet this will continue to be tabled

#### *Edits to subgroup meeting reports*

- This will continue to be brought forward as a reminder particularly to subgroup members to get their edits in so that they can be finalized and added to the Department's web page

## **Conclusion and Wrap-up**

Before concluding the meeting, some group members initiated a discussion of the concept of a “self-sustaining” population of wolves in California. The first goal of the SWG Operating Principles reads “If and when wolves establish in California, seek to conserve self-sustaining populations of wolves in the state”, and some members expressed concern over what the concept means to California. They asked if it assumes that California's wolf population must be sustained even if every other population disappeared. Although the group's operating principles were decided on by a focused subcommittee in July, 2013, the Department acknowledged the need for clarification, and suggested using the term “biologically sustainable” instead, as it does not imply that the Department is neglecting to account for the connection of California's future wolf population to Oregon's wolves. Further, “biologically sustainable” is used in Section 1802 of the Fish and Game Code. When asked for a definition of the term, Mr. Stopher stated that it likely depends on the species. The concept of minimum viable population, which attempts to estimate the population level necessary to sustain a species into some time in the future, may be of value in defining the term, but for our purposes that period of time should probably be 15 years, as it allows us to make the estimate with greater confidence than if we attempted to estimate for a greater length of time. Members generally agreed that changing wording in the Operating Principles for clarification was acceptable, and the Department agreed to consider the matter further.

Ms. Kovacs then requested volunteers to form a subcommittee to explore funding opportunities for implementation of the plan. The Department still needs to consider what the costs of implementation are based on the strategies that will go into the plan, after which this group can begin to consider opportunities. Volunteers were Bill Gaines, Rich Fletcher, Mark Rockwell, Damon Nagami, and possibly Natalynne DeLapp.

As a reminder, Ms. Kovacs announced that the next meeting will take place on June 25 at the Department's Office of Training and Development training center from 9am to 4pm. The meeting then concluded.

## **Action Items**

- Ms. Weiss will provide the Department with information on mange introduction into wolf populations to induce mortality
- Remove Item #1 from the tabled items
- Send revised wolf plan outline to members



- Consider changing “self-sustaining” in Operating Principles goal #1 to “biologically sustainable” to be consistent with Fish and Game Code section 1802

## APPENDIX A. WORKSHOP PARTICIPANTS

Name	Affiliation	Email
<b>Stakeholders</b>		
Mike Ford	Rocky Mountain Elk Foundation	<a href="mailto:mford@rmef.org">mford@rmef.org</a>
Linda Leeman	The Wildlife Society – Western Section	<a href="mailto:lwleeman@gmail.com">lwleeman@gmail.com</a>
Marilyn Jasper	Sierra Club	<a href="mailto:marilyn.jasper@mlc.sierraclub.org">marilyn.jasper@mlc.sierraclub.org</a>
Pamela Flick	Defenders of Wildlife	<a href="mailto:pflick@defenders.org">pflick@defenders.org</a>
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Lesa Eidman	CA Wool Growers Association	<a href="mailto:lesa@woolgrowers.org">lesa@woolgrowers.org</a>
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Amaroq Weiss	Center for Biological Diversity	<a href="mailto:aweiss@biologicaldiversity.org">aweiss@biologicaldiversity.org</a>
Randy Morrison	Mule Deer Foundation	<a href="mailto:randy@muledeer.org">randy@muledeer.org</a>
Robert Timm	UC Agriculture and Natural Resources	<a href="mailto:rmtimm@ucanr.edu">rmtimm@ucanr.edu</a>
Karin Vardaman	California Wolf Center	<a href="mailto:karin.vardaman@californiawolfcenter.org">karin.vardaman@californiawolfcenter.org</a>
Pat Griffin	California Agriculture Commission – Siskiyou County	<a href="mailto:pgriffin@co.siskiyou.ca.us">pgriffin@co.siskiyou.ca.us</a>
<b>California Department of Fish and Wildlife Staff</b>		
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Dr. Eric Loft	Wildlife Branch Chief	<a href="mailto:eric.loft@wildlife.ca.gov">eric.loft@wildlife.ca.gov</a>
Mark Stopher	Senior Policy Advisor	<a href="mailto:mark.stopher@wildlife.ca.gov">mark.stopher@wildlife.ca.gov</a>
Karen Converse	Environmental Scientist – Wildlife Branch	<a href="mailto:karen.converse@wildlife.ca.gov">karen.converse@wildlife.ca.gov</a>
Joe Hobbs	Statewide Elk Coordinator – Wildlife Branch	<a href="mailto:joe.hobbs@wildlife.ca.gov">joe.hobbs@wildlife.ca.gov</a>
Kari Lewis	Environmental Program Manager – Lands Program	<a href="mailto:kari.lewis@wildlife.ca.gov">kari.lewis@wildlife.ca.gov</a>

## APPENDIX B. PUBLIC PARTICIPANTS AND COMMENTS

Name	Affiliation	Email
<b>Legislative Representatives</b>		
Catherine Bird	Senator Ted Gaines's Office	<a href="mailto:catherine.bird@sen.ca.gov">catherine.bird@sen.ca.gov</a>

- No comments were offered

## **APPENDIX C. AGENDA**

California Department of Fish and Wildlife  
California Wolf Stakeholders Working Group (SWG) Meeting  
Department of Fish and Wildlife, Wildlife Branch Conference Room  
1812 Ninth Street, Sacramento  
May 28, 2014

Conference Call 1-877-581-9247 Participant Code 173035

**Purpose** – To continue to engage the SWG in the wolf planning process and work towards the completion of a California wolf plan

**Objective 1** – Arrive at a common understanding of livestock management in California

**Agenda**

- Gather in the conference room 8:45
- Welcome, Changes to SWG Representation, Introductions 9:00
- Agenda and Ground Rules/Operating Principles/Looking Ahead 9:15
- Updates: 9:20
  - 1. Petition to list gray wolf and FGC action (Eric Loft)
  - 2. OR7
  - 3. Federal proposal for delisting (Lisa Ellis)
  - 4. Status of facilitator contract
  - 5. Dates for future SWG meetings
  - 6. Status of wolf plan by Chapter
  - 7. Resend of “Table 1. State by State Comparison” – April 9, 2014 Wolf Conservation Stakeholder Subgroup Meeting
  - 8. Schedule for plan completion (reminder)
- BREAK 10:15
- Livestock Industry in California - 10:30
  - Presentation on the beef and sheep industry, ranching in rural communities, industry changes, and public land (USFS) grazing allotments

LUNCH 12:00

- Continuation of discussion/questions on Livestock Industry in California 1:30
- Summary of subgroup SWG meetings/next steps 2:00
  - Wolf-Livestock – (TBD/Mark Stopher) - May 6 and May 20
  - Wolf-Ungulate – (TBD/Eric Loft) - May 20
  - Wolf Conservation – (TBD/Mark Stopher) April 29 and May 27

BREAK 2:30

- New Chapters – 2:40
  - Wolf-Domestic Dog Interactions
  - Diseases and Wolves
- Wolf Plan Comments from SWG members 2:45
- Review of Tabled Items (from prior meetings) 3:00
  1. Strategy for determining goals for wolf population ((Chapter 2 -where, how many)
  2. Differences between ESA and CESA
  3. Edits to Subgroup meeting reports
- New Action Items from Today's Meeting 3:05
- Future meeting date (June 25, 2014) and location 3:15
- Review, Conclusions and Wrap-Up 3:30
- Questions from the public 3:45

ADJOURN 4:00

**Attachments:**

Subgroup Reports:

Wolf Conservation Subgroup Meeting Report – April 29, 2014

Wolf Stakeholder Working Group Meeting Report – April 30, 2014

Wolf-Livestock Interactions Subgroup Meeting Report – May 6, 2014

## **APPENDIX D. POWERPOINT SLIDES PRESENTED**

Slide 1



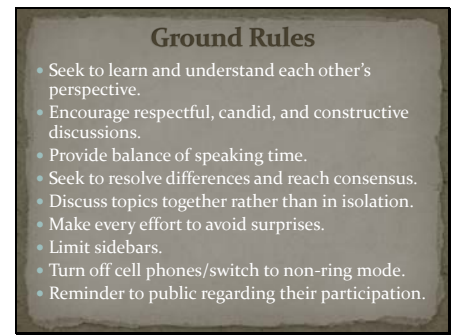
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Slide 2



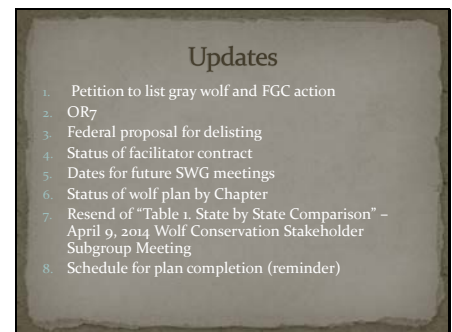
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Slide 3



Slide 6





Slide 7

**Updates**

1. Petition to list gray wolf and FGC action
2. OR7
3. Federal proposal for delisting
4. Status of facilitator contract
5. Dates for future SWG meetings
6. Status of wolf plan by Chapter
7. Resend of "Table 1. State by State Comparison" – April 9, 2014 Wolf Conservation Stakeholder Subgroup Meeting
8. Schedule for plan completion (reminder)

Slide 10

**Updates**

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2. OR7
3. Federal proposal for delisting
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6. Status of wolf plan by Chapter
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Slide 8

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Slide 11

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Slide 9

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Slide 12

**Updates**

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Slide 13

### Updates

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Slide 16

Lunch 12:00-1:30

Slide 14

### Updates

1. Petition to list gray wolf and FGC action
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Livestock Industry in California – continuation and questions

Slide 15

Break – 15 minutes

Slide 18

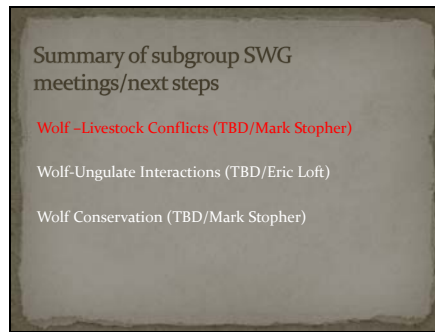
### Summary of subgroup SWG meetings/next steps

Wolf -Livestock Conflicts (TBD/Mark Stopher)

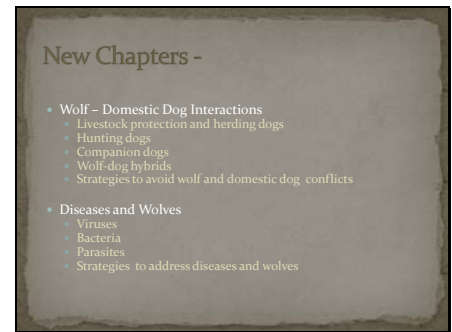
Wolf-Ungulate Interactions (TBD/Eric Loft)

Wolf Conservation (TBD/Mark Stopher)

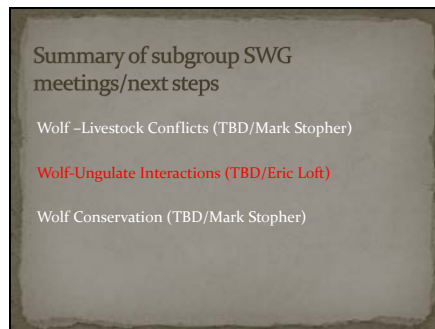
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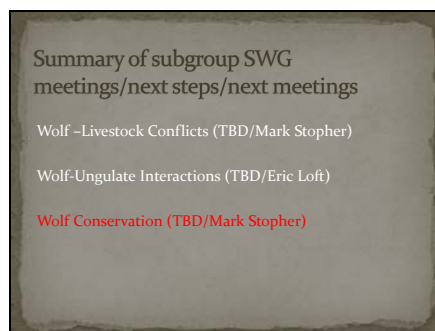
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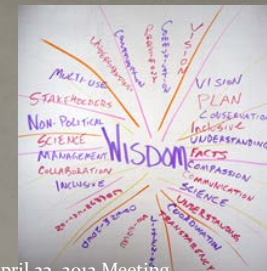
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- Context
- **Supporting Documentation**
- Avoid assumptions

Slide 26



Slide 29



April 23, 2012 Meeting

Slide 27



Slide 30

- Context
- Supporting Documentation
- **Avoid assumptions**

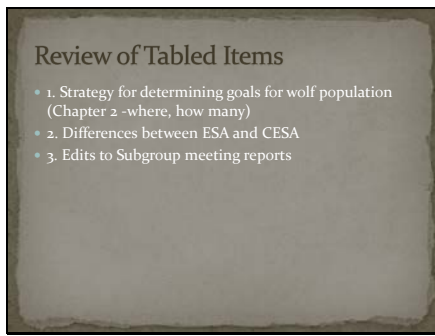
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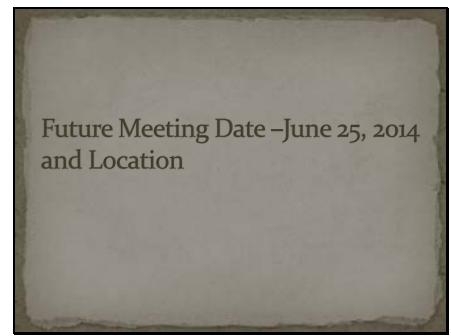
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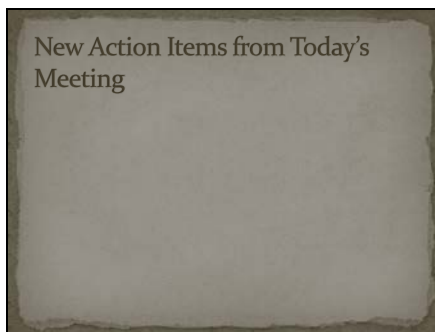
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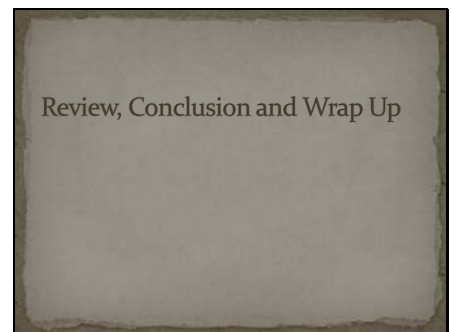
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Slide 33



Slide 36



Slide 37



Slide 1



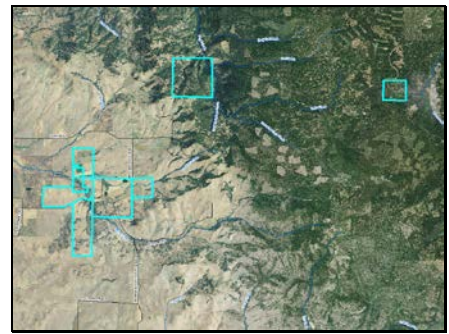
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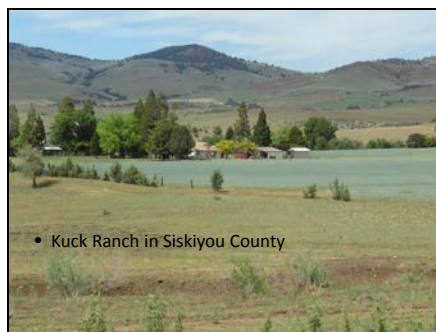
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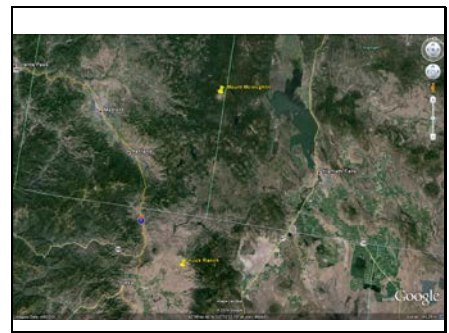
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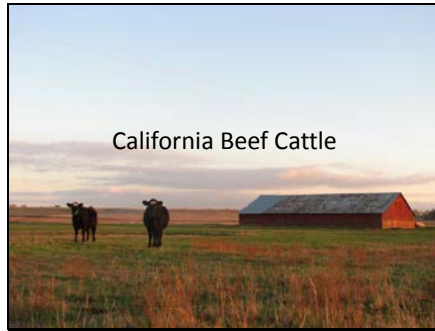
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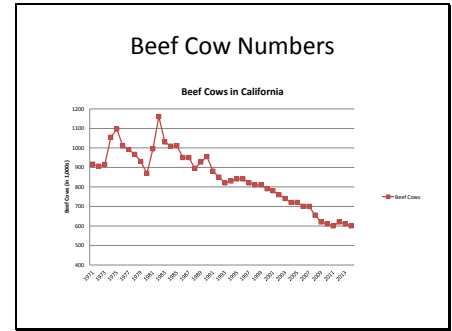
Slide 6



Slide 7



Slide 10



Slide 8

### Beef Production

- Seedstock
- Cow-calf
- Stocker
- Feedlot
- Packer

Slide 11

### Grazing System

- Cattle graze California's 34 million acres of rangeland
- Public vs. Private
- Wildlife depend on rangeland
- Cumulative Impacts lead to lost rangeland

Slide 9

### Beef Cows

- More than 10,000 farms with 583,594 beef cows
- 88 percent of herds have fewer than 100 cows
- Average herd size is 53 cows
- National average is 44 and 90% have fewer than 100 cows

Slide 12

### Grazing System

- Cattle are moved to follow grass
- Spend winter and spring in valley or coast
- Moved to irrigated pasture or higher elevation during summer and fall



Slide 13

## Non Lethal Efforts to Reduce Predator Risks

- 17.7% of beef producers in the Southwest use nonlethal control methods
  - Most common methods were:
    - Frequent checks
    - Fencing
    - Guard animals
    - Herding
  - Operations with 500 head or more were more likely to use a nonlethal control method than smaller operations.
- 




Slide 16

### Feed Costs-SPRING CALVERS Assumptions

Item	Unit	Time	Per Cow	Total
Summer Pasture	\$35/hd/month*	5.5 Months-May 1-Oct. 15	\$193	\$57,900
Aftermath	\$30/hd/month	Oct. 15-Nov. 15	\$30	\$9,000
Hay-Period 1	10 lbs/day	Nov. 16-Dec. 15	\$29	\$8,695
Hay-Period 2	25 lbs/day	Dec. 16-March 31	\$243	\$72,890
Hay Period 3	15 lbs/day	April 1-April 30	\$29	\$8,695
Hay-Weaning	20 lbs/day	42 days	\$67	\$20,124
Salt	5 tons @ \$430	1.5 oz/hd/day-365 days	\$7	\$2150
Supplement	0.10 tons/hd	Nov. 16-April 30	\$52	\$15,500
Total			\$650	\$194,954

## Slide 14

## Public Lands

- Need base ranch to gain access
- Cows learn allotments, can't just put them on a new one
- Size of allotments 

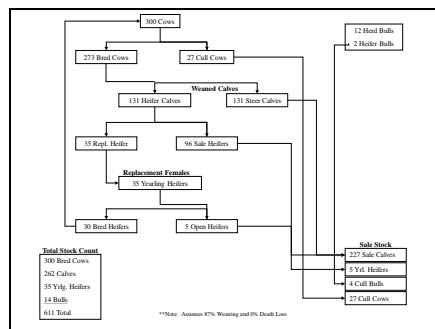


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#### Estimated Sale Weight and Price-Spring Calves

	Weight Each (cwt)	Unit	Total Hd or Cwt/Unit	Price or Cwt/Unit	Total Value
<b>Niddown Cow/Calf-Mountain Spring born calves</b>					
Steer Calves	7.05	head	131	\$ 158.00	\$ 145,920.00
Heifer Calves	6.70	head	96	\$ 173.00	\$ 104,630.40
Yearling Heifers	8.80	head	5	\$ 143.00	\$ 6,292.00
Cull Cows	12.80	head	27	\$ 72.00	\$ 24,300.00
Cull Bulls	18.00	head	4	\$ 84.50	\$ 6,084.00
<b>Total RECEIPTS</b>					<b>\$ 287,247.40</b>

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## Spring Calvers Hay – Finances

Item	Per Cow	Total
Feed Costs	\$650	\$194,954
Marketing Costs	\$12.55	\$3,765
Transportation	\$127.85	\$38,356
Veterinary	\$45	\$13,500
Bulls	\$53.33	\$16,000
Equipment	\$6.67	\$2,000
Interest (4.75%)	\$11.08	\$3,325
Overhead	\$118.38	\$35,515
<b>Total COSTS</b>	<b>\$1,025</b>	<b>\$307,415</b>
<b>Total RECEIPTS</b>	<b>\$957</b>	<b>\$287,227</b>
Returns to Labor, Management, Investment		<\$20,188>


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Shipping to Sacramento Valley		
Item	Per Cow	Total
Feed Costs	\$590	\$176,919
Marketing Costs	\$13	\$3,765
Transportation	\$107	\$35,000
Veterinary	\$45	\$13,500
Bulls	\$53	\$16,000
Equipment	\$7	\$2,000
Interest (4.75%)	\$11	\$3,325
Overhead	\$118	\$35,515
Total COSTS	\$943	\$286,024
Total RECEIPTS	\$1089	\$326,596
Returns to Labor, Management, Investment	\$145	\$40,572

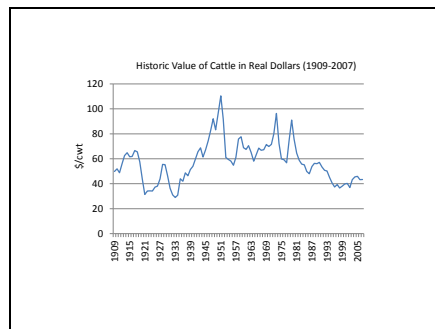
Slide 22

### Potential Non Monetary Wolf Impacts

- Husbandry of animals
- Investment in genetics and local knowledge
- Cow temperament
  - Processing risks
  - Herding dogs




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### California Sheep Industry



Lesa Eidman  
Executive Director  
California Wool Growers Association

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### Input Costs

- In 1980 it took 13 calves to buy a Ford F Series pickup – 650 lb steers were worth \$500
- In 2014 it takes 25 calves to buy a Ford F Series pickup – 650 lb steers are worth \$1200
- From 1990 – 2003 it cost \$261/head to finish a steer in a feedlot
- In the past four years it cost \$494/head

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### California Sheep Industry

- Sheep and Lamb Inventory
  - United States
    - Sheep Farms/Ranches – 88,338
    - Sheep and Lambs – 5,364,844
  - California
    - Sheep Farms/Ranches – 4,224
    - Sheep and Lambs – 668,517
- California ranks #1 in sheep/lamb and wool production within the US.
- 13% of the US sheep production is from California
- Nearly 80% of California lamb/wool is raised by 87 ranchers within the State who ranch more than 1000 head.



\* USDA Ag Census 2012

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### Types of Production/Ranches

- Backyard Flock
  - Generally consisting of smaller flocks of less than 50 head. Sheep tend to stay on one property year round, and considered to be more of a hobby flock rather than a financial source.
- Club Lamb Producer
  - Breeding flocks of less than 100 head. Typically sold for show purposes for 4-H and FFA projects.
- Farm Flock
  - Less than 500 head and typically adjunct to another farming enterprise or full time employment off the farm.
- Seedstock Producers
  - Flocks less than 150 head. Involved in raising and selling purebred sheep for their superior genetics. Sheep tend to stay on one property year round.
- Lamb Feeders
  - Finishing lambs until they are market ready. These ranchers typically raise more than 5000 sheep annually. Lambs are finished on either a feedlot scenario or on crop residue and range throughout the state.
- Ranger Operator/Commercial Producer
  - Generally large flocks of more than 1000 head. Located in areas with sufficient affordable feed and are highly mobile. Typically the sheep move to a number of different premises throughout the year including: crop residue, private rangelands, and federal lands.

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### Band of Sheep - Management

- 1 sheepherder is assigned to monitor, feed, move, bed down, build fences and care for one band.
  - If the sheep are in a remote location with difficult terrain, there may be 2 – 3 herders per band of sheep.
- Within a band of sheep ranchers will have up to 4 Guard dogs.
- With the exception of “open range” grazing, temporary electric fencing is typically used around the perimeter of the grazing area.



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### Sheep within Northern California Counties with potential wolf habitat\*

- 27.4% of California sheep ranches are located within the counties that are located in the Northern Wolf Units
- 9.8% of the sheep and lambs in California have their home ranches within the counties located in the Northern Wolf Units.
- This percentage does not account for the sheep that would be moved in the area on leased land or Federal Land permits.

\*Includes the following counties: Butte, Colusa, Del Norte, El Dorado, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity, Yuba

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Permanent fencing around the perimeter of 50 acre parcel with an offset bracket that has an electrified wire.

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### Band of Sheep

- A “Band of Sheep” typically refers to a group of 1000 head that are managed together.



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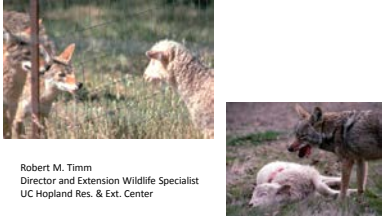


Temporary electric fencing is used to fence the perimeter of smaller sized pastures or used for rotation grazing or when sheep are grazing on crop residue and alfalfa fields.



## Slide 37

### Coyotes and Sheep Production in California's North Coast



Robert M. Timm  
Director and Extension Wildlife Specialist  
UC Hopland Res. & Ext. Center

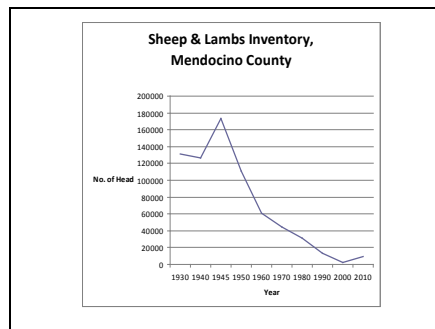
## Slide 40

### Potential Reasons for Sheep Industry Decline:

- Lamb & Wool Prices
- Real Estate Values & Rancher Demographics
- Predation Losses

Nesse et al. (1976), Wagner (1988)

## Slide 38

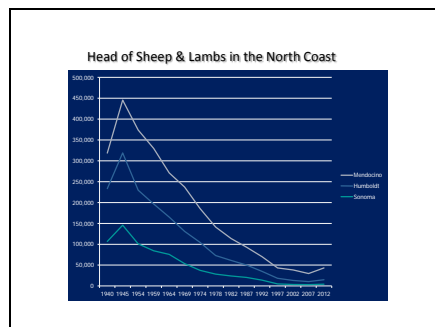


## Slide 41

### Lamb & Wool Prices

- Flat or declining lamb & wool prices
- Increasing costs of labor, materials, supplemental feed, transportation

## Slide 39



## Slide 42

### Real Estate Values & Rancher Demographics

- Increasing land costs
  - Increasing property taxes
- Expansion of winegrape vineyards
- Increased demand for "ranchette" parcels
- Rancher population ageing
  - Rancher descendants less interested in lamb and wool production

## Slide 43

### Predation Losses

- Increasing range and populations of coyotes
- Fewer predator control tools and methods
- Less predator control effort, and decreased ability to suppress coyote numbers
- “Snowball effect”

## Slide 46

### Coyote Control Methods - CA

after Connolly (1981)

- 1970
- Shooting
  - Foothold traps
  - Snares
  - Toxic draw stations
  - Place baits
  - Sodium cyanide ejectors
  - Den hunting

## Slide 44

### Increasing range and populations of coyotes

- Inland vs. Coastal Rangelands



## Slide 47

### Methods of Lethal Coyote Control and Percentage of Coyotes Taken by Federal Wildlife Damage Control FY 1971 (U.S.)

- 37.5% Foothold traps
- 27.3% Sodium cyanide ejectors
- 9.1% Aerial hunting
- 9.0% Other toxicants
- 7.0% Den hunting
- 6.5% Ground shooting
- 3.3% Snares
- 0.4% Use of dogs

## Slide 45

### Fewer predator control tools and methods

- Pesticide regulations
- ‘Humane’ considerations
- Cost-effectiveness / labor cost
- Reduced publicly-funded government services

## Slide 48

### Coyote Control Methods - CA

- 1980
- Shooting
  - Foothold traps
  - Snares
  - Toxic draw stations – banned 1972
  - Place baits – banned 1972
  - Sodium cyanide ejectors – banned 1972-1975, 1998  
– prohibited by USDI in 1979

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### Coyote Control Methods - CA

2000

- Shooting
- Foothold traps – banned 1998
- Snares
- Toxic draw stations
- Place baits
- Sodium cyanide ejectors

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### Non-Lethal Coyote Predation Reduction Methods

- Exclusion (fencing, night penning)
  - Electric fence
- Pasture / Range Selection
- Shed/Barn lambing
- Frightening
- Guard Animals

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### Coyote Control Methods - CA

2000

- Shooting
- Foothold traps – banned 1998
- Snares
- Toxic draw stations
- Place baits
- Sodium cyanide ejectors



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### Survey of CA Sheep Ranchers

Most critical concerns to ranchers regarding sustainability, i.e., “most important production problem”

Predation (50% of ranchers)  
 Property Taxes (15% of ranchers)  
 Market Prices (13% of ranchers)

after Nesse et al. (1976)

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### Methods of Lethal Coyote Control and Percentage of Coyotes Taken

by Federal Wildlife Damage Control FY 1971 (U.S.)

37.5%	Foothold traps
27.3%	Sodium cyanide ejectors
9.1%	Aerial hunting
9.0%	Other toxicants
7.0%	Den hunting
6.5%	Ground shooting
3.3%	Snares
0.4%	Use of dogs

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### UC’s Experience at Hopland

1951 – 1965: essentially no coyote loss  
 1965 – 1975: coyote losses common  
 1985: return of mountain lions to area

1990s & 2000s: Loss of ~10-15% of lamb crop annually despite employing many non-lethal measures and all legal lethal methods

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