

# Wolf Program Update

January 2025

Reid DeWalt  
Deputy Director of Policy  
Colorado Parks and Wildlife



# Agenda

- Status of Wolves in Colorado - One Year into Restoration
- 2025 Capture & Release Preparation
- CPW Conflict Minimization Program Expansion
  - Chronic Depredation
  - Site Assessments
  - Range Riding
  - Carcass Management
  - Conflict Minimization Effectiveness
  - Depredation Response
  - Communications
- Questions



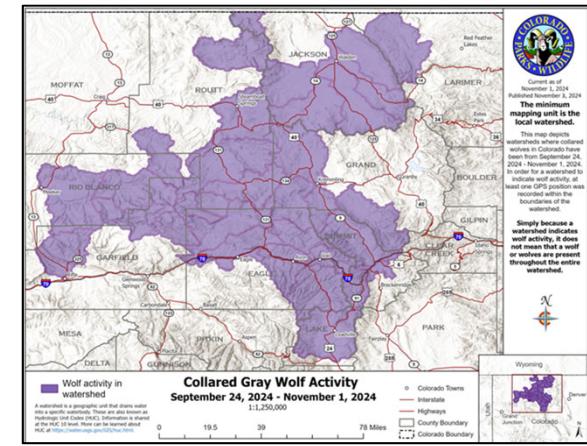
# Status of Wolves in Colorado

## One Year into Restoration

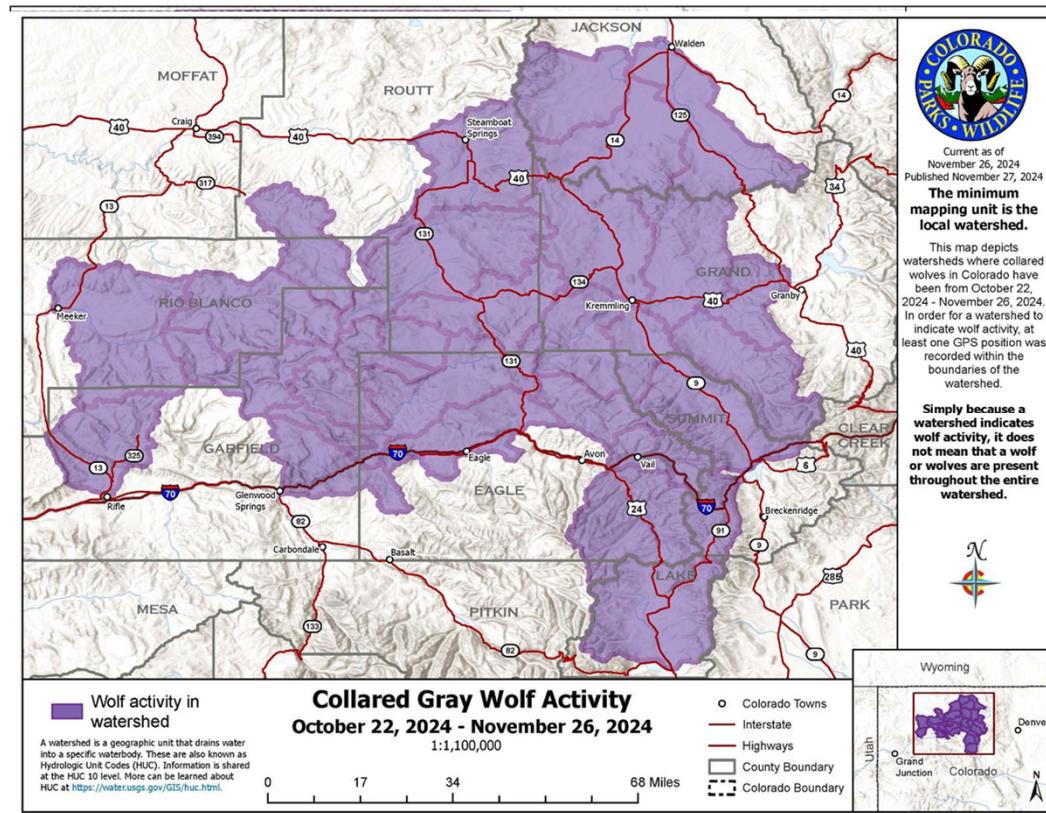


# Population and Monitoring

- Nine wolves are currently being monitored by CPW biologists (8 adults, 1 pup)
- Five wolves currently held at a non-disclosed location (1 adult, 4 pups)
- Wolves are monitored through sightings, visual confirmations and both VHF and GPS collar capabilities.
- CPW publishes a monthly Gray Wolf Activity Map to our website on the fourth Wednesday of every month to inform the public of wolf movements by watershed and notable updates.
- CPW field staff inform local area producers when wolves are spending time in an area and work to establish site assessments to identify and deploy deterrence measures.



# Wolf Activity



# LIVE LIFE OUTSIDE

# 2025 Capture & Release Preparation



LIVE LIFE  
OUTSIDE

# 2025 Release Season

- Up to 15 Wolves will be translocated from British Columbia to Colorado January 2025.
- CPW will be responsible for all costs associated with capture and transport.
- Animals will be examined and provided treatments and prevention for possible diseases and infections at the source sites.
- Collars will be secured to inform CPW staff on the behaviors and survival of reintroduced animals.
- Animals will be transported in aluminum crates to Colorado by airplane.



# 2025 Release Season

- CPW will not translocate wolves from B.C. that are from packs currently involved in situations of repeated livestock depredations.
- Animals will be released at select sites as soon as possible once they arrive in the state.
- Additional wolves will create the environment for more efficient management of wolf-livestock conflict:
  - Leading to pack formation, creating wolf territories
  - Establishing predictable travel patterns and behaviors
  - Allowing CPW and partners to more effectively minimize conflict through site assessments and deployment of appropriate deterrence methods



# 2025 Release Season

- CPW has implemented a communications plan to inform stakeholders as we prepare for this year's release season. Community meetings have been held throughout November and December in counties where releases are possible.
- CPW and our partners have been working throughout the year to increase staff, funding, tools and communication for minimizing wolf-livestock conflict.
- A greatly expanded Conflict Minimization Program is the result of these efforts. We'll go into the details of this program now.



# Conflict Minimization Program Expansion



LIVE LIFE  
OUTSIDE

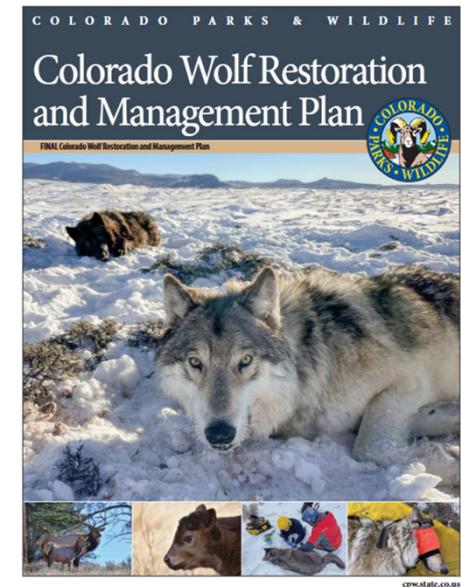
# Chronic Depredation



LIVE LIFE  
OUTSIDE

# Chronic Depredation - Background

- Colorado Wolf Restoration and Management Plan does not provide a specific definition of Chronic Depredation, giving discretion to CPW Program Managers to make a case-by-case determination.
- CPW received social, legislative and political pressure to develop a quantitative definition of Chronic Depredation.
- Engagement with the Ad Hoc Working group was structured to consider how to define Chronic Depredation, and then to determine what actions are appropriate once that definition is met.



# Chronic Depredation - ESA Status

Lethal take of a federally listed species is prohibited under the ESA

Development of the 10(j) Rule that establishes the population of wolves in Colorado as “Nonessential, experimental” relaxes these take prohibitions



# Chronic Depredation - Definitions

“Chronic Depredation” means three or more depredation events caused by the same wolf or wolves within a 30-day period, provided there is clear and convincing evidence that at least one of the depredation events was caused by wolves.

“Depredation event” means a 24-hour period in which the Division determines by a preponderance of the evidence that a wolf or wolves caused physical trauma resulting in injury or death to a producer’s livestock or working dogs. The Division will find the preponderance of the evidence standard is met when the evidence shows a wolf or wolves more likely than not caused physical trauma resulting in injury or death to the producer’s livestock or working dogs.

Clear and convincing is a higher standard than the preponderance of evidence standard that is typically used for other game damage.

Clear and convincing evidence leaves no room for serious doubt that a wolf or wolves caused physical trauma resulting in injury or death to livestock or working dogs.

The other two events could meet either “clear and convincing” or “preponderance of evidence” standards.



# Chronic Depredation - 10(j) Rule

The Service or Designated Agent may carry out harassment, non-lethal control measures, relocation, placement in captivity, or lethal control of depredating wolves.

The Service or Designated Agent will consider:

1. Evidence of wounded livestock or working dogs or remains of livestock or working dogs that show that the injury or death was caused by wolves, or evidence that wolves were in the act of attacking livestock or working dogs;
1. The likelihood that additional wolf-caused losses or attacks may occur if no control action is taken;
1. Evidence of unusual attractants or artificial or intentional feeding of wolves; and
1. Evidence that animal husbandry practices recommended in approved allotment plans and annual operating plans were followed.

# Chronic Depredation - PWC Regs

PWC Regulations require Division to consider 4 factors

- A. documented repeated depredation and harassment of a producer's livestock or working dogs caused by the wolf, wolves, or pack targeted;
- B. use of a variety of nonlethal conflict minimization materials and techniques;
- C. likelihood that additional wolf-related depredation will continue if lethal control is or is not implemented; and
- D. unintentional or intentional use of attractants that may be luring or baiting wolves to the location.

If, after considering these factors, the Division concludes lethal removal "is appropriate under the circumstances," the Division or federal agents will lethally remove the depredating wolf or wolves. If state and federal agencies do not have the capacity to lethally remove the depredating wolf or wolves, the Division may issue a chronic depredation permit if additional criteria are satisfied.



# Site Assessments



# Site Assessments- State Program (available since May 2023)

- Agencies are offering free and voluntary Wolf Site Assessments to livestock owners for viable conflict minimization tools/ techniques.
- Requested any time by a livestock owner and may be either proactive or reactive.
- Enhances communications and relationships, identifies viable conflict minimization options for single operations, provides details on the use and maintenance of each recommendation.
- Implementation of practices will be reviewed as agency management makes decisions in cases of chronic depredation.



# Site Assessments - Process

- Livestock owner contacts trained staff or fills out Pre-site Assessment form.
- Trained staff prioritize requests based on greatest need (ongoing).
- Staff contact interested livestock owner to set a date and time to conduct assessment.
- Assessment is completed, producer receives a copy of of form.
- Only acts as a “pre-game, game plan” in case risk increases and lays out viable proactive options, and permitted high effort options.
- Permits agency to implement “high effort” options in appropriate scenarios. **“Depredation Response”**



# Site Assessments - Pre-Assessment Questionnaire

- May be filled out at anytime to initiate the process.
- A Wolf Site Assessment document is completed in collaboration with the producer which outlines viable options for that location and captures existing efforts.
- If appropriate, resources and materials are deployed through CPW, CDA, WS, or NRCS.
- **PROACTIVE**



# Site Assessments- Hard Copy/Digital Options

**Wolf Conflict Site Assessment**

Proactive-  Reactive-

**MATERIALS WAIVER -required if livestock owner waives recommended tools and techniques**

I waive delivery of conflict minimization tools- (Initial)  
 I will implement conflict minimization tools/techniques- (Initial)

**Conflict Minimization Materials/Techniques**

| Viable option                    | Recommended by (CPW- <input type="checkbox"/> CDA- <input type="checkbox"/> WS- <input type="checkbox"/> ) | Layout-Required  |
|----------------------------------|--|--|
| Eladry                           |  | Calving- <input type="checkbox"/> Orrab- <input type="checkbox"/> Summer Range- <input type="checkbox"/> |
| Scare devices                    |  |  |
| Electric netting                 |  |  |
| Carcass management               |  | # of linear feet- perimeter <input type="checkbox"/>   |
| Livestock Guardian dog           |  | # of gates needed <input type="checkbox"/>   |
| Range Riding                     |  |  |
| High-risk Landscaping management |  |  |
| Management Intensive Grazing     |  |  |
| Herd Composition                 |  |  |
| Injurious NL Hazing (permit)     |  |  |

**Core Area to Secure (calving/lambing)** Sketch out or attach map of perimeter of project area. Note the placement of gates, corners, water crossings, existing fences, and terrain

**CONTACT PERSON- NAME** \_\_\_\_\_ **PHONE** \_\_\_\_\_

**SIGNATURE** \_\_\_\_\_ **EMAIL** \_\_\_\_\_

**AGENCY CONTACT** \_\_\_\_\_ **PHONE** \_\_\_\_\_

**SIGNATURE** \_\_\_\_\_ **EMAIL** \_\_\_\_\_

**Example**

1. Have you had past wolf depredations, and if so when (how long ago, what time of year what was depredated)?
  - a. No depredation ever /Localized wolf presence/past depredations/past depredation within year and localized wolf activity
2. Are you currently implementing conflict minimization tools or techniques listed in the resource guide (which ones)?
  - a. Attractant present/No/Yes/low effort tools/high effort tools
3. Have you implemented any tools/techniques not listed in the resource guide?
  - a. Yes or no, and what; Low effort tools/ High effort tools/
4. Have you had wolf depredations (dep.) while implementing tools or techniques in the past?
  - a. Depredation but no efforts/Dep with low effort/ Dep with high effort/Dep with high effort and wolf localization
5. What do you do with your animal loss?
  - a. Open pit in pasture/pit separate from livestock/bury/secure/remove/
6. What time/s of year are you most concerned about?
  - a. Year round/range pair out/calving
7. To the nearest 50 animals, roughly how many livestock are we trying to protect?
  - a. Predicted direct loss <25%( $1000 + (2\% - 2\% \times 50\%)$ )/(2% - 7% $100 + (7\% \times <100)$ )
8. What degree of involvement are you comfortable with?
  - a. Does not secure attractants/adds attractants/willing to implement low effort tools/allows staff to conduct appropriate effort/in timely fashion/willing to collaborate with staff to implement appropriate effort/willing to collaborate with anyone to implement appropriate effort
9. Is there confirmed wolf activity?
  - a. No/low/regular/high
10. Has the producer been properly trained on loaned equipment/techniques?
  - a. Yes/No
11. Are environmental factors conducive to successful deployment of requested tools/techniques?
  - a. Ground conditions; grass, sandy, gravel, dry, etc... seek consultation
  - b. Unfavorable conditions/low/medium/medium high/high
12. If loaned to this producer before, what condition have we received equipment back in?
  - a. Not loaned/Excellent/good/fair/poor/damaged
13. Eladry- is someone going to be able to correctly maintain it at minimum 1 time each week?
  - a. Yes/No (producer or agency)
14. How likely is damage to recur?
  - a. Not Likely= No Known Presence; Low=Infrequent presence, Infrequent Travel Route, Recommended Deterrents deployed; Medium= Known Travel Route, Pack Territory; High=Den/Rendezvous site, Unsecured Dead Pit

# Site Assessments- Rollout

- 60 - classified as completed or pending completion
- Interagency Training
  - Producer assisted Field training (3 locations).
- Interagency development over a two month process
- Internal Training
  - Local training at Area meetings
- Livestock owner expectations
  - Collaborative process with trained staff
- Contingent on producer permission



# Range Riding



LIVE LIFE  
OUTSIDE

# Range Riding in the Old West

- Range Riding has been used to improve livestock husbandry and reduce conflict for hundreds of years.
- Benefits:
  - Monitor livestock health
  - Locate and return lost livestock
  - Early detection and deterrence of predators
  - Locate carcasses quickly
  - Real time understanding of the range



# Range Riding Today

- Range Riding is currently being used in nearly every western state with wolves, in some capacity.
  - Most riding programs are community based
- Colorado will be one of three states with its own state sponsored program.
  - Washington & Arizona are the others
- Range Riding has been shown to reduce the potential for predator conflict, and foster better communication between wildlife agencies and working ranches.



LIVE LIFE  
OUTSIDE



# State of Colorado Range Riding Program



- CPW and CDA plan to contract up to 12 Range Riders to support livestock producers and reduce the potential for predator conflicts.
- CPW and CDA plan to contract up to 2 riders for each of the following counties for the 2025 season:
  - Jackson, Grand, Routt, Eagle, Garfield, Pitkin, Summit, Rio Blanco, and Moffat
- 5 month season: April - October
  - 2-4 riders will be brought on early to help during calving and lambing
- Compensation is \$30/hour, not to exceed \$300/DAY, and \$6,600/month.
- Contracted Range Riders must provide their own equipment.
  - Truck, trailer, horses, ATV/UTV, etc.
- Recommendations from local stockgrower or cattlemen groups are highly encouraged.



# State of Colorado Range Riding Program



- CPW & CDA will host a one day early season Range Rider training at the end of January and a full 4 day training the last week of April.
  - While spaces are limited we hope to include anyone who may act as a range rider within the state in an official capacity.
- Range riders will be expected to provide human presence and will serve as a first line of detection for conflict while on range.
- At the conclusion of the season we expect to meet with producers the range riding program served to discuss the successes and challenges of the program.

# Range Riding - Additional Resources

- Interested parties are encouraged to fill out our Range Rider Interest form.
  - Over 90 people have already submitted this form.
- In addition to the CPW and CDA Range Riding Program:
  - The USDA NRCS program reimburses eligible ranches for their own range rider.
  - NGO groups are actively working with producers to establish range riding programs in conjunction with CPW.



# Depredation Response



LIVE LIFE  
OUTSIDE

# CPW Wolf Depredation Response Operations

## Current Capacity

- Local District Wildlife Managers (DWM)
- Regional Wildlife Damage Specialists (WDS)
- Statewide Wolf Conflict Coordinator
- CDA Non-lethal Specialists
- Non-Governmental Organizations (NGOs)



## Future Capacity

- Additional Wildlife Damage Specialists
- Statewide Wolf Damage and Range Rider Program Coordinator
- Collaborative Agreements/MOU's Partner Agencies



# Level 1 Response - Information Gathering

- Wolves in the area
- Livestock producer engagement to assess depredation risk and vulnerabilities
- Site assessment conducted in collaboration with landowner and producer
- Understand current wolf activity
- Outline minimization tools/efforts to prevent, reduce or stop conflict



Wolf Track

# Level 2 Response - Actions

- Tools and deterrents deployed based on site assessment:
  - Fladry/scare devices
  - Range Rider
  - Camera monitoring
  - Injurious non-lethal hazing permit
  - Carcass/attractant management



Deploying Fladry Jackson County, CO

# Level 3 Response - Escalated Action

- Increased onsite presence by CPW, partner agencies and/or NGOs
- All tools and techniques identified in the site assessment and considered viable, reasonable, and effective will be deployed with permission
- Increased wolf activity monitoring



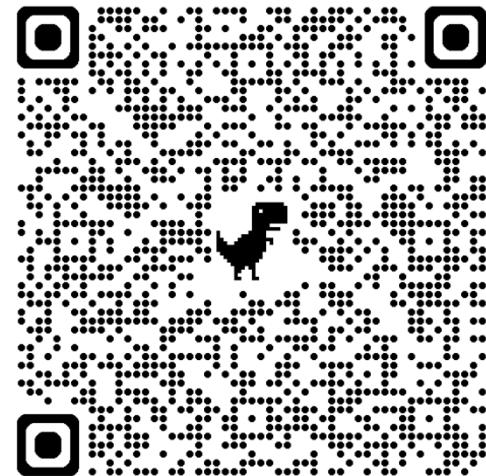
Telemetry Monitoring Grand County, CO

# Carcass Management



# Carcass Management

- CDA is talking with other states and staff have visited Montana and Arizona to learn about their programs.
- Staff created a one-page Best Management Practices (BMP) document outlining good, better and best practices.
- Carcass Management does not always mean carcass removal.



# Carcass Management

- CPW, CDA, Wildlife Services, and CSU Extension staff have held 9 public outreach events with approximately 250 attendees.
  - Walden, Craig, Steamboat Springs, Meeker, Kremmling, Glenwood Springs, Gunnison, Gypsum, Aspen
  - More outreach events will be held in early 2025.



# Carcass Management

- Through the state's grant program, six carcass management projects have been approved for funding.
  - Projects include incentives to bury carcass pits, payments for hauling dead livestock to local landfill, and hiring a contractor to collect and remove livestock carcasses.
  - CDA will closely monitor these projects and may scale up one or more of these programs.



# Conflict Minimization Effectiveness



LIVE LIFE  
OUTSIDE

# Fladry and Turbo Fladry

## Foundational Research

Musiani, M., and E. Visalberghi. 2001. Effectiveness of fladry on wolves in captivity. *Wildlife Society Bulletin* 29:91-98.

Musiani, M., C. Mamo, L. Boitani, C. Callaghan, C. C. Gates, L. Mattei, E. Visalberghi, S. Breck, and G. Volpi. 2003. Wolf depredation trends and the use of fladry barriers to protect livestock in western North America. *Conservation Biology* 17:1538-1547.

Shivik, J. A. 2006. Tools for the edge: What's new for conserving carnivores. *Bioscience* 56:253-259.

Lance, N. J., S. W. Breck, C. Sime, P. Callahan, and J. A. Shivik. 2010. Biological, technical, and social aspects of applying electrified fladry for livestock protection from wolves (*Canis lupus*). *Wildlife Research* 37:708-714.

Young, J. K., E. Miller, and A. Essex. 2015. Evaluating Fladry Designs to Improve Utility as a Nonlethal Management Tool to Reduce Livestock Depredation. *Wildlife Society Bulletin* 39:429-433.

Iliopoulos, Y., C. Astaras, Y. Lazarou, M. Petridou, S. Kazantzidis, and M. Waltert. 2019. Tools for co-existence: fladry corrals efficiently repel wild wolves (*Canis lupus*) from experimental baiting sites. *Wildlife Research* 46:484-498.

Young, J. K., J. Draper, and S. Breck. 2019. Mind the gap: Experimental tests to improve efficacy of fladry for nonlethal management of coyotes. *Wildlife Society Bulletin* 43:265-271.

Bruns, A., M. Waltert, and I. Khorozyan. 2020. The effectiveness of livestock protection measures against wolves (*Canis lupus*) and implications for their co-existence with humans. *Global Ecology and Conservation* 21.

Windell, R. M., L. L. Bailey, J. K. Young, T. M. Livieri, D. A. Eads, and S. W. Breck. 2022. Improving evaluation of nonlethal tools for carnivore management and conservation: evaluating fladry to protect an endangered species from a generalist mesocarnivore. *Animal Conservation* 25:125-136.



# Guard Animals

## Foundational Research

Linhart, S. B., R. T. Sterner, T. C. Carrigan, and D. R. Henne. 1979. KOMONDOR GUARD DOGS REDUCE SHEEP LOSSES TO COYOTES - PRELIMINARY EVALUATION. *Journal of Range Management* **32**:238-241.

Green, J. S., and R. A. Woodruff. 1983. THE USE OF 3 BREEDS OF DOG TO PROTECT RANGELAND SHEEP FROM PREDATORS. *Applied Animal Ethology* **11**:141-161.

Andelt, W. F. 1992. EFFECTIVENESS OF LIVESTOCK GUARDING DOGS FOR REDUCING PREDATION ON DOMESTIC SHEEP. *Wildlife Society Bulletin* **20**:55-62.

Andelt, W. F., and S. N. Hopper. 2000. Livestock guard dogs reduce predation on domestic sheep in Colorado. *Journal of Range Management* **53**:259-267.

Smith, M. E., J. D. C. Linnell, J. Odden, and J. E. Swenson. 2000. Review of methods to reduce livestock depredation: I. Guardian animals. *Acta Agriculturae Scandinavica Section a-Animal Science* **50**:279-290.

Gehring, T. M., K. C. VerCauteren, and J. M. Landry. 2010. Livestock Protection Dogs in the 21st Century: Is an Ancient Tool Relevant to Modern Conservation Challenges? *Bioscience* **60**:299-308.

Gehring, T. M., K. C. VerCauteren, M. L. Provost, and A. C. Cellar. 2010. Utility of livestock-protection dogs for deterring wildlife from cattle farms. *Wildlife Research* **37**:715-721.

VerCauteren, K., M. Lavelle, T. M. Gehring, J. M. Landry, and L. Marker. 2014. Dogs as mediators of conservation conflicts.

Allen, L. R., N. Stewart-Moore, D. Byrne, and B. L. Allen. 2017. Guardian dogs protect sheep by guarding sheep, not by establishing territories and excluding predators. *Animal Production Science* **57**:1118-1127.

Scasta, J. D., B. Stam, and J. L. Windh. 2017. Rancher-reported efficacy of lethal and non-lethal livestock predation mitigation strategies for a suite of carnivores. *Scientific Reports* **7**.

Kinka, D., and J. K. Young. 2018. A Livestock Guardian Dog by Any Other Name: Similar Response to Wolves Across Livestock Guardian Dog Breeds. *Rangeland Ecology & Management* **71**:509-517.

Kinka, D., and J. K. Young. 2019. Evaluating Domestic Sheep Survival with Different Breeds of Livestock Guardian Dogs. *Rangeland Ecology & Management* **72**:923-932.

Ivascu, C. M., and A. Biro. 2020. Coexistence through the Ages: The Role of Native Livestock Guardian Dogs and Traditional Ecological Knowledge as Key Resources in Conflict Mitigation between Pastoralists and Large Carnivores in the Romanian Carpathians. *Journal of Ethnobiology* **40**:465-482.

Mosley, J. C., B. L. Roeder, R. A. Frost, S. L. Wells, L. B. McNew, and P. E. Clark. 2020. Mitigating Human Conflicts with Livestock Guardian Dogs in Extensive Sheep Grazing Systems. *Rangeland Ecology & Management* **73**:724-732.

Spencer, K., M. Sambrook, S. Bremner-Harrison, D. Cilliers, R. W. Yarnell, R. Brummer, and K. Whitehouse-Tedd. 2020. Livestock guarding dogs enable human-carnivore coexistence: First evidence of equivalent carnivore occupancy on guarded and unguarded farms. *Biological Conservation* **241**.

Kinka, D., J. T. Schultz, and J. K. Young. 2021. Wildlife responses to livestock guard dogs and domestic sheep on open range. *Global Ecology and Conservation* **31**.

Lieb, Z., B. Tumurbaatar, B. Elfström, and J. Bull. 2021. Impact of livestock guardian dogs on livestock predation in rural Mongolia. *Conservation Science and Practice* **3**.

Volski, L., A. McInturff, K. M. Gaynor, V. Yovovich, and J. S. Brashares. 2021. Social Effectiveness and Human-Wildlife Conflict: Linking the Ecological Effectiveness and Social Acceptability of Livestock Protection Tools. *Frontiers in Conservation Science* **2**.

# Scare Devices (Light and Sound)

## Foundational Research

Linhart, S. B., R. T. Sterner, G. J. Dasch, and J. W. Theade. 1984. EFFICACY OF LIGHT AND SOUND STIMULI FOR REDUCING COYOTE PREDATION UPON PASTURED SHEEP. *Protection Ecology* 6:75-84.

Bomford, M., and P. H. Obrien. 1990. SONIC DETERRENTS IN ANIMAL DAMAGE CONTROL - A REVIEW OF DEVICE TESTS AND EFFECTIVENESS. *Wildlife Society Bulletin* 18:411-422.

Linhart, S. B., G. J. Dasch, R. R. Johnson, J. D. Roberts, and C. J. Packham. 1992. ELECTRONIC FRIGHTENING DEVICES FOR REDUCING COYOTE PREDATION ON DOMESTIC SHEEP - EFFICACY UNDER RANGE CONDITIONS AND OPERATIONAL USE. Pages 386-392 in 15th Vertebrate Pest Conf, Newport Beach, Ca.

Linhart, S. B., G. J. Dasch, R. R. Johnson, J. D. Roberts, and C. J. Packham. 1992. Electronic frightening devices for reducing coyote predation on domestic sheep: efficacy under range conditions and operational use. *Proceedings of the Vertebrate Pest Conference* 15:386-392.

Smith, M. E., J. D. C. Linnell, J. Odden, and J. E. Swenson. 2000. Review of methods to reduce livestock depredation II. Aversive conditioning, deterrents and repellents. *Acta Agriculturae Scandinavica Section a-Animal Science* 50:304-315.

Breck, S. W., R. Williamson, C. Niemeyer, and J. A. Shivik. 2002. Non-lethal radio activated guard for deterring wolf depredation in Idaho: Summary and call for research. Pages 223-226 in 20th Vertebrate Pest Conference, Reno, Nv.

Shivik, J. A., A. Treves, and P. Callahan. 2003. Nonlethal techniques for managing predation: Primary and secondary repellents. *Conservation Biology* 17:1531-1537.

Eklund, A., J. Vicente Lopez-Bao, M. Tourani, G. Chapron, and J. Frank. 2017. Limited evidence on the effectiveness of interventions to reduce livestock predation by large carnivores. *Scientific Reports* 7.

Khorozyan, I., and M. Waltert. 2019. How long do anti-predator interventions remain effective? Patterns, thresholds and uncertainty. *Royal Society Open Science* 6.

Ohrens, O., C. Bonacic, and A. Treves. 2019. Non-lethal defense of livestock against predators: flashing lights deter puma attacks in Chile. *Frontiers in Ecology and the Environment* 17:32-38.

Bruns, A., M. Waltert, and I. Khorozyan. 2020. The effectiveness of livestock protection measures against wolves (*Canis lupus*) and implications for their co-existence with humans. *Global Ecology and Conservation* 21.

Hall, K. J., and P. A. Fleming. 2021. In the spotlight: Can lights be used to mitigate fox predation on a free-range piggery? *Applied Animal Behaviour Science* 242.

Smith, B. P., N. B. Jaques, R. G. Appleby, S. Morris, and N. R. Jordan. 2021. Automated shepherds: responses of captive dingoes to sound and an inflatable, moving effigy. *Pacific Conservation Biology* 27:195-201.

Lorand, C., A. Robert, A. Gastineau, J.-B. Mihoub, and C. Bessa-Gomes. 2022. Effectiveness of interventions for managing human-large carnivore conflicts worldwide: Scare them off, don't remove them. *Science of the Total Environment* 838.

Bott C.A., S.W. Breck, J.K. Young. 2024. Livestock Flashtags: Evaluating a novel deterrent to reduce livestock depredation. *Human-Wildlife Interactions* (IN PRESS).



# Drones

## Foundational Research

Ranglack, D. H., L. M. McCurdy, P. C. Wolf, and L. Miller. 2024. Drones

as a potential hazing tool to prevent wolf depredations on livestock. *Global Ecology and Conservation* **56**.

More Research Occurring in Oregon



# Human Presence and Range Riding

## Foundational Research

Stone, S. A., S. W. Breck, J. Timberlake, P. M. Haswell, F. Najera, B. S. Bean, and D. J. Thornhill. 2017. Adaptive use of nonlethal strategies for minimizing wolf-sheep conflict in Idaho. *Journal of Mammalogy* 98:33-44.

Versluijs, E., A. Eriksen, B. Fuchs, C. Wikneros, H. Sand, P. Wabakken,

and B. Zimmermann. 2022. Wolf Responses to Experimental Human Approaches Using High-Resolution Positioning Data. *Frontiers in Ecology and Evolution* 10.

Louchouarn, N. X., and A. Treves. 2023. Low-stress livestock handling protects cattle in a five-predator habitat. *PeerJ* 11.

**More Research Occurring in Arizona, New Mexico, Colorado, Washington, Montana, and Oregon.**



LIVE LIFE  
OUTSIDE

# Conflict Minimization Effectiveness

- Site Assessments
- Turbo Fladry
- Range Riding efforts
- Night Watch
- Joint Outreach
- Guard Dogs
- Carcass Management
- Monitoring
- **4 Agencies both state and federal establishing conflict minimization resources for producers relating to:**
  - Carcass management (CDA, CPW, NRCS)
  - Range Riding (CDA, CPW, NRCS)
  - Exclusion resources- Fladry (CPW, NRCS)
  - Exclusion resources- Permanent electric fencing (NRCS)
  - Guard Dog Placement (WS)
  - Monitoring Equipment- Cameras (WS, NRCS)



# Communications



LIVE LIFE  
OUTSIDE

# Communications - Statewide

CPW's statewide communications team has been focused on expanding wolf information channels throughout the first year of wolf restoration:

- Monthly wolf activity maps launched in January
- Wolf depredation page published in April
- New CPW website launched in August with improved wolf site
- Monthly gray wolf newsletter, now nearly 7,000 subscribers



**Stay Informed: Wolf Updates**

**December Collared Gray Wolf Activity Map**

An updated [Collared Gray Wolf Activity Map](#) was released to show where wolves moved around the state this month.

**Wolf Movement Updates:**

- Highlighted watersheds can be disconnected. If wolves are moving quickly enough, a GPS point may not be taken in every watershed they travel through. GPS points are currently taken every 4 hours.
- The counties currently being considered for releasing gray wolves during the 2024-2025 capture and release season are Garfield County, Eagle County and Pitkin County, and all wolves released in 2024-2025 will be collared for tracking.

[Collared Gray Wolf Activity Map](#)

**More Wolf News**

CPW signed a MOU with the Southern Ute Indian Tribe

Discover prior wolf sightings and activity maps

Express Interest in working for the Colorado Range Rider Program

Read the definition of chronic depredation

[Collide Wolf Resources](#)

**Tracking Collared Wolf Activity**

Collared Gray Wolf Activity November 26, 2024, December 22, 2024

Colorado Parks and Wildlife's Collared Gray Wolf Activity Map will help inform the public, recreationists and livestock producers on where wolves have been in the past month.

[Download the Collared Gray Wolf Activity Map](#)

**Notable Updates**

- Highlighted watersheds can be disconnected. If wolves are moving quickly enough, a GPS point may not be taken in every watershed they travel through. GPS points are currently taken every 4 hours.
- The areas currently being considered for releasing gray wolves during the 2024-25 capture and release season are Garfield County, Eagle County and Pitkin County.

**Report the Take of Wolves**

In addition to being federally protected, gray wolves are also a state-endangered species in Colorado, and wolves may not be taken (harmed, harassed, or killed) for any reason other than self-defense. The gray wolf in Colorado is protected by the federal Endangered Species Act (ESA) and state law. Penalties for illegal take can vary and include fines up to \$200,000, jail time and loss of hunting privileges.

Anytime information on the take of an endangered gray wolf in Colorado is encouraged to contact your local CPW office.



**Confirmed Gray Wolf Depredation Information**

Information on confirmed depredations includes date of incident, county where incident occurred, whether a claim has been filed and amount received, and animals involved in the incident.

CPW defines "Confirmed Wolf Depredation" as physical trauma resulting in injury or death.

Claimants are required to file completed claim paperwork within 90 days of CPW's receipt of the claimant's last notice of loss. The claimant may also elect to delay filing their claim up to December 31 for the year when the losses

**Wolves in Colorado**

Prepared for the return of gray wolves to Colorado, CPW is working to ensure the safety of people, pets, and livestock. This page provides information on living with wolves, wolf behavior, and how to report sightings.

# Communications - Statewide

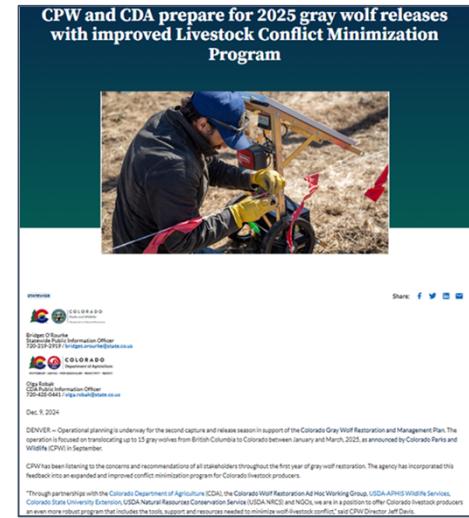
Our statewide Public Information Officers and Social Media teams are also focused on providing a wide range of information related to the Wolf Restoration Program and status, including wolf biology.

- The team is focused on continuous expansion of information via regular updates and predictable information through familiar external and internal channels.
- We work closely with our biologists and local area staff to ensure the information provided is timely and accurate.



Colorado Parks and Wildlife @COParksWildlife · Dec 23  
We've signed a memorandum of understanding with the Southern Ute Indian Tribe regarding our gray wolf restoration efforts and potential impacts on the Tribe's Reservation and the Brunot Treaty Area in SW CO. To read the full MOU, check out our website: [cpw.state.co.us](http://cpw.state.co.us)

4 10 50 4.7K



**CPW and CDA prepare for 2025 gray wolf releases with improved Livestock Conflict Minimization Program**



DENVER — Operational planning is underway for the second capture and release season in support of the Colorado Gray Wolf Restoration and Management Plan. The operation is focused on translocating up to 15 gray wolves from British Columbia to Colorado between January and March, 2025, as announced by Colorado Parks and Wildlife (CPW) in September.

CPW has been listening to the concerns and recommendations of all stakeholders throughout the first year of gray wolf restoration. The agency has incorporated this feedback into an expanded and improved conflict minimization program for Colorado livestock producers.

“Through partnerships with the Colorado Department of Agriculture (CDA), the Colorado Wolf Restoration Ad Hoc Working Group, USDA Animal Health Services, and the Colorado Department of Natural Resources’ Animal Response Coordination Service (DNR ARCS), we are in a position to ensure Colorado livestock producers are even more robust in their management tools,” said CPW Director Jeff Davis.



Colorado Parks and Wildlife @COParksWildlife · Sep 30  
Seen here on a trail cam, a gray wolf pup we're working to relocate.

This wolf pup is believed to be a fifth gray wolf pup from the Copper Creek wolf pack that was relocated earlier this month.

55 48 587 29K



# Communications - Local

- CPW's NW Region staff have been meeting with local elected officials and the public throughout the first year of wolf restoration.
- Most recently, the team has been meeting with county commissioners and the public in counties under consideration for releases, providing information on the following:
  - Current status of wolves in Colorado
  - Capture & release information and logistics
  - Potential release sites and selection criteria
- The meetings include Q&A and opportunities for public comment
- Hundreds of community members have joined meetings in Rio Blanco, Garfield, Pitkin and Eagle counties



# Communications - Local

- The meetings have been held while multiple educational workshops have also been held across the Western Slope
- The workshops are hosted by CDA, CPW, USDA-APHIS Wildlife Services and CSU Extension
- A full list of workshops can be found on [CDA's website](#) where producers can also find the link to [register](#).
- CPW continues to meet with local communities and elected officials for open discussions about how to prepare to live with wolves.
- Thank you to all of our communications team members and to the members of the public for attending these meetings and workshops throughout the year.



# Summary

CPW has been listening to the concerns and recommendations of all stakeholders throughout the first year of gray wolf restoration.

Along with our partners, we have incorporated this feedback into an expanded and improved conflict minimization program for Colorado livestock producers.



LIVE LIFE  
OUTSIDE

# Questions



LIVE LIFE  
OUTSIDE