



Blue sheet briefing and discussion: WDFW's nonlethal wolf management program

Wildlife Conflict Section,
Wolf Team, and WDFW Police



Washington Department of
FISH & WILDLIFE



Range riding coordination

- [Northeast Washington Wolf-Cattle Collaborative](#) | Jay Shepherd, Administrator
- [Cattle Producers of Washington](#) | Scott Nielsen
- [WDFW range riding coordination in the office](#) | Jim Brown, Conflict Section Manager and Kyla West, Human-Wildlife Conflict Analyst, WDFW
- [WDFW range riding coordination in the field](#) | Joey McCanna, Region 1 Wildlife Conflict Supervisor, WDFW

Range riding in Washington

Jim Brown and Kyla West

Three general options:

- WDFW Contracted Range Riders (CRR) provide service
- Range riding as part of a cost-share WDFW *Damage Prevention Cooperative Agreement* (DPCA-L)
 - Use of this option by a producer can vary
- Washington Department of Agriculture proviso grants and contracts
 - NE WA Cattle Collaborative range riding program (contract per proviso)
 - CPOW range riding program (NGO grant per proviso)
 - Note: Same proviso funds a "*local wildlife specialist*" for Ferry and Stevens County Sheriffs



WDFW-contracted range rider in Columbia County



WDFW's cost-share DPCA-L and CRR process

- Develop DPCA-L language with producer for *cost-share* work
- Develop contract language and RFQ language utilizing the Wolf-Livestock Interaction Protocol expectations for *Contracted Range Rider* program
- Publish CRR RFQ and screen applicants with assistance of Wildlife Conflict Specialist (WCS)
- Complete contracts and monitor
 - WCS coordinates training and their work and is a bridge with the producers
 - Provide InReach device for location tracking and safety communications
- Provide process for tracking work of CRR and for DPCA-Ls
- Process and retain records of work activities and handle billing
- Make program adjustments, as needed



WDFW assessment of range riding needs

- WDFW WCS works with producer to determine need and desire to participate in range riding and/or DPCA-L
- If a CRR is needed, WCS contacts HQ office to see if an RFQ submitted for that area
 - If one is available, they are screened to qualifications and suitability
 - If not, WCS works with producer and local contacts to attempt to find interest to apply
 - Once employed the WCS provides the training necessary to meet the expectation of WDFW and attempt to accommodate producer's issues
 - WCS monitors CRR performance in collaboration with the producer to ensure the work is performed as expected



WDFW assessment of range riding needs

- WDFW may receive also public interest to become a CRR
 - WCS determines need based on area of interest/availability, screens potential applicant
 - If eligible for program, RFQ is sent to applicant
 - Hiring/training/monitoring same as above



Range riding challenges for WDFW

- Lack of receptivity to use WDFW's program
 - This is among the reasons the WDA pass-through program was started
 - We do not provide services covering 100% of pack areas
 - We never know where conflict will arise in every case
 - Capacity to respond to sudden increased need for emerging conflict
 - SE WA has had a lack of interest in the CRR RFQ creating a difficulty in getting the service onto the ground
- Range riding is no guarantee against wolf-livestock conflict
 - There is ongoing work by Utah State University to assess the efficacy of range riding in the west
 - Recent study just published (Louchouart and Treves 2023)

Range rider coordination in the field

Joey McCanna

- Monthly coordination meetings February – May
- WDFW, USFS, Sheriff's office, and NGOs
- Range rider expectations (daily/near daily)
- Priority pack territories
- Priority allotments in pack territories
- Vacant and/or new allotments
- Range riders available
- Who will be covering which allotments
- Check in throughout the grazing season (June – October)





Range riding funding

- **Range rider funding process from WA Dept. of Agriculture** | Leisa Schumaker, Program Manager, Lindsey Moore, Grant Specialist, and Laura Butler, Director's Office, WA State Department of Agriculture
- **WDFW's role in WA Dept. of Agriculture funding process** | Joey McCanna, Region 1 Wildlife Conflict Supervisor, WDFW
- **Funding of WDFW's contracted range riders and range rider cost-sharing** | Jim Brown, Conflict Section Manager and Kyla West, Human-Wildlife Conflict Analyst, WDFW

Washington Department of Fish and Wildlife

Dept. of Agriculture Grant Application Review

Joey McCanna

- Compliance with the 2011 Wolf Conservation and Management Plan and 2017 Wolf-livestock interaction protocol:
 - Project purpose
 - Sustainability
 - Project methodology
- Reporting requirements requested by WDFW:
 - Description and location of non-lethal measures implemented
 - Range riding or human presence: logs with dates, hours worked, GPS logs
 - Any notable observations



Funding of WDFW's contracted range riders and range rider cost-sharing

Jim Brown and Kyla West

State-legislated General Fund proviso for NE WA Wolf-Livestock conflict

Wildlife Fund account

Personalized license plate

USFWS "Tester" grant

- **11** range rider contracts in the 2022 calendar year.
 - ✓ These provided 11 contracted range riders and 5 sub-riders
- **25** DPCA-L contracts which included range riding

NOTE: Thus far, we have been able to adequately fund our requests for WDFW CRR services and DPCA-L





Other nonlethal tools, effectiveness, and adaptive management

Range riding



Radio-activated Guard (RAG) box



Radio-Activated Guard (RAG) Box 2.0 Purchase Details

Updated audio-visual scare device to reduce livestock losses to predators



In an open valley with clear line of sight, the trigger range of this device is 2200 yds. and the notification system radio can be heard 25 mi. away. These ranges are highly dependent on terrain, vegetation, temperature, and electrical interference.

New Features



Customizable settings

Ability to change device settings from a phone or laptop in the field via built-in Wi-Fi, including duration of randomized alarm system



Increased security

Password-protected access to radio-collar frequencies and data logs



Data collection

Downloadable data logs with radio-collar ID and date/timestamp of each trigger event



Notification system

One-way radio system that alerts humans when radio-collared predator triggers the device

RAG Box 2.0!

Customer-provided items not included with system:



A cellular phone, tablet, or computer with Wi-Fi capability for web-based configuration of RAG Box 2.0 settings and for downloading detection logs



Solar charging system capable powering the RAG Box 2.0 when constant AC or DC power is not available.

Recommended minimums:

Approximately 100W solar panel (or two 100W panels if sunlight days are shorter and faster charging is needed)

Approximately 1kWh battery storage (a deep cycle 12V lead acid battery can be about 100 Amp hours * 12V = 1.2 kWh)

This Goal Zero system is suited to sunnier areas:

100W panel with a roughly 1kW battery for about \$1200.

Goal Zero Yeti 1000 Core + Boulder 100 Briefcase Solar Generator for Camping, Tailgating, and Emergency Power

A similar model from Jackery would also be about the right capacity and has two 100W solar panels.

In areas with less direct sun, two 100W solar panels and/or a larger capacity battery may be necessary for continuous system operation for indefinite periods of time (weeks to months).

These readily available systems are untested but you're welcome to try them, just recommendations. They may not work in all weather and temperature situations.

Pricing and Ordering Details

\$3,200

RB2 RAG Box 2.0 Core System

The base RAG Box 2.0 package consists of the core collar detection and alarm system

This includes:

- High brightness alert LEDs mounted to the enclosure
- Externally mounted loudspeakers, connected to enclosure via included 5 ft. cable
- Externally mounted antenna, connected to enclosure via included 2 ft. and 5 ft. RF cables
- 12V DC input connector and 10 ft. cable for powering the system (Customer provides 12V DC, 10A power source)
- Handheld notification reception radio

Optional Accessories

\$80

PSU12012 Internal 120V AC to 12V DC power supply

For locations where AC power is available. Includes 12 in. AC power pigtail cable. This is factory installed when ordering.

\$200

MK1 Mounting kit for system enclosure and antenna

Multi-application kit includes mounting components for T-posts, railroad ties, fence posts, trees, buildings, etc. Note: antenna must be mounted to an open-air structure for adequate reception.

Contact Epimedia, Inc. to order:

Rod Swift, 42 Norman Ct., Walnut Creek, CA 92595, swift@epimedia.com, (505) 710-5358

Photos of RAG Box 2.0 Core System and Optional Accessories

RAG Box 2.0 (exterior)



External speakers & cables



Example t-post setup



RAG Box 2.0 (interior)



Mounting kit components



Fox lights



(Turbo-) Fladry



Carcass sanitation



Other non-lethal tools

- VHF ear tags
- Reflective cow collars
- Cow bells
- Turn out locations
- Cross fencing
- Pasture rotations
- Alternate pastures
- Delayed turnout
- Avoid den and rendezvous sites
- Trapping
- Scare devices
- Spotlighting



Types of non-lethal deterrence measures

To discourage wolves from attacking livestock, WDFW staff work with producers to identify and implement non-lethal conflict prevention measures suitable for that individual's operation. These measures can influence wolf and livestock behavior to prevent or reduce recurring depredations.

The tools best suited for a particular livestock operation will depend on many factors associated with the operation, such as the species of livestock, number of livestock, terrain, landscape conditions, and time of year. More than one measure at a time is often used, based on its effectiveness in a specific situation.

Wolf packs and landscapes differ, and what works for one pack or location may not work for another. It is often a case of experimentation.



Range riding

Human presence and range riding – the regular presence of humans- from range riders, ranch employees, family members or others just being in the area- can deter wolves from frequenting an area. A range rider is a person who patrols pastures on horseback or ATV to monitor the location and well-being of livestock.

Monitor livestock – by watching for changes in livestock behavior, condition, and reproductive status, livestock producers can decrease potential damage to their animals by wolves. They are encouraged to remove sick or injured livestock from pastures and manage livestock distribution to minimize wolf-livestock conflict.



Monitoring livestock

Protecting calving/lambing areas –Establishing calving or lambing areas away from wolf areas or in pastures near ranch houses allows for easier, more frequent livestock checks and intervention. Producers also often use protective fencing, fladry (red flags that are strung around a pasture and flutter in the wind to deter wolves), or sheds around calving areas.

Avoiding den and rendezvous sites – Before grazing season, WDFW conflict specialists work with livestock producers to develop a plan to avoid active den or rendezvous sites, areas where wolves move their young once they are old enough to move around a small distance but not old enough to actively hunt. Land management plans are also developed that incorporate separation of livestock and wolves, such as alternative grazing areas on WDFW lands, route changes, and delayed turn-out dates.

Using scare devices – The department helps livestock producers develop hazing strategies to scare wolves off their grazing properties. This can include installing light and noise devices like propane cannons, fox lights, and radio activated-guard systems that alert range riders that wolves are nearby.



Noise and scare device



Guardian and herding dogs – Some livestock producers use trained, specific breeds of dogs to protect livestock, along with regular human presence.

Strategic carcass sanitation – Appropriate disposal methods for livestock carcasses prevents attracting wolves to grazing areas and reduces the potential for wolf-livestock interactions. Producers target sanitation around active and adjacent pastures in close proximity to livestock.

Permanent and portable fencing – Many producers, landowners, and land managers use predator-resistant or electric fencing on pastures to deter wolves. They can also use these types of fencing to create night pens for open grazing livestock.

Delayed calf turn-out – In forested pastures, producers can delay turning their calves out until they reach 200 pounds. Producers can also keep cow and calf pairs together, so that the mature, larger cows can help protect their young.

WDFW staff are also interested in trying **other non-lethal deterrents** new to Washington. Potential ideas include reflective collars, bells, and VHF ear tags for cattle (to make locating cattle easier), VHF notification beacons used to alert when animals (cattle or carnivores) leave or enter a designated area (ideal for large grazing settings to confine cattle to or exclude from desired areas), making large stockpiles of deterrents (fladry, fox lights, flood lights, etc.) available for community use, InReach GPS units to provide real time communication with range riders in the field without cell service and real time downloadable track logs, cattle ear tags that collect information on cattle biometrics such as stress, and keeping cattle distanced from wolf activity centers on WDFW lands where alternative grazing pastures exist.



Guardian or herd dogs



Fladry and fencing



Carcass sanitation



Collar



Foxlight

80% of Washington's residents share some concern about the impacts wolves may have on livestock once wolves are fully recovered.*



Available at: https://wdfw.wa.gov/sites/default/files/2020-07/wolf_status_recovery_report_single-page.pdf



WOLVES ON THE LANDSCAPE

A Hands-on Resource Guide to Reduce Depredations

Available at:

<https://static1.squarespace.com/static/5f222a7c92ce383c8ff73e83/t/5f5d6d30e9d120579bfa1968/1599958326035/WolfResourcesGuide.pdf>

Acknowledgements

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Contributors: Brainerd Foundation, People and Carnivores, Montana Fish, Wildlife and Parks wolf specialists, Wildlife Conservation Society

Graphic artist: Luke Duran. Illustration by Jason Smith



EFFICACY OF NONLETHAL TECHNIQUES?

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EFFICACY OF NONLETHAL TECHNIQUES?

- **Non-lethal measures, when context-specific, subject to adaptive management, and implemented proactively, can be effective in mitigating wolf-livestock conflict**

Common themes:

- **No single deterrence measure or combination of deterrence measures can guarantee there will be no wolf-livestock conflict**
- **All have a “shelf life” of effectiveness**
- **Proactive, non-lethal methods are recommended first, with lethal removal being a last resort, and that if lethal removal is implemented, it should be deployed within a short period of time of the most recent depredation**

Efficacy of nonlethal techniques?

A new [ongoing project](#) in the West focused on conservation innovation to reduce carnivore-livestock interactions on working lands. This project team is led by Heart of the Rockies Initiative and Western Landowners Alliance, with partners from USDA-Wildlife Services and producer groups and ranches in Montana, Idaho, Arizona, New Mexico, Washington, Oregon and California.





Efficacy of nonlethal techniques?

Project Objectives:

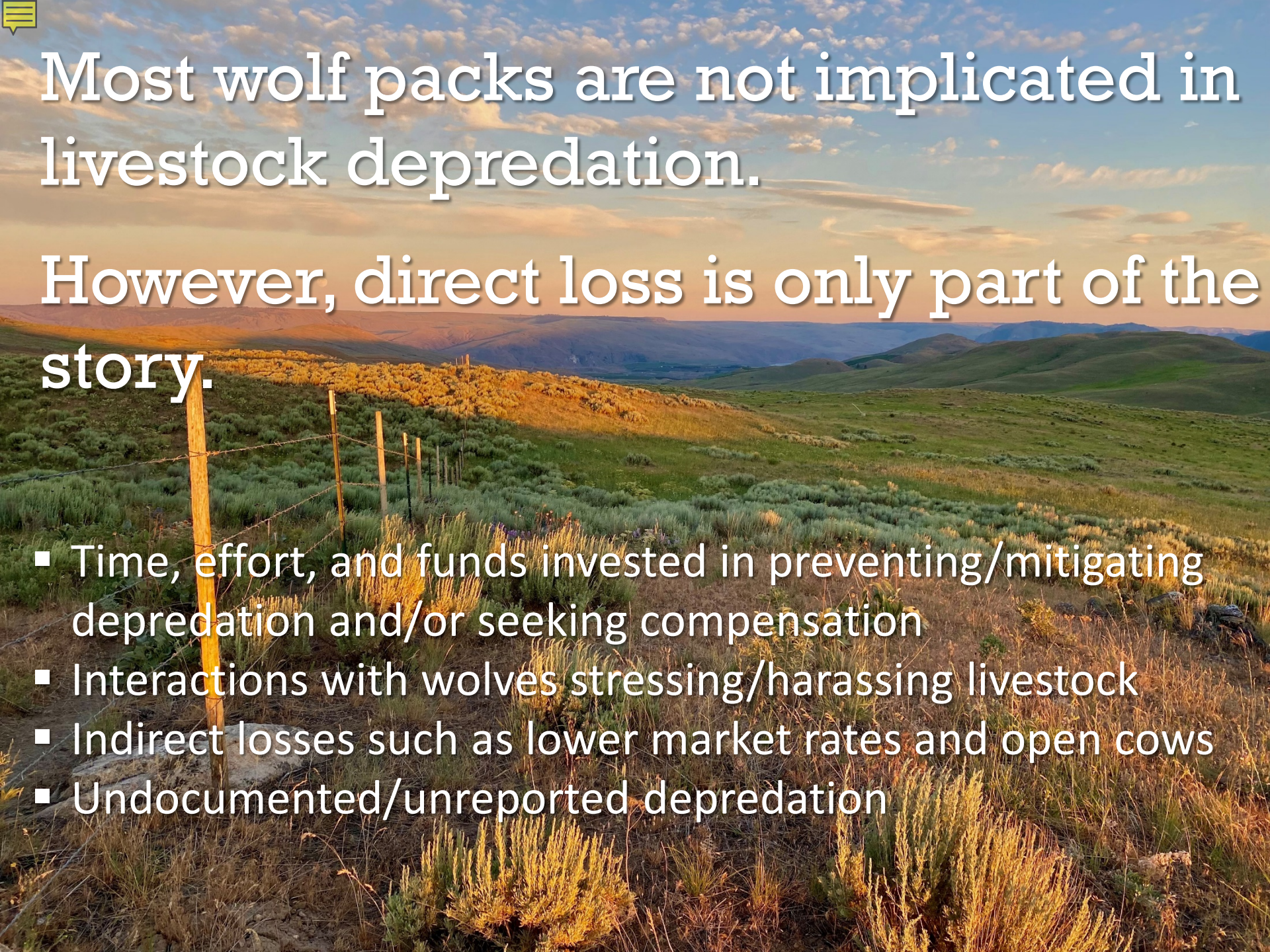
1. Evaluate nonlethal predation management techniques for costs and effectiveness by coproducing knowledge with livestock producers.
2. Establish and support collaborative predator conflict reduction programs on working lands through the facilitation of peer-to-peer producer knowledge exchange to scale implementation of effective predation management techniques.
3. Coordinate with NRCS and private landowners to make predation management techniques available as conservation practices.
4. Integrate the collective experience and knowledge gained in a user-friendly, comprehensive guide for effective implementation titled, Support Toolkit for Livestock Producers Implementing Predation Management Techniques

Techniques Under Study: **Range riding**, carcass management, and electric fencing





Wolf-livestock conflict in 2022, areas of chronic conflict, and Conflict Mitigation Planning



Most wolf packs are not implicated in livestock depredation.

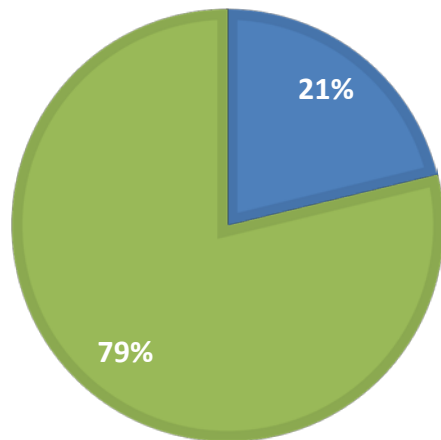
However, direct loss is only part of the story.

- Time, effort, and funds invested in preventing/mitigating depredation and/or seeking compensation
- Interactions with wolves stressing/harassing livestock
- Indirect losses such as lower market rates and open cows
- Undocumented/unreported depredation

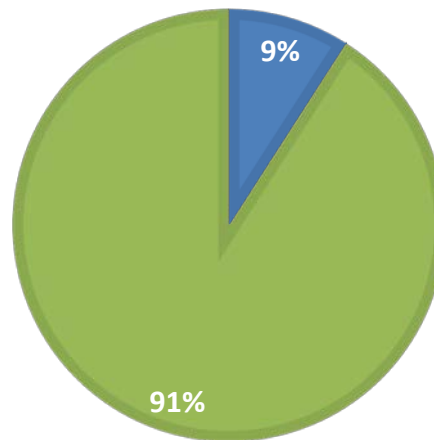
2022 livestock depredations by wolves

- 26 confirmed/probable depredation incidents involving 29 individual livestock
- 18 dead, 11 injured
 - 1 adult cow + 15 calves killed, 1 adult cow + 10 calves injured, 2 sheep killed
- 23/26 incidents on private land, 3 incidents on USFS land
- Most documented depredation attributed to 3 NE WA packs (Leadpoint, Smackout, Togo)
- 6 wolves (~3% of wolf pop) removed from these pack areas

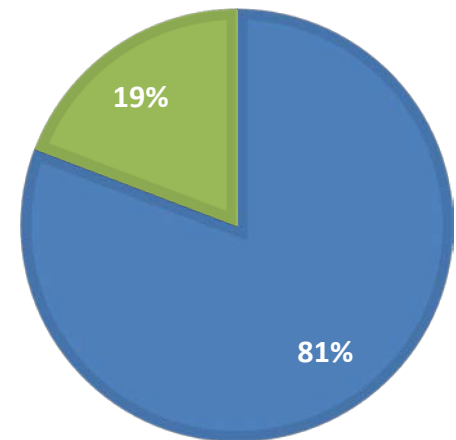
■ Packs with at least 1 depredation
■ Packs with no depredations



■ Packs with >2 depredations
■ Packs with 0-2 depredations



■ Leadpoint, Smackout, and Togo depredations
■ Depredations attributed to all other packs

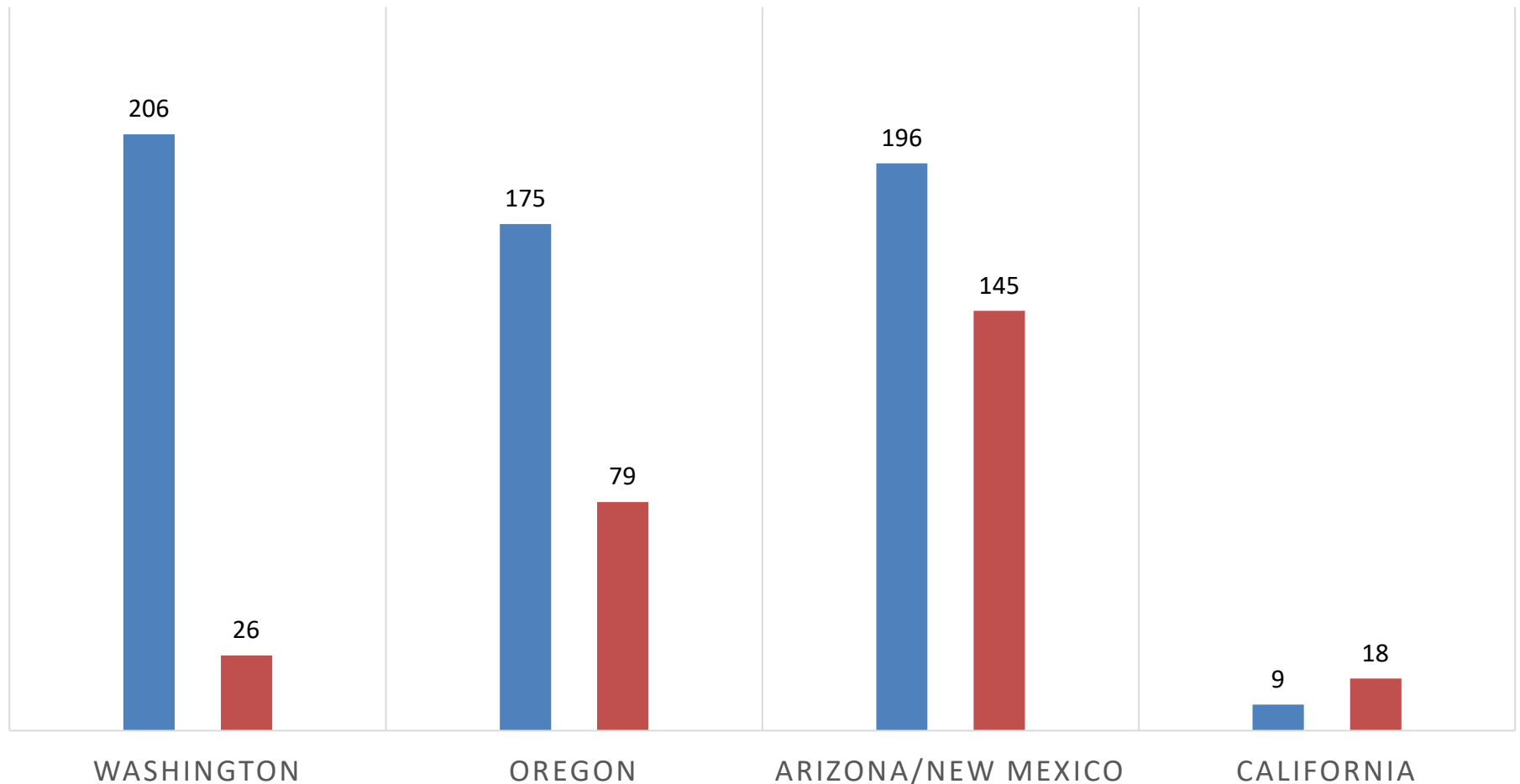


Wolf-livestock conflict, 2008 - 2021



How does Washington compare with other states recovering wolves?

■ Wolf population size (as of 2021) ■ Documented livestock depredation incidents in 2022





Investigations of wolf caught-in-the-act incidents and poaching in 2022

WDFW Police investigations

- WDFW Police use every investigative tool at their disposal to work towards successful outcomes.
- WDFW Officers conduct overt and plain clothes patrols, deploy cameras, follow up on any known tips from the public, and use forensic investigative techniques.
- Many times, wildlife related incidents occur in remote areas and require a concerted effort to locate the carcass as well as any evidence within the area.
- Additionally, crimes against wolves like those involving other species of wildlife most often occur without ample witnesses or video coverage that are often found in more urban law enforcement environments.
- Officers work closely with the County Prosecutors and the Environmental Crimes Unit within the Attorney General's Office to present investigations to them for input and assistance.



Wolf caught-in-the-act incidents in 2022

MONTH	COUNTY	PACK TERRITORY	SEX/AGE	STATUS OF INVESTIGATION	OUTCOME
July 7-6-22	Stevens	Huckleberry	1-Adult Male	Closed	Lawful take. Supported by WAC.
July 7-27-22	Stevens	Stranger	1-Adult Female	Closed	Lawful take. Supported by WAC.
August 8-20-22	Okanogan	Beaver Creek	1-Adult Female	Closed	Lawful take. Supported by WAC.

Notes: One other caught in the act incident was investigated but no evidence was found that a wolf was killed or injured.



Unlawful wolf killing in 2022

DATE	COUNTY	PACK ASSOCIATION	AGE/SEX	STATUS OF INVESTIGATION	OUTCOME
February 2-16-22 (4) 3-08-22 (2)	Stevens	Wedge	1-Adult Male & 5-Adult Females	Active	N/A
September 9-17-22	Ferry	Vulcan	1-Adult Female	Active	N/A
November 11-06-22	Stevens	Carpenter	1-Adult Male	Active	N/A
November 11-12-22	Stevens	Leadpoint	1-Adult Male	Active	N/A

Note: Additional wolf mortalities were investigated and were found to have died of other causes, not unlawful take.



Questions?

