

# Agenda Item # 27

## Wolf Conservation and Management 2017 Annual Wolf Report



*Washington Department of*  
**FISH and WILDLIFE**

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Dan Brinson, Conflict Section Manager  
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Wildlife Program

# Summary

- Wolf Plan Recovery Objectives
- Wolf Recolonization in Washington
- Listing Status
- Population Monitoring
- Population Trends
- Livestock – Wolf Interactions
- Research Updates



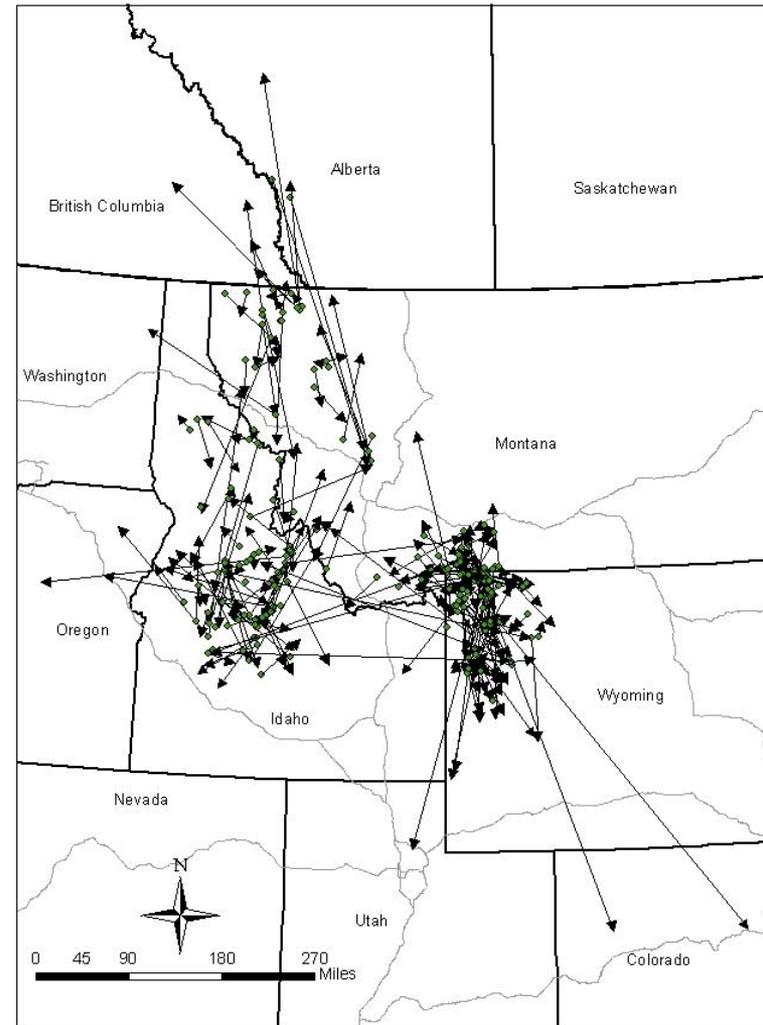
# Wolf Plan Objectives

- Restore self-sustaining wolf populations
- Maintain healthy ungulate populations
- Manage wolf – livestock conflicts
- Develop public understanding and promote coexistence

# Wolf Dispersal

## Northern Rocky Mtn 1995-2008

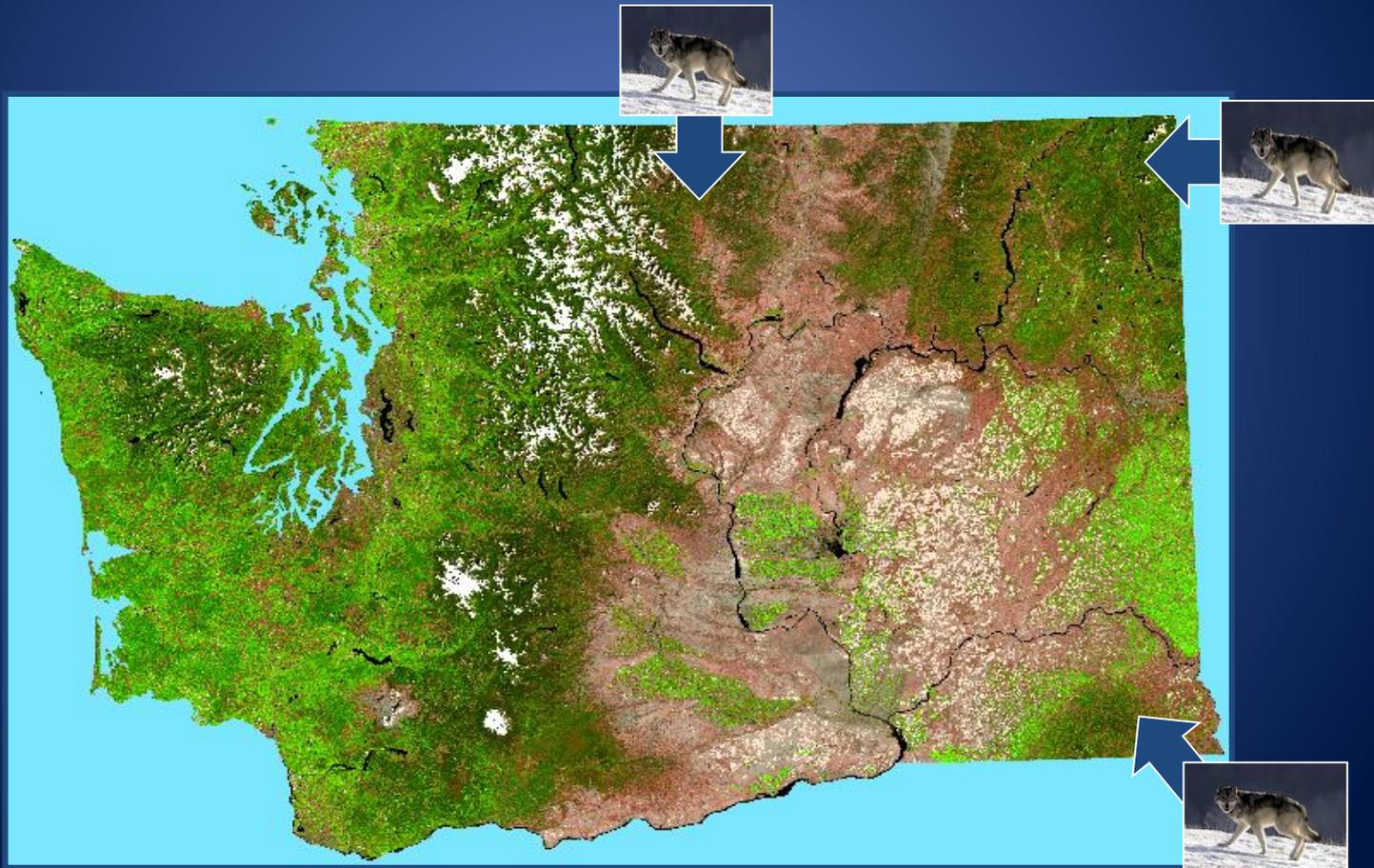
- 297 known dispersal events
  - M = 169
  - F = 128
- Mean age at dispersal
  - M = 32.8 months
  - F = 32.1 months
- Mean dispersal distance:
  - M = 98.1 km (61 mi)
  - F = 87.7 km (54 mi)
- Dispersals increase in fall and peak in January



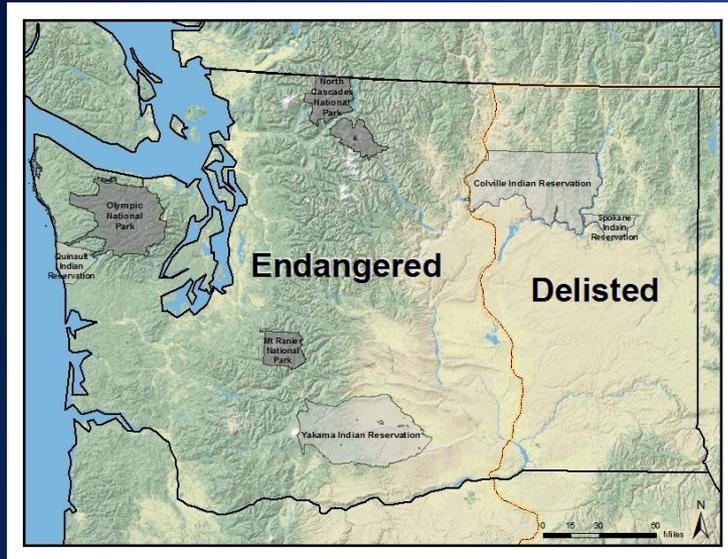
Jimenez et al. 2017

# Wolves are returning to Washington

Dispersers from adjacent states and provinces, as well as resident WA packs, are naturally recolonizing the state



# Listing Status



## Federal Status:

- Eastern 1/3 Washington
  - Included in NRM DPS: 2007
  - Delisted in 2011
- No federal wolf recovery requirements
  - WA status not figured into NRM delisting



## State Status:

- Endangered species statewide
- Wolf Conservation and Management Plan: 2011
  - 3 recovery areas
  - Delisting requirements
- Federal, state, tribal management

# Definitions



- Pack
  - Two or more wolves traveling together in a defined territory
- Successful breeding pair
  - Male and female raising two or more pups until Dec 31

# Reports from the Public

- Online
- Pamphlets
- Outreach materials
- 1-877-933-9847

WASHINGTON DEPARTMENT OF FISH & WILDLIFE  
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## CONSERVATION

Home About WDFW Conservation Fishing Hunting Enforcement Wildlife Viewing Licensing & Permits Living with Wildlife

Gray Wolf Management  
Frequently Asked Questions  
Washington Wolf Packs  
Wolves and Livestock  
Non-Lethal Wolf Control Methods  
Reporting Depredation Incidents  
Compensation Rules for Depredation Incidents  
Wolf-Livestock Conflict Deterrence  
Damage Prevention  
Cooperative Agreements  
WDFW Action Criteria  
Frequently Asked Questions  
Wolves and Big Game  
Wolves in Washington  
Wolf Observations and Sightings  
Wolf Conservation and Management Plan  
Wolf Advisory Group  
Other Links

### Gray Wolf Conservation and Management

#### How to report suspected livestock depredation incidents

#### What should I do if I suspect a wolf kill?

Upon discovering injured or dead livestock that you believe has been attacked by a wolf, immediately report the situation using WDFW's toll-free **Reporting Hotline at 1-877-933-9847**. WDFW or federal investigating authorities will respond as soon as possible.

The actions that you take after locating an injured or dead livestock can have a tremendous impact on the results of the investigation that will follow. Your cooperation is needed at the site to secure it from disturbance. Treat the area as though it were a crime scene. This includes taking the following steps:

- Avoid walking in or around the area.
- Do not touch anything.
- Keep all people and animals from the area to protect evidence.
- Place a tarp over the carcass.
- Take photos of the scene if a camera is available.

**Dial 911 to report an emergency**

**Carnivore Depredation on Livestock**  
**1-877-933-9847**

**More information on wolf-livestock conflicts**

A Washington Guide to Addressing Wolf-Livestock Conflicts

Procedure for Investigation of Livestock Injuries & Mortalities: A Manual for WDFW Field Personnel

WARNING: This manual contains graphic and potentially disturbing photos of depredation incidents.

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### Gray Wolf Conservation and Management

#### Report a Wolf Observation

This website is for submitting a suspected wolf observation to assist the Department in monitoring wolf dispersal and identifying new wolf packs.

**Begin your wolf sighting report!**

Washington Department of Fish & Wildlife

**Main Office**  
Natural Resources Building  
1111 Washington St. SE  
Olympia, WA 98501  
360-902-2200  
[Get Directions](#)

**Mailing Address**  
PO Box 43200  
Olympia, WA 98504-3200

**Joe Stohr**  
Acting Director

# How do we keep track of wolves?

- First, we have to find them
  - Sighting reports
  - Depredations
- Follow-up surveys
  - Cameras
  - Tracks and other sign
  - Howling
- Attempt captures
  - Aerial captures - winter
    - Radio collared packs
  - Trapping Captures - summer



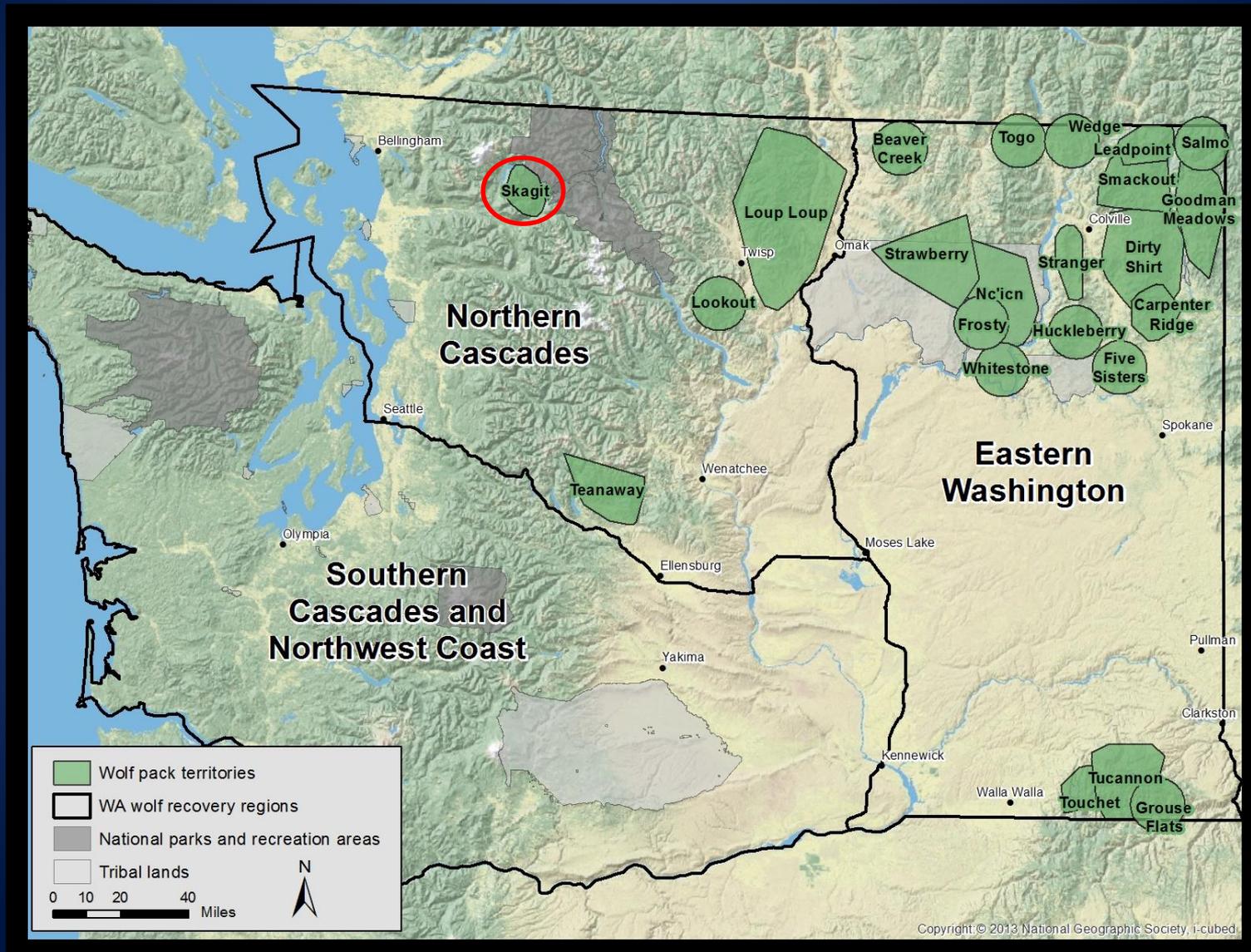
# Wolf Population Status

Recovery Region	Successful Breeding Pair	Minimum Count	Known Mortality	Known Dispersal	Livestock Depredations
Eastern	13	106	13	8	8
N. Cascades	1	16	1	1	0
S. Cascades/Coastal	0	0	0	0	0
Total	14	122	14	9	8

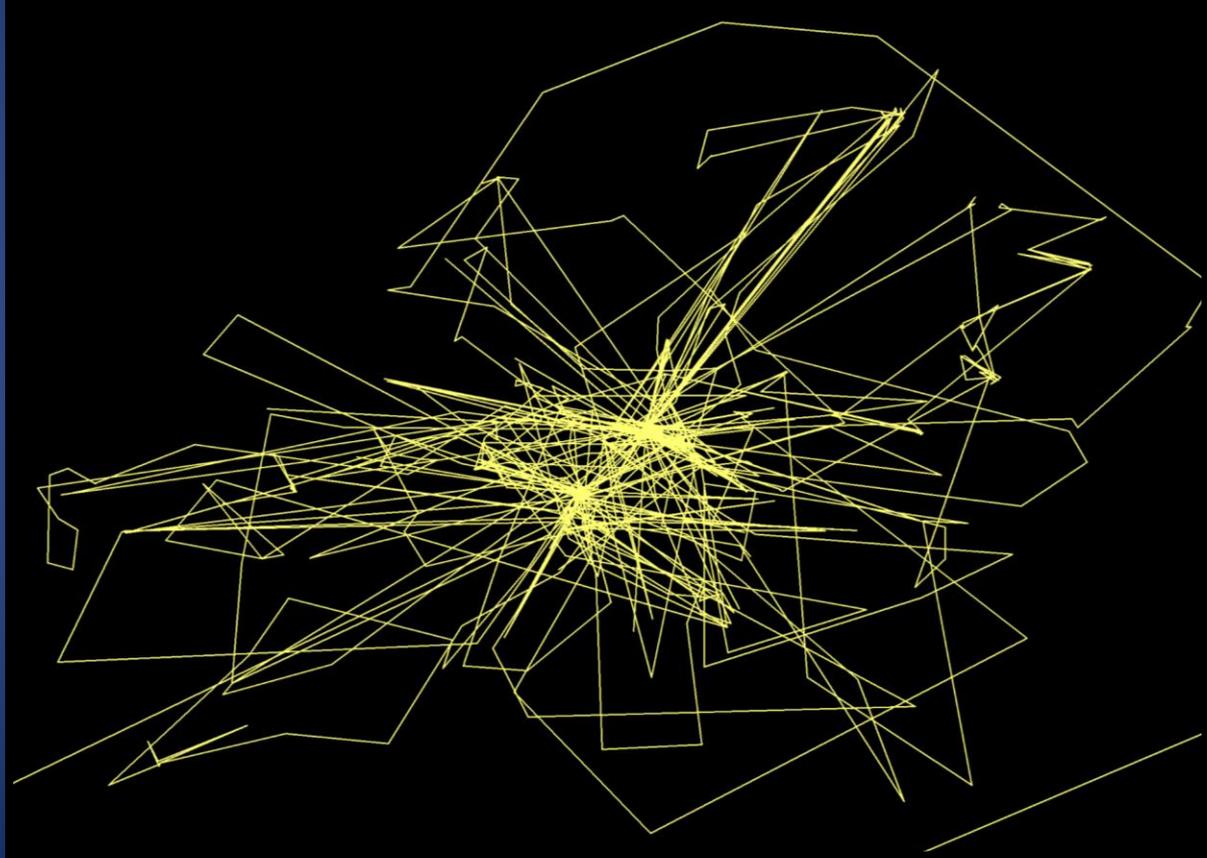


# Washington's Known Wolf Packs

## As of December 31, 2017



# Territoriality – Wolf Movements



# Capture and Monitoring

2017 Calendar Year

- Captured 12 wolves - From 12 different packs
- Monitored 22 wolves from 15 packs
- Currently monitoring 16 collared wolves (13% of minimum number of known wolves) from 11 packs (50% of known packs) in Washington + 1 collared lone wolf – Skagit?



# Eastern Washington Recovery Area

Confirmed Pack	Successful Breeding Pair	Minimum Count	Known Mortality	Known Dispersal	Livestock Depredations
Beaver Creek	Yes	4			
Sherman/Profanity	No	1	3	1	4
Wedge	No	3			
Stranger	No	3			
Huckleberry	Yes	4	1	1	
Smackout	Yes	6	3	1	2
DirtyShirt	Yes	7	2	3	
Carpenter Ridge	Yes	13			
Salmo	Yes	5			
Goodman Meadows	Yes	5		2	
Touchet	Yes	4			
Tucanon	No	2			
Grouse Flats	No	3			
Leadpoint	No	2			1
Five Sisters	Yes	4			
Togo	No	2			1
Frosty	Yes	6	1		
Strawberry	Yes	8	1		
Nc'icn	Yes	7			
Whitestone	Yes	5	1		
Misc/Lone Wolves		12	1		
<b>Recovery Area Total</b>	<b>13</b>	<b>106</b>	<b>13</b>	<b>8</b>	<b>8</b>

# North Cascades Recovery Area

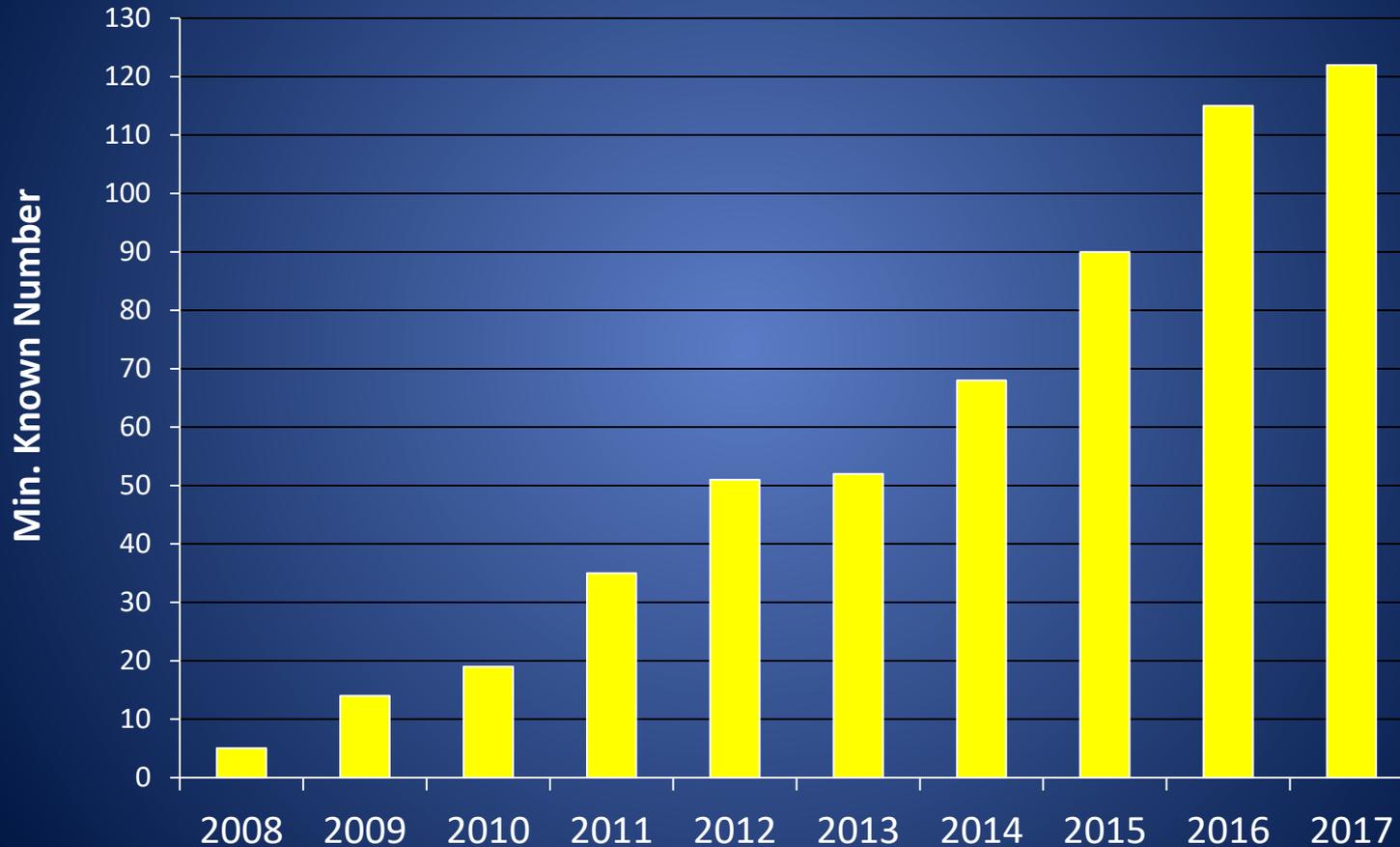
Confirmed Pack	Successful Breeding Pair	Minimum Count	Known Mortality	Known Dispersal	Livestock Depredations
Lookout	No	3			
Loup Loup	No	2	1	1	
Teanaway	Yes	8			
Skagit??	No	1			
Misc/Lone Wolves		2			
<b>Recovery Area Total</b>	<b>1</b>	<b>16</b>	<b>1</b>	<b>1</b>	<b>0</b>



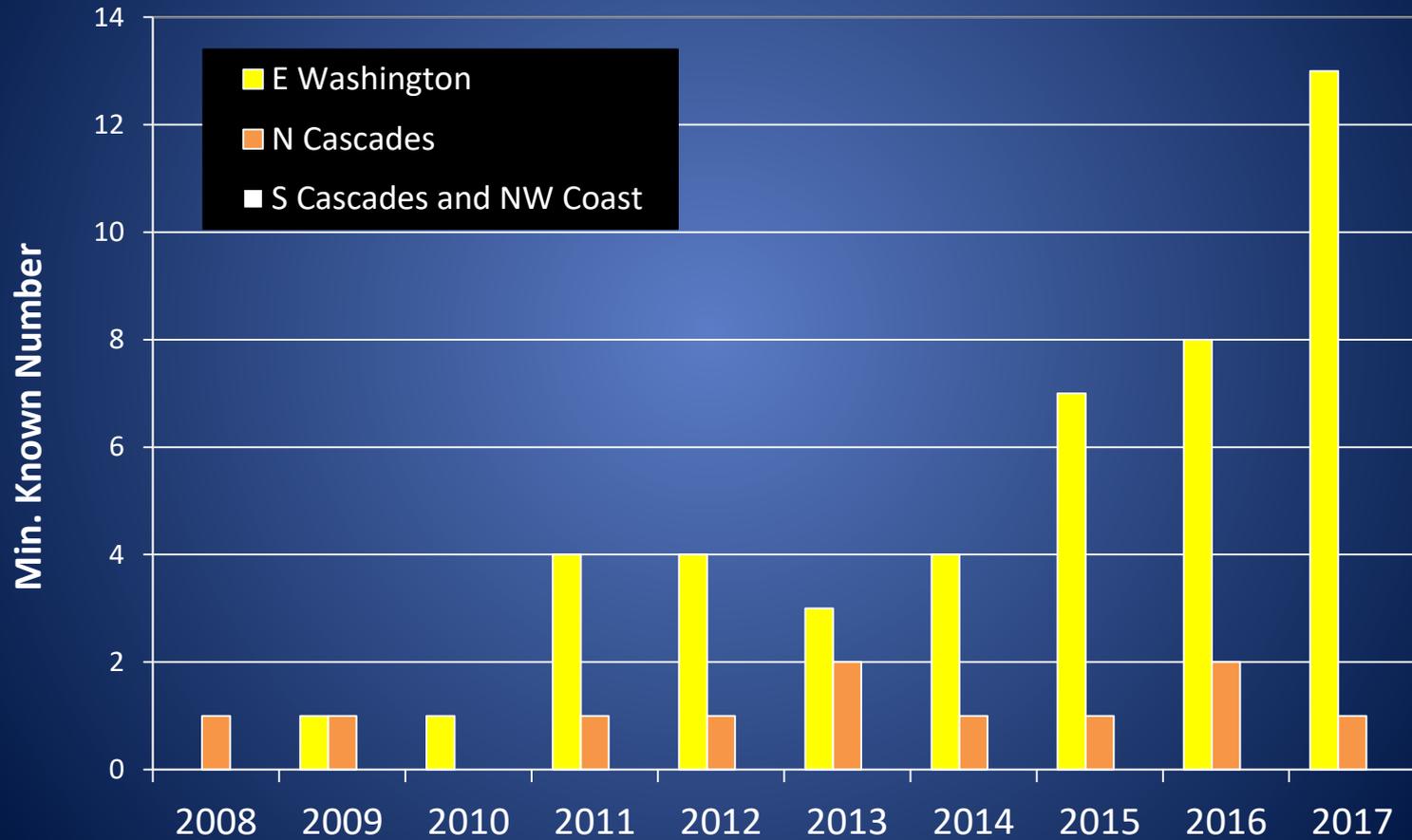
Wilderness Awareness School - Camera RRB

08-03-2017 07:58:15

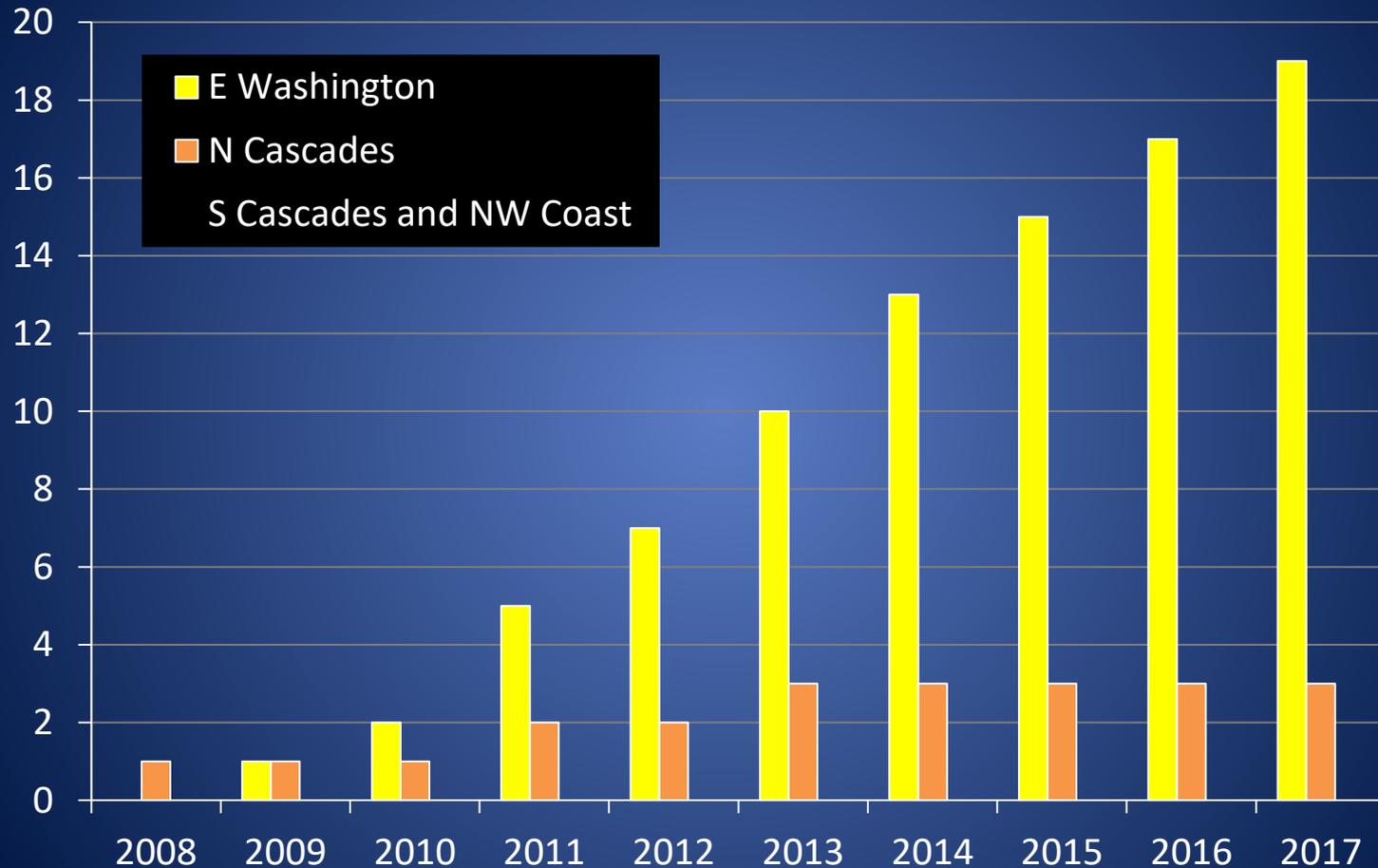
# Trend in Minimum Number of Wolves



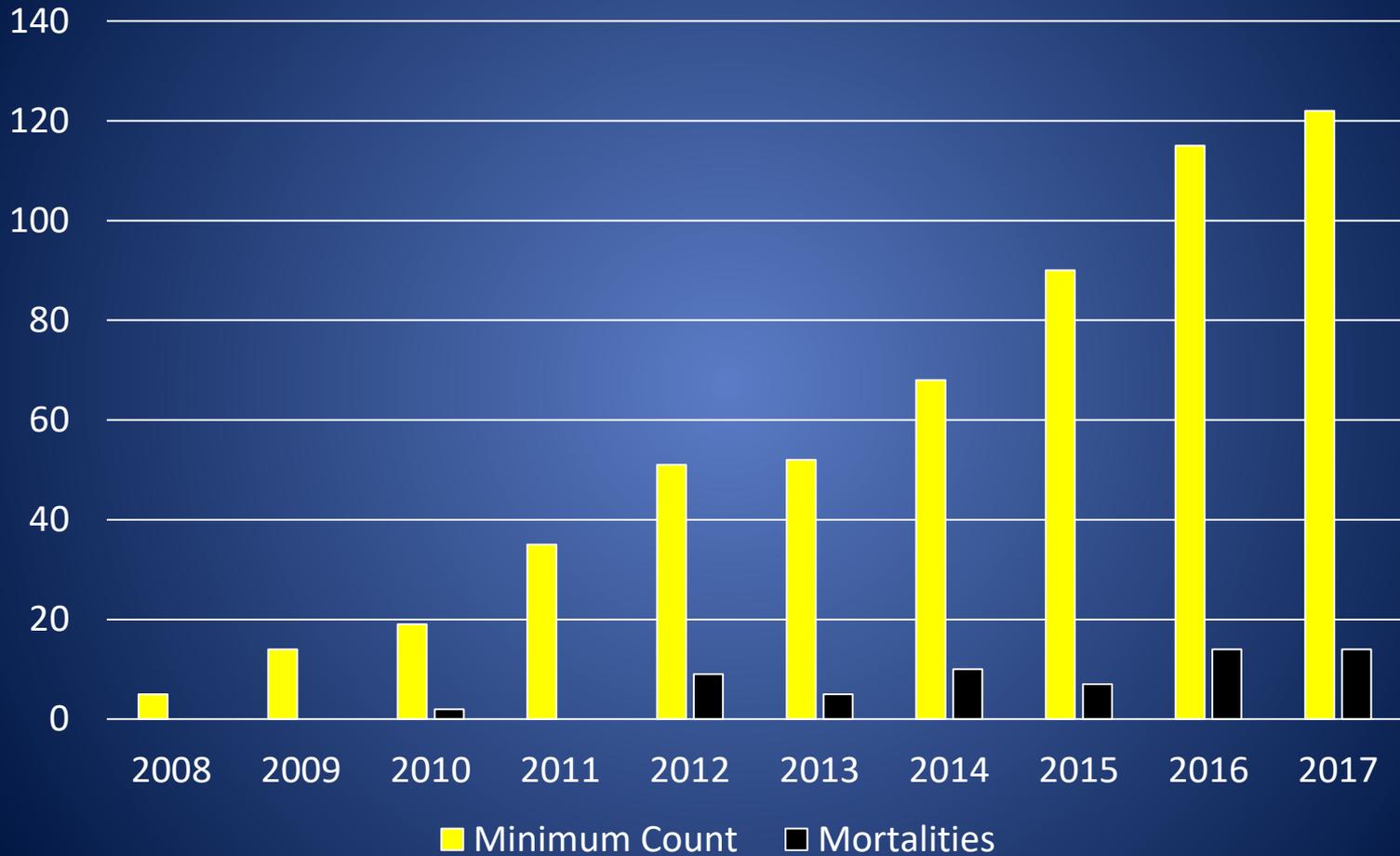
# Trend in Number of Successful Breeding Pair



# Trend in Number of Wolf Packs



# Known Wolf Mortalities





# Washington Wolf Population Summary

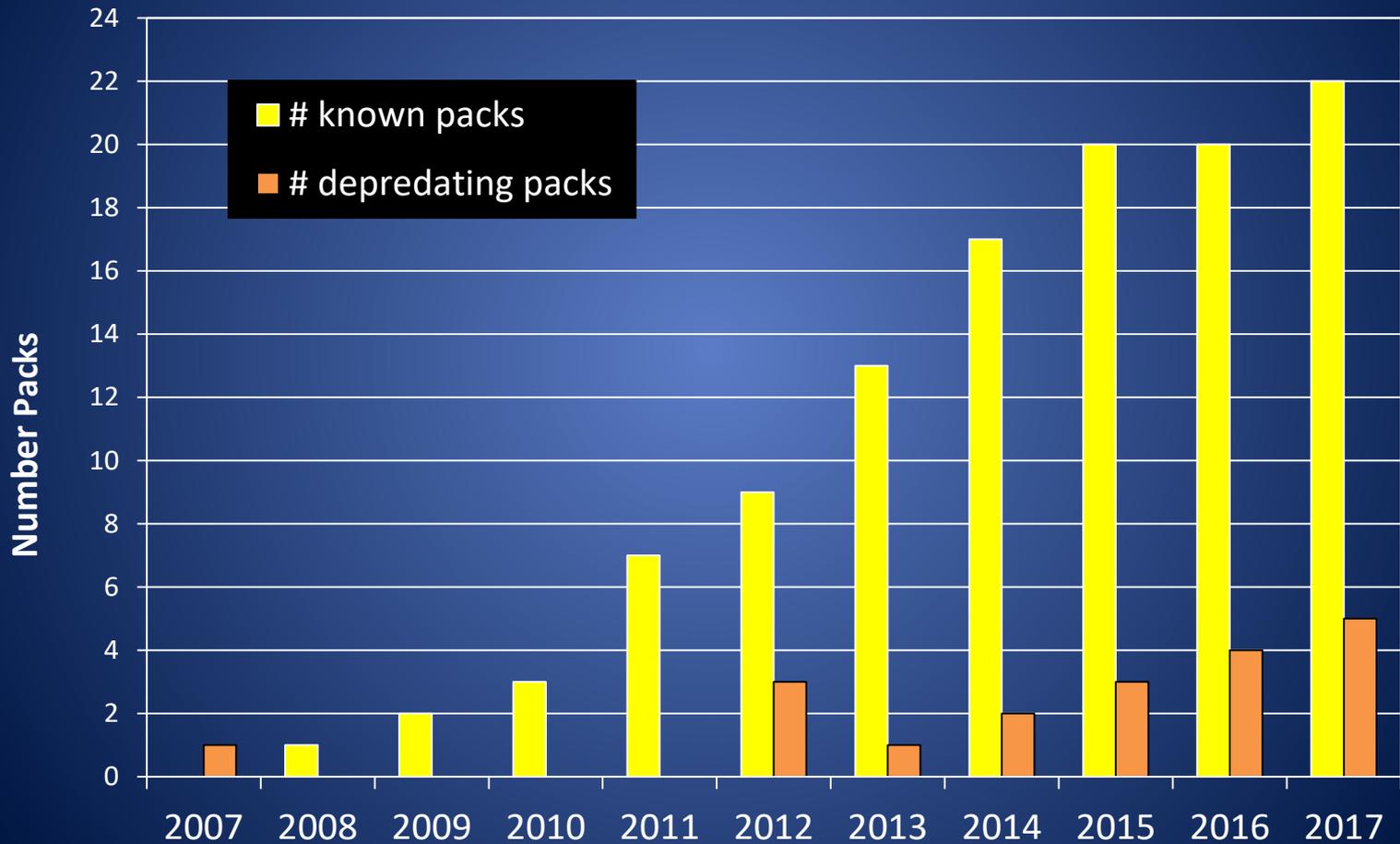
Year	Min Count	Known No. of Packs	SBP	Growth Rate	Known Wolf Mortality	Depredating Packs (%)
2008	5	1	1	--	0	0%
2009	14	2	2	--	0	0%
2010	19	3	1	36%	2	0%
2011	35	7	5	84%	0	0%
2012	51	9	5	46%	9	33%
2013	52	13	5	2%	5	8%
2014	68	16	5	31%	10	13%
2015	90	18	8	32%	7	22%
2016	115	20	10	28%	14	20%
2017	122	22	14	6%	14	23%
Ave				31%		12%

# Conflict Management

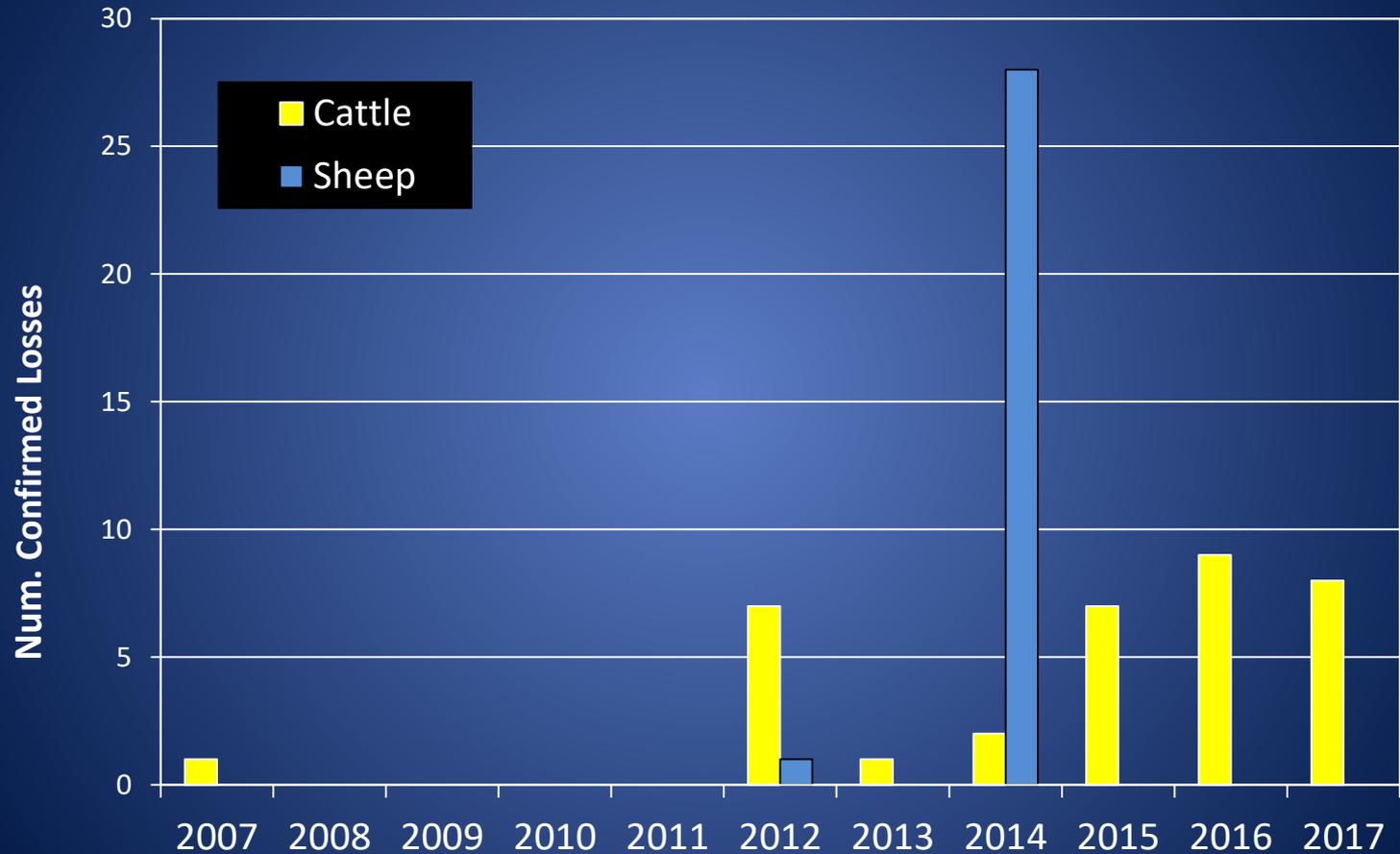
# Wolf – Livestock Interactions

- Wildlife Conflict Specialists
  - Coordination w/ producers
  - DPCA-Ls
  - Contract Range Riders
  - Deterrence measures
- Lethal Removal
- Compensation

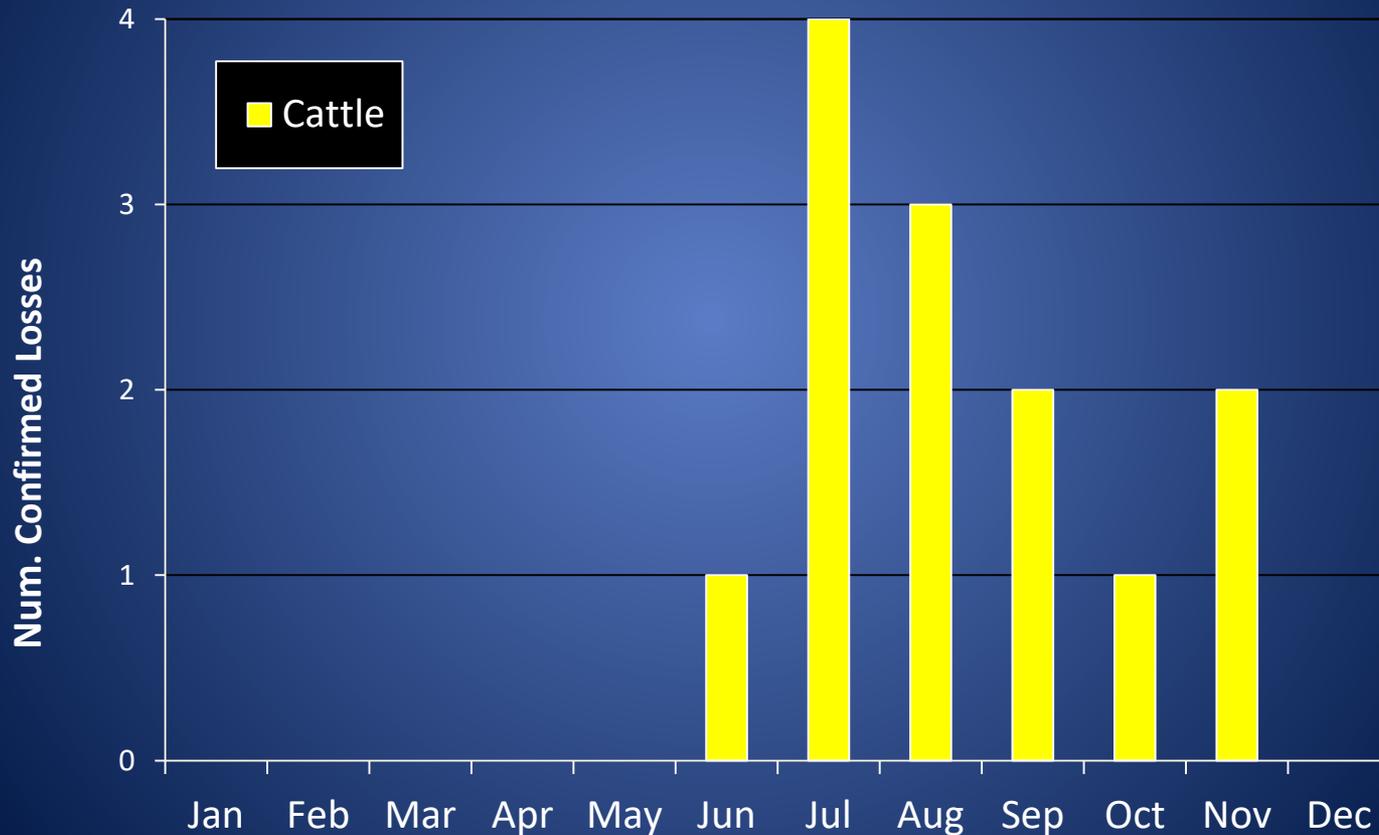
# Packs Depredating on Livestock



# Wolf Depredations in Washington



# 2017 Wolf-Caused Livestock Loss and Injury By Month



# Wolf – Livestock Interaction Protocol

## WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

Wolf-livestock interaction protocol  
Revision date June 1, 2017

This protocol was jointly developed by the Washington Department of Fish and Wildlife (WDFW or Department) and its Wolf Advisory Group to guide the Department's efforts to reduce conflicts between wolves and livestock. The Wolf Advisory Group has expressed a strong value to reducing the likelihood of the loss of both wolves and livestock from adverse interactions. The protocol prescribes a variety of proactive measures livestock producers can take to reduce the probability of wolf-livestock conflicts and establishes a framework for WDFW's response when conflicts between wolves and livestock do occur.

The protocol draws on a diversity of perspectives expressed by people throughout the state for protecting wildlife populations as a public resource and livestock. These values include achieving a sustained recovered wolf population, supporting rural ways of life, and maintaining livestock production as part of the state's cultural and economic heritage. This protocol also serves to increase the transparency and accountability of the Department's activities and management actions related to wolves.

### Section 1. Background and purpose of protocol

Gray wolves are listed as endangered under the federal Endangered Species Act (ESA) of 1973 in the western two-thirds of Washington, but are federally delisted in the eastern-third of the state (Fig. 1). Under Washington State rule, gray wolves as endangered statewide. Under the Federal listing status, the U.S. Fish and Wildlife Service (USFWS) is the lead agency for managing wolves in the western two-thirds of Washington, and WDFW has full management authority for wolves in the eastern third.

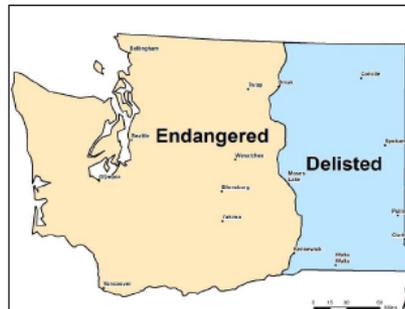


Figure 1. Federal classification of gray wolves in Washington State, 2017.

# Wolf Lethal Removal Action Reports



## WDFW Publications

### Smackout wolf pack: 2017 lethal removal action report

Category: Wildlife Research and Management - Non-Game Management and Conservation

Date Published: September 21, 2017

Number of Pages: 94

#### INTRODUCTION:

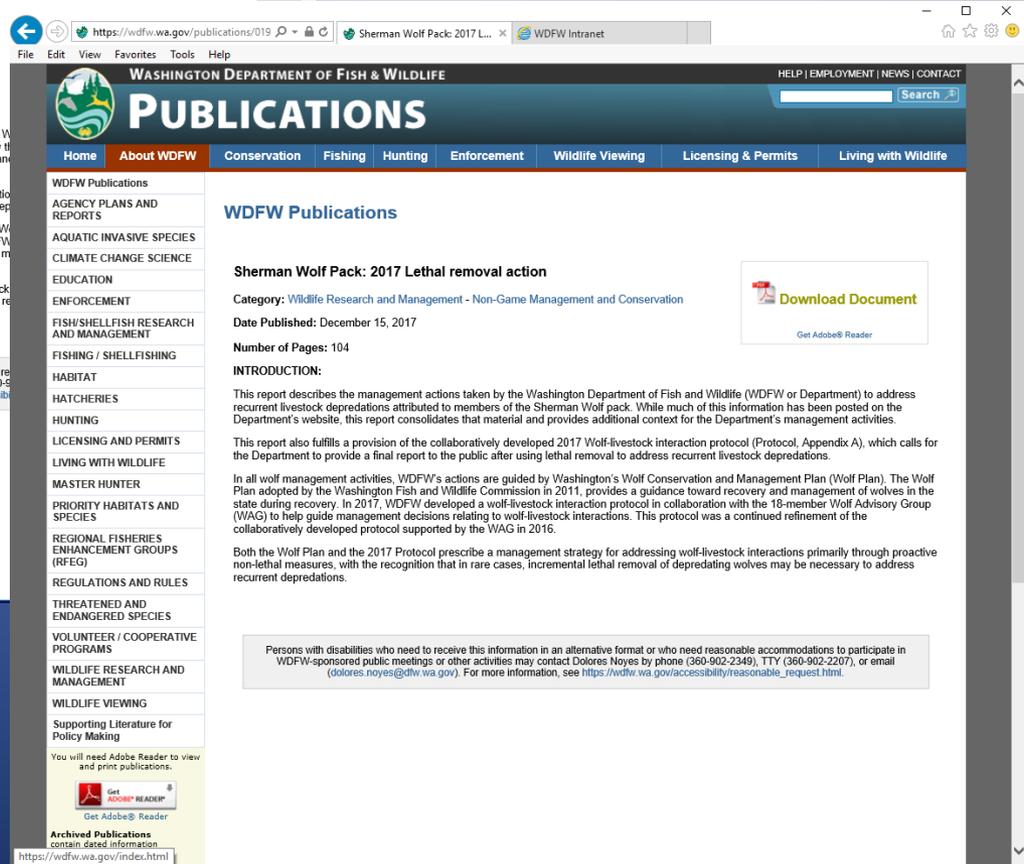
This report describes the management actions taken by the Washington Department of Fish and Wildlife (WDFW) from September 21, 2016 through September 21, 2017 to address recurrent livestock depredations by wolf packs. Information has been posted on the department's website, this report consolidates that material and management activities.

This report also fulfills a provision of the collaboratively developed current Wolf-Livestock Interaction protocol to provide a final report to the public after using lethal removal to address livestock depredations.

The department's actions were guided by the state's Wolf Conservation and Management Plan (WCMP) and Wildlife Commission in 2011 to provide a path toward recovery of the species. In 2017, WDFW's Wolf Advisory Group (WAG) developed a wolf-livestock interaction protocol to help guide the decision-making potential for recurrent wolf depredations on livestock while continuing to promote wolf recovery.

Both the Wolf Plan and the Protocol describe a management strategy for addressing wolf-livestock interactions and preventative measures in recognition that lethal removal of wolves may be necessary to address recurrent depredations.

Persons with disabilities who need to receive this information in an alternative format or who need reasonable accommodations to participate in WDFW-sponsored public meetings or other activities may contact Dolores Noyes by phone (360-902-2349) or email (dolores.noyes@dfw.wa.gov). For more information, see <https://wdfw.wa.gov/accessibility>.



## WDFW Publications

### Sherman Wolf Pack: 2017 Lethal removal action

Category: Wildlife Research and Management - Non-Game Management and Conservation

Date Published: December 15, 2017

Number of Pages: 104

#### INTRODUCTION:

This report describes the management actions taken by the Washington Department of Fish and Wildlife (WDFW or Department) to address recurrent livestock depredations attributed to members of the Sherman Wolf pack. While much of this information has been posted on the Department's website, this report consolidates that material and provides additional context for the Department's management activities.

This report also fulfills a provision of the collaboratively developed 2017 Wolf-livestock interaction protocol (Protocol, Appendix A), which calls for the Department to provide a final report to the public after using lethal removal to address recurrent livestock depredations.

In all wolf management activities, WDFW's actions are guided by Washington's Wolf Conservation and Management Plan (Wolf Plan). The Wolf Plan adopted by the Washington Fish and Wildlife Commission in 2011, provides a guidance toward recovery and management of wolves in the state during recovery. In 2017, WDFW developed a wolf-livestock interaction protocol in collaboration with the 18-member Wolf Advisory Group (WAG) to help guide management decisions relating to wolf-livestock interactions. This protocol was a continued refinement of the collaboratively developed protocol supported by the WAG in 2016.

Both the Wolf Plan and the 2017 Protocol prescribe a management strategy for addressing wolf-livestock interactions primarily through proactive non-lethal measures, with the recognition that in rare cases, incremental lethal removal of depredating wolves may be necessary to address recurrent depredations.

Persons with disabilities who need to receive this information in an alternative format or who need reasonable accommodations to participate in WDFW-sponsored public meetings or other activities may contact Dolores Noyes by phone (360-902-2349), TTY (360-902-2207), or email (dolores.noyes@dfw.wa.gov). For more information, see [https://wdfw.wa.gov/accessibility/reasonable\\_request.html](https://wdfw.wa.gov/accessibility/reasonable_request.html).

# Cost – Share Contracts

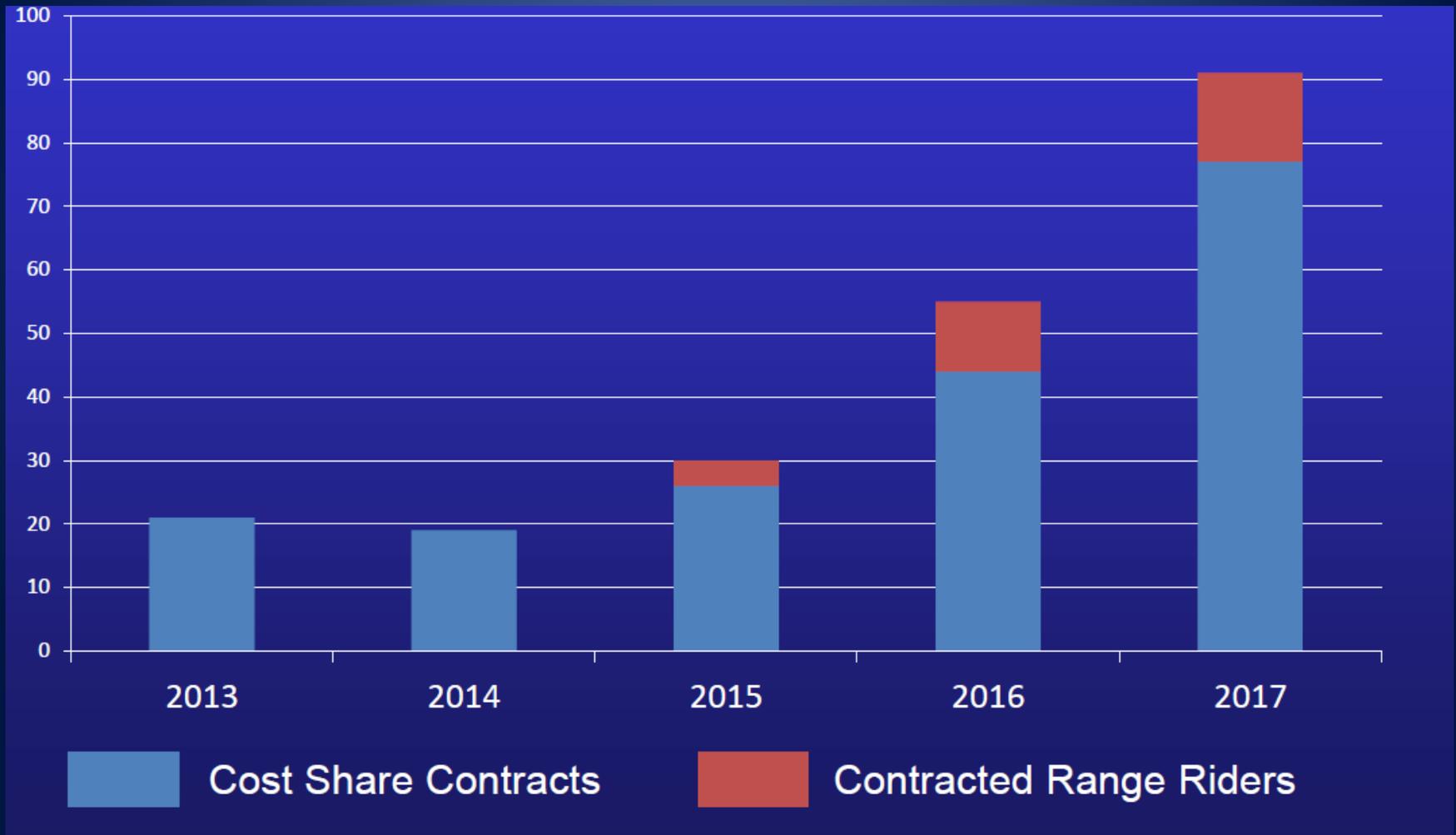
## Promoting Deterrence Measures

- Sanitation
- Sick and injured livestock
- Calving and lambing areas
- Turnout
- Range Riders and shepherders
- Fencing
- Fladry
- Foxlights
- Other techniques

# Contracted Range Riders



# Uptake and Use of Proactive Deterrence



# Wolf Expenditures

## July 1, 2016 – June 30, 2017

Description	Wolf expenditures
<b>Population monitoring</b>	
• Captures, monitoring, surveys	\$68,806
• Staff time	\$194,970
• <b>Total</b>	<b>\$263,775</b>
<b>Conflict Management</b>	
• Staff time	\$242,069
• Deterrence measures (cost-share, range riders, other)	\$543,575
• USDA Wildlife Services non-lethal deterrence assistance	\$30,048
• Compensation	\$57,752
• Lethal removal	\$135,094
• <b>Total</b>	<b>\$1,008,538</b>
<b>TOTAL</b>	<b>\$1,272,314</b>

Fund source: WLS/SGF/PLP/Orca \$1,086,864 /Federal \$185,450

# Research

- Completed Projects:
  - Hanley (2017 - PhD Dissertation) Forecasting Livestock Depredation Risk by wolves
  - Spence (2017 - MS Thesis) Wolf Predation on Livestock in WA
- Ongoing Projects:
  - A. Valerio - Risk effects of wolves on livestock productivity in WA
  - Predator Prey Project

# Predator-Prey Project: Ungulates

- Examine the impact of wolf predation on co-occurring deer and elk populations
- Data collection of...
  - survival and causes of mortality
  - reproduction and recruitment of young
  - age class structure
  - geographic distribution relative to resources and predators



# Predator-Prey Project: Ungulates

- Capture efforts began winter 2017
- Target sample sizes: 100 mule deer, 50 elk, 65 white-tailed deer
- All targets met this winter except white-tailed deer



# Predator-Prey Project: Ungulates

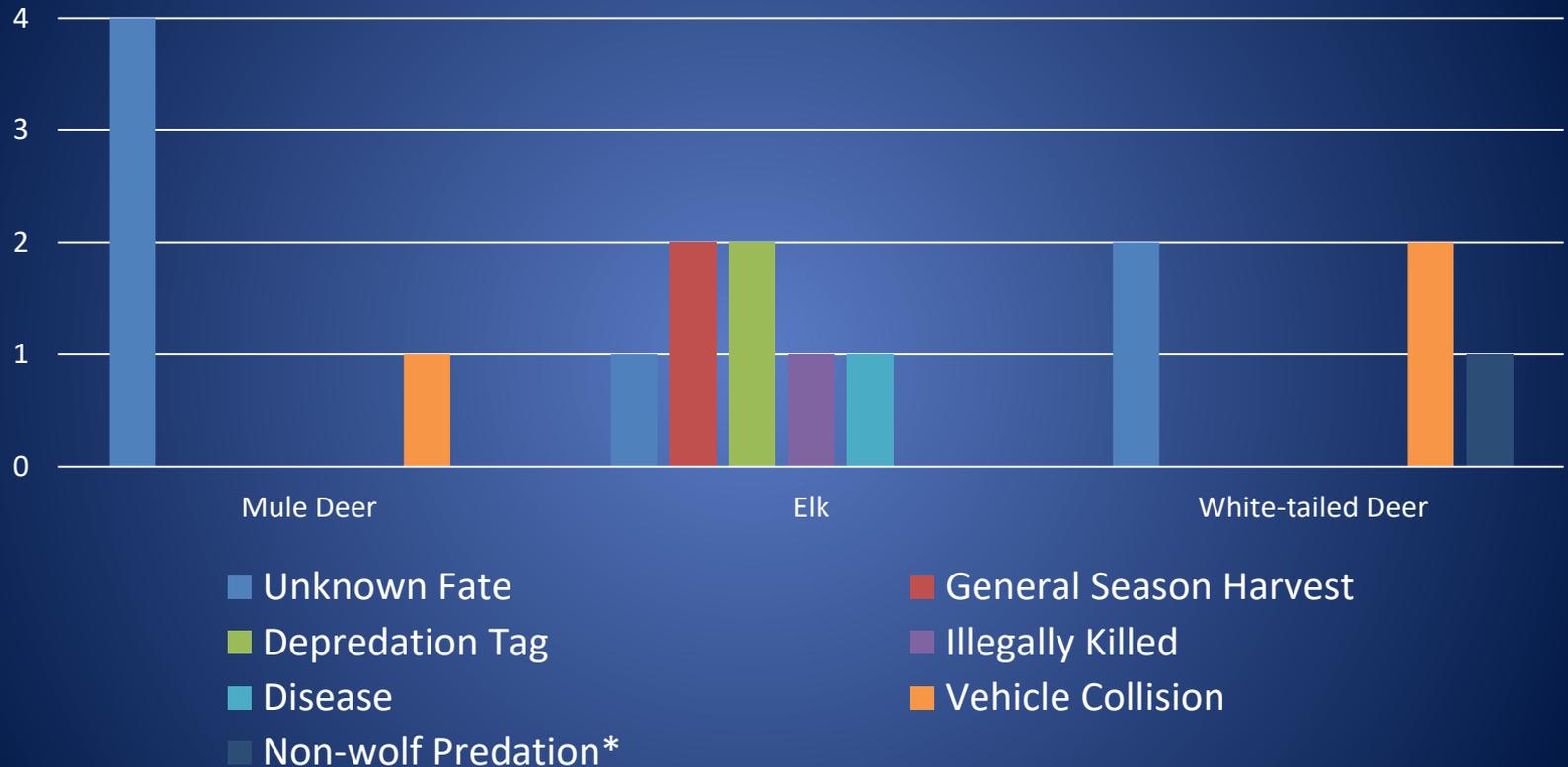
- Preliminary results from 2017:

Species	# Collared	% Pregnant	Survival Prob. (95% CI)	Known predation by wolves	Cause of death unknown*
Mule Deer	20	95	0.1 (0.03, 1)	N/A	N/A
Elk	34	85	0.82 (0.02, 1)	0	0
White-tail	19	94	0.63 (0.37, 0.89)	0	5

\* Indeterminate cause of death due to the absence of clear evidence at the mortality site usually due to scavenging, decomposition of tissues, and lack of hemorrhage

# Predator-Prey Project: Ungulates

Preliminary Results as of March 2018



\* Non-wolf predation (n = 1 coyote predation)

# Predator-Prey Project: Ungulates

- Too early to do rigorous analyses
- Use statistical models to quantify the impact of wolf predation on each species' population growth rate
- Data collection and analyses slated through 2021
- Collaborating with the University of Washington – four graduate students:
  - Taylor Ganz (ungulate, Ph.D.)
  - Lauren Satterfield (carnivore, Ph.D.)
  - Sarah Bassing (quantitative methods, Ph.D.)
  - Kate Orlofsky (mesocarnivore, Ph.D.)

# Questions?

