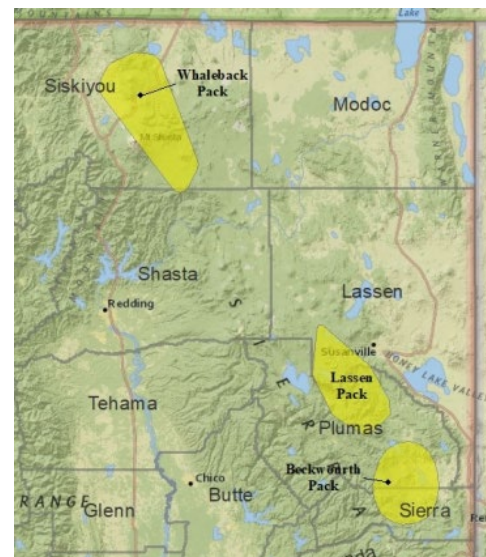


Northern California Wolf Update

Background

Recent history of wolves in California: Since wolf OR-7 arrived from Oregon in December 2011, there have been 4 wolf packs established. Three of these are still active:

1. **Shasta Pack:** Siskiyou County, pack established in spring 2015 and last detected in November 2015. One yearling from the pack remained until May 2016, then dispersed into Nevada.
2. **Lassen Pack:** Lassen and Plumas Counties, 2017-present. First-generation breeding pair produced 5 litters of pups and second-generation breeding pair produced at least 1 litter, the current whereabouts of most unknown.
3. **Whaleback Pack:** Siskiyou County, 2020-present. First litter in spring 2021 (7 pups).
4. **Beckwourth Pack:** Plumas and Sierra Counties, confirmed in 2021. Currently, 3 yearling wolves identified, but limited information about individuals. No official reports of pups.



Approximate area of known resident wolf territories as of October 2021.¹

Since 2011, 7 GPS-collared wolves (i.e., not belonging to a specific pack) have officially dispersed into California from Oregon. The majority of wolves are not collared; therefore, for every known collared individual, there are likely additional unknown wolves. For a detailed description and background of wolves in California, visit the [California Department of Fish and Wildlife \(CDFW\) Gray Wolf webpage](#)¹.

Reported and investigated wolf depredations in CA (November 2021 update): The following data is a summary compiled from depredations reported by CDFW¹:

- Since 2017, there have been 28 confirmed kills and 10 confirmed injuries of cattle due to wolf depredations.
- Confirmed depredations include 6 mature cows, 12 large calves or yearlings (450 – 700 lbs.), and 20 small calves (< 250 lbs.).
- All confirmed depredations against large calves, yearlings, or mature cows have involved multiple wolves, most often members of the Lassen Pack. All known kills by individual lone wolves—such as OR 54, OR 103, and others—have been small calves.
- 84% (32/38) of the confirmed depredations have occurred between mid-July through mid-November. In addition, CDFW has declared 6 depredations as “probable” and 9 as “possible” due to wolves.

Given the strong seasonality of reported attacks and confirmed depredations, livestock protection tools and wolf avoidance strategies are most critical mid-summer through November. Ranches operating outside pack areas are most likely to lose young calves, while those with livestock within pack areas may be more prone to losing larger calves or cows to multiple wolves hunting together.

California’s wolf policy: Wolves are listed under the California Endangered Species Act (CESA), which provides for complete protection². While wolves can be “hazed”³ when near livestock, they cannot be physically harmed. While other states with wolves have incorporated lethal control of “problem” wolves, as well as state managed hunting seasons (in some cases), *there are currently no lethal management options for wolves in California*. The [California wolf plan](#)⁴ outlines CDFW’s process for gray wolf conservation and management. Although the plan provides for lethal control once a population threshold is reached, the CESA listing prohibits any lethal take.

Compensation as a mitigation tool:

- **Direct Compensation:** Several western states have developed compensation programs to offset the impact of livestock killed by wolves (and other predators, in some cases). Depending on the program, direct compensation has been provided for both confirmed and probable wolf depredations.
 - Example programs: [Washington](#)⁵ and [Montana](#)⁶
- **Pay-for-Presence:** Typically, pay-for-presence programs are designed to compensate livestock producers for indirect losses associated with wolves in exchange for giving up the ability to use lethal control except in extreme circumstances. Since lethal control is not currently an option in California, this program will focus more on acknowledging the indirect losses associated with stress due to proximity to known wolf activity (including lower weight gains and lower conception rates, and higher labor costs).
 - Example program: Mexican Gray Wolf in [New Mexico](#)⁷
- **Resolutions:** Resolutions reflect the stance of an organization on a particular issue and are helpful for directing future policy-related work.
 - California Cattlemen's Association Wolf Compensation Policy- see current year's Policy Resolutions. [2020-2021 Policy Resolutions](#)⁸, p. 86.
 - California Wool Growers Association Wolf Management Policy- see current year's Policy Book. [2019-2020 Policy Book](#)⁹, p. 13.
 - [Lassen County Board of Supervisors Resolution, November 17, 2020](#)¹⁰.
 - California Farm Bureau Federation: *California Farm Bureau supports the development, in coordination with producers, of a wolf management plan that balances the needs of public safety, private property and the environment. We support the use of various means to protect livestock and crops from loss and damage. We continue to coordinate with state and federal agencies, producers, property owners, and environmental groups on this important issue, and encourage active information-sharing and transparency.*

What's happening now?

CDFW funding for compensation and deterrence: California's 2021-22 state budget included \$3 million to develop a pilot program for compensating ranchers for depredations and indirect impacts associated with wolves. These funds must be spent by June 30, 2026. The state budget also includes an additional \$7 million to help reduce wildlife conflict, which could fund on-ranch, non-lethal predator protection tools (for wolves as well as other predators). Funds will be administered by CDFW.

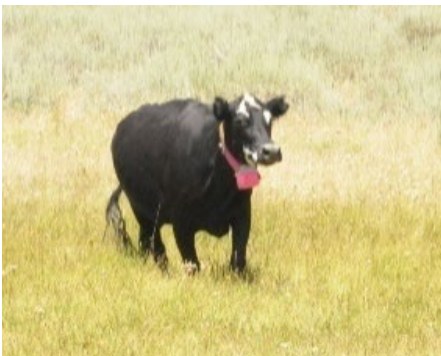
- **Interim Program:** CDFW is creating an interim program that will retroactively compensate producers for confirmed direct losses that have occurred since September 23, 2021 (when funding was authorized). This will be replaced with the program developed by the Rural County Representatives of California (RCRC) Work Group, described below.
- **RCRC Work Group and producer input:** The RCRC is facilitating a Work Group that will develop mechanisms for a more comprehensive pilot compensation program. This Work Group includes representatives from producer organizations (CCA, CWGA, CFBF), individual ranchers, local elected officials, USDA Wildlife Services, UCCE, CDFW, Defenders of Wildlife, and the Center for Biological Diversity. A Drafting Subcommittee is developing a draft compensation program that can include compensation for direct depredation, wolf-presence related impacts, and funding for compensation/reimbursement for non-lethal depredation tools.
- **Local and regional meetings:** We recognize the importance for producers to have additional opportunities for input as these programs are defined. In addition to having direct input into the Work Group process, ranchers have provided priorities and direction via locally organized discussions facilitated by UCCE and county producer organizations. Additionally, UC Davis and producer organizations hosted a joint-regional meeting for producers from currently wolf affected areas to discuss key components of a compensation program.

Current UCCE research and demonstration projects: there are several research projects underway to study wolf management techniques specifically for California ranchers. More information about each project can be found in *Additional Resources* below.

- **Predator Interactions with Livestock Guardian Dogs (LGD) / LGD Behavior:** Using game cameras and GPS collars on LGDs and livestock, we are assessing impacts and effectiveness of LGDs for short and long-term livestock protection.
- **Bonding LGDs to Cattle:** We are documenting techniques for bonding LGD pups with cattle in a real-world production setting (right).
- **LGD Bonding Survey:** Bonding LGDs to livestock is critical to the long term success and cost-effectiveness of this predator protection tool. Therefore, we are tracking the bonding process on multiple operations via an online survey.
- **Demonstration of GPS Collars on Range Cattle:** We are monitoring grazing distribution on extensive landscapes to develop data-driven management techniques specifically for rangeland livestock operations (below, left).
- **Carcass Composting:** Bone piles and dead animals are a significant attractant for wolves and other predators. We are demonstrating the effectiveness of livestock mortality composting as an economical and useful tool to decrease livestock and predator interactions especially where other disposal options are not available (below, center).
- **Indirect Economic Impacts of Wolf Presence:** Using cattle GPS collars, game cameras (to document wolf presence), and hair cortisol testing (to measure stress levels), this project will consider differences in productivity (body condition scores, conception rates, calf/yearling sales weights), grazing behavior, and stress levels across herds in and outside wolf activity areas in order to estimate the indirect economic costs of wolf presence.



Bonding LGDs to cattle, Modoc County.



Demonstrating use of GPS collars on range cattle, Plumas County.



Carcass composting research, Intermountain Research and Extension Center, Siskiyou County.



Field day demonstrating fladry use, Lassen County.

Next Steps

1. Discussions about the specifics of the pilot compensation program are in process and producer input is valuable. **Contact your producer organization representatives for specific questions and/or input.**
 2. **Review and input:** The RCRC Drafting Subcommittee will develop a draft compensation program to be reviewed by the full RCRC Work Group. Once the Work Group is in agreement, the compensation program will be forwarded to CDFW for them to consider for formal adoption.
- **New and continuing research:** UCCE and partnering producer organizations will continue to collaborate with ranchers, industry groups, agencies, policy makers, and other vested stakeholders to implement and disseminate research specific to the management of gray wolves in California.

In addition, UCCE continues to lead producer and agency **workshops and field days** demonstrating the application of a variety of nonlethal livestock protection tools, including LGDs, electric fencing, turbo fladry, alarm and scare devices, carcass removal, and kill site preservation (p. 3, right).

Additional Resources

Visit the UC Rangelands [Livestock-Predator Interactions Information Hub](#)¹¹ for information about non-lethal tools. Key, California-specific publications are linked below (or visit hub for access):

- [Livestock Protection Tools](#)
- [Turbo Fladry](#)
- [Electric Fence](#)
- [Livestock Carcass Management](#)
- [Livestock Guardian Dogs \(LGDs\)](#)
- [Selecting an LGD puppy](#)
- [Trail Cameras](#)
- [3 steps to take when finding a livestock predator kill](#)
 - *Contact your local advisor for county-specific information*

Sources

1. CDFW Gray Wolf webpage: <https://bit.ly/CDFWwolfwebpage>
2. CDFW Threatened and Endangered Species webpage: <https://bit.ly/CDFWcesa>
3. CDFW tools to discourage wolf presence: <https://bit.ly/CDFWtools>
4. CDFW Wolf Management Plan, part 1: <https://bit.ly/CDFWplan1>; part 2: <https://bit.ly/CDFWplan2>
5. Washington State Wolf Conservation and Management Plan: <https://bit.ly/WDFWplan>
6. Montana Wolf Conservation and Management Planning Document: <https://bit.ly/MFWPplan>
7. Mexican Wolf/Livestock Coexistence Council 2014 Strategic Plan: <https://bit.ly/MWLCCplan>
8. California Cattlemen’s Association 2020-2021 Policy Resolutions: <https://bit.ly/CCApolicy>
9. California Wool Growers Association Membership Resolutions: <https://bit.ly/CWGApolicy>
10. Lassen County Board of Supervisors Gray Wolf Resolution: <https://bit.ly/Lassenpolicy>
11. UC Rangelands Livestock-Predator Hub: <https://bit.ly/UCRhub>

Have questions or ideas? Contact Cooperative Extension Fact Sheet Authors:

David Lile, Lassen County: dfile@ucanr.edu | (530)251-6673

Dan Macon, Nevada-Placer-Sutter-Yuba Counties: dmacon@ucanr.edu | (530)899-7385

Tina Saitone, Livestock and Rangeland Economics Specialist, UC Davis: saitone@primal.ucdavis.edu | (530)752-1870

Tracy Schohr, Plumas-Sierra-Butte Counties: tkschohr@ucanr.edu | (916)716-2643

Laura Snell, Modoc County: lksnell@ucanr.edu | (530)233-6400

Grace Woodmansee, Siskiyou County: gwoodmansee@ucanr.edu | (530)842-2711