Oregon Wolf Conservation and Management

2020 Annual Report

This report to the Oregon Fish and Wildlife Commission presents information on the status, distribution, and management of wolves in the State of Oregon from January 1, 2020 to December 31, 2020.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 2
OREGON WOLF PROGRAM OVERVIEW 3
Regulatory Status 3
Minimum Numbers, Reproduction, and Distribution 4
Monitoring 6
Information and Outreach 7
Wolf Program Funding 8
LIVESTOCK DEPREDATION MANAGEMENT 8
East Wolf Management Zone 9
West Wolf Management Zone 10
Compensation for Wolf-Caused Losses 12

TABLES

Table 1. Minimum wolf numbers in Oregon on Dec. 31, 2020 4
Table 2. Summary of 2020 confirmed wolf depredation incidents in East WMZ 9
Table 3. Summary of 2019 confirmed wolf depredation incidents in West WMZ 10
Table 4. Funds awarded through the County Block Grant Program in 2020 12

FIGURES

Figure 1. Wolf Management Zones and Federal ESA Status in Oregon during 2020. 3
Figure 2. Minimum wolf count in Oregon (2009-2020) 4
Figure 3. Number of packs and breeding pairs in Oregon (2009-2020). 4
Figure 4. Distribution of known resident wolf activity areas in December 2020 5
Figure 5. Number of depredation investigations conducted by Wolf Management Zone 8
Figure 6. Number of confirmed depredations by Wolf Management Zone 8
Figure 7. Number of confirmed cattle and sheep losses in Oregon by year (2009-2020). 9
Figure 8. Number of confirmed depredation events in East WMZ by year (2009-2020). 10
Figure 9. Number and trend of depredation events and wolf count in East WMZ (2009-2020) 10
Figure 10. Number of confirmed depredation events in West WMZ (2015-2020) 11
Figure 11. Number and trend of depredation events and wolf count in West WMZ (2013-2020) 11

EXECUTIVE SUMMARY

Wolf program activities are guided by the Oregon Wolf Conservation and Management Plan (Wolf Plan) and the associated statutes and administrative rules. Wolves are protected as a special status game mammal and were delisted statewide in 2015 under the Oregon Endangered Species Act (ESA). Wolves occurring west of Oregon Highways 395/78/95 were federally listed as endangered under the federal ESA for all of 2020.

The Oregon Department of Fish and Wildlife (Department) monitors the wolf population and implements the Wolf Plan based on the number of successfully reproducing pairs of wolves in each of two management zones. By the end of 2020, the Wolf Plan conservation objective of four breeding pairs for three years had not been reached in the West Wolf Management Zone (WMZ). Wolves in the West WMZ continue to be managed under Phase I. The wolf population in the East WMZ continued to exceed the Wolf Plan minimum management objective of seven breeding pairs and wolves were managed under Phase III.

The minimum known count of wolves in Oregon at the end of 2020 was 173 wolves. The count increased by 9.5% from the 2019 minimum known number of 158. At the end of the year, 22 packs were documented and 17 of those packs met the criteria as breeding pairs. In addition, seven groups of two or three wolves were identified. During the year, resident wolf activity was identified in 35 separate geographic areas and 12 counties including parts of Baker, Douglas, Grant, Jackson, Klamath, Lake, Lane, Morrow, Umatilla, Union, Wallowa, and Wasco.

Capacity to implement the Wolf Plan in 2020 was increased with the hiring of three new wolf biologists approved by the Oregon Legislature and Governor in 2019. The Department monitored 47 radio-collared wolves, including 21 that were captured and radio-collared during 2020. At year-end, 34 radio-collared wolves (20% of the minimum wolf count) were being monitored. Nine wolf mortalities were documented during the year, including seven that were human caused.

The Department received requests from livestock producers for 73 investigations of dead or injured livestock suspected to be wolf depredation. Of those investigations, 31 were confirmed as wolf depredation, compared to 16 in 2019. The majority of the depredation (52%) was attributed to the Rogue Pack in the West WMZ. As stipulated in the Wolf Plan, livestock producers implemented non-lethal measures to minimize depredation. No wolves were lethally removed in response to chronic depredation in 2020, and one wolf was lawfully shot while in the act of chasing livestock.

The Oregon Department of Agriculture's compensation program awarded grants totaling $251,529 to 12 counties in 2020. Funds were used for non-lethal preventative measures to reduce depredation and for direct payment of confirmed depredations and missing livestock to livestock producers.

OREGON WOLF PROGRAM OVERVIEW

Regulatory Status

Federal Status: On November 3, the United States Fish and Wildlife Service (USFWS) published the final rule in the Federal Register to delist all gray wolves under the federal ESA (with an exemption for the Mexican Gray Wolf). The rule did not go into effect until January 4, 2021, so wolves occurring west of Oregon Highways 395/78/95 continued to be managed as endangered under the federal ESA for all of 2020 (Figure 1). In the federally listed portion of Oregon, the Department implemented the Wolf Plan under the guidance of the Federal/State Coordination Strategy (updated April 2019). The USFWS made all management decisions regarding harassment and take of wolves and collaborated on monitoring and depredation response.

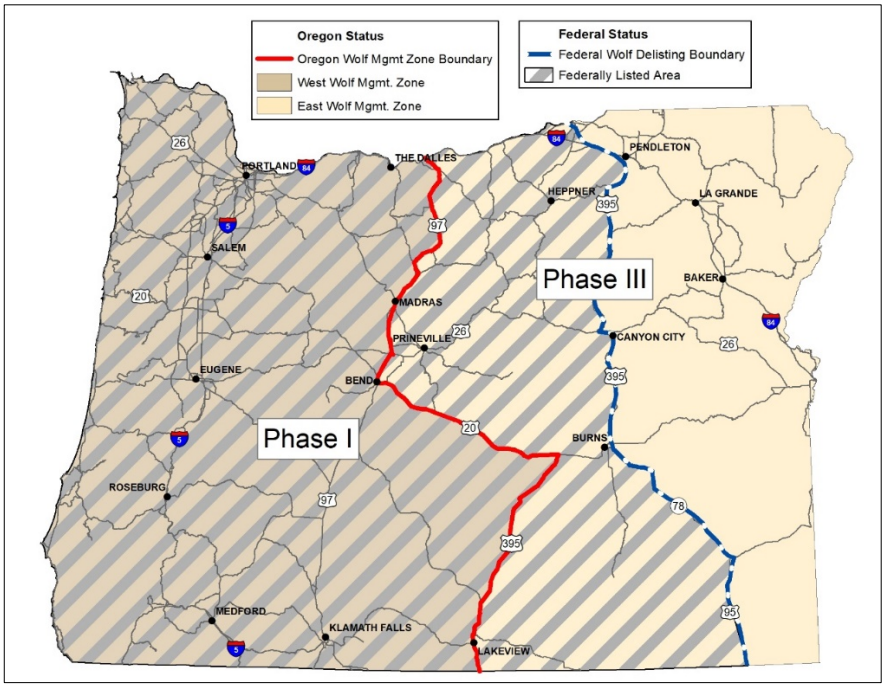

Figure 1. Wolf Management Zones and Federal ESA Status in Oregon during 2020.

State Status**:** The Commission removed wolves from the Oregon List of Threatened and Endangered Species in 2015. Wolves are protected statewide as a special status game mammal and managed by the Wolf Plan guidelines and associated rules based on where they are located. Wolves in the West WMZ are managed under the more protective Phase I rules until their population reaches a minimum of four breeding pairs for three consecutive years. A **breeding pair** is defined as an adult male and adult female with at least two pups that survived to December 31 of the year of their birth. Only one pack counted as a breeding pair in the West WMZ in 2020, so it will be at least three more years before the Phase I conservation objective could be reached.

Wolves in the East WMZ continue to be managed under Phase III rules as more than seven breeding pairs were documented. Phase III focuses on the conservation of wolves while allowing more flexibility to address wolf conflict. This includes continuing to emphasize the use of non-lethal deterrents to reduce livestock depredation and the use of controlled take in certain situations.

Minimum Numbers, Reproduction, and Distribution

Currently, the Department provides a minimum known number of wolves present in Oregon at the end of the year; it is a direct count of wolves, not an estimate. The minimum known wolf count in 2020 was 173, a 9.5% increase from 2019 (158, Figure 2). The actual number of wolves in Oregon is actually higher because not all wolves present in the state are located during the winter count. The numbers could increase if evidence is collected during 2021 of additional wolves present during 2020.

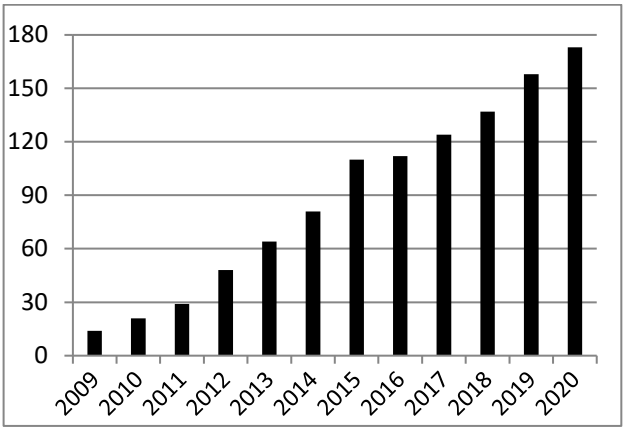

Figure 2. Minimum wolf count in Oregon (2009-2020).

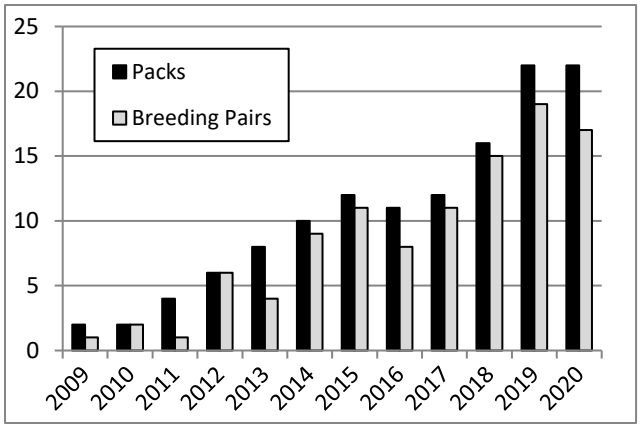

Figure 3. Number of packs and breeding pairs in Oregon (2009-2020).

For monitoring purposes, a **pack** is defined as four or more wolves traveling together in winter. Twenty-two packs were documented at the end of 2020 (Figure 3), with a mean pack size of 6.9 wolves and ranging between four and fifteen individuals (Table 1). In addition, seven groups of two or three wolves were identified. Throughout this report, group is used to denote two or more wolves traveling together. During the winter count, six individual wolves were counted in Grant, Lake, Lane, Union, and Wallowa counties, plus one radio-collared individual that visited Deschutes, Klamath and Lake counties. Some of these wolves were resident; others may have been dispersing.

Table 1. Minimum wolf numbers (total = 173) in Oregon on Dec. 31, 2020 by Wolf Management Zone. Underlined packs were counted as breeding pairs.

Pack/Group	Total	Pack/Group	Total	Pack/Group	Total
East Wolf Management Zone					
Balloon Tree Pack	5	Heppner Pack	5	South Snake Pack	4
Bear Creek Pack	5	Keating Pack	8	Walla Walla Wolves	3
Catherine Pack	5	Lookout Pack	4	Wenaha Pack	7
Chesnimnus Pack	9	Middle Fork Pack	6	Wildcat Wolves	2
Clark Creek Pack	10	Noregaard Pack	15	Ukiah Pack	6
Cornucopia Pack	7	Northside Wolves	3	OR30 Wolves	3
Desolation Pack	6	North Emily Pack	4	OR75/OR86 Wolves	2
Fivemile Pack	5	Pine Creek Pack	8	Individual Wolves	4
Five Points Pack	10	Ruckel Ridge Pack	5		
West Wolf Management Zone					
Indigo Pack	5	Silver Lake Wolves	2	Individual Wolves	3
Rogue Wolves	3	White River Pack	9		

The Wolf Plan dictates using a minimum count of breeding pairs for a WMZ in Phase I and II, and a count of packs during Phase III. The Department has continued to count breeding pairs statewide, but this becomes more challenging to implement as the number of wolves increases. At the end of 2020, 17 packs were documented as successful breeding pairs, two packs less than 2019 (Figure 3). Reproduction was documented in 28 packs or pairs, and six of those packs had one pup surviving to the end of the year, instead of two pups, as necessary to be considered a breeding pair.

Resident wolf activity was distributed across Oregon, similar to 2019. Areas of Known Wolf Activity (AKWA) were located in 35 separate geographic areas, in parts of 12 counties: Baker, Douglas, Grant, Jackson, Klamath, Lake, Lane, Morrow, Umatilla, Union, Wallowa, and Wasco Counties (Figure 4). In the East WMZ, there were 25 AKWAs in the Blue and Wallowa Mountains north of Interstate 84 and six AKWAs in the Blue Mountains south of Interstate 84. Three of these AKWAs (Minam, Mt Emily, and Snake River) were discontinued by the end of 2020 since these packs were no longer active in their pack territories. In the West WMZ, there were three AKWAs in the southern Oregon Cascades and one in the northern Oregon Cascades. The number of wolves in the West WMZ increased by 29% over 2019, with 13% percent of known Oregon wolves residing there.

Wolves from the Butte Creek, Grouse Flats, and Touchet Packs from Washington had locations in Oregon during 2020. Wolves from these packs have traditionally denned in Washington and are not counted in Oregon's count. Information about Washington packs is available at www.wdfw.wa.gov.

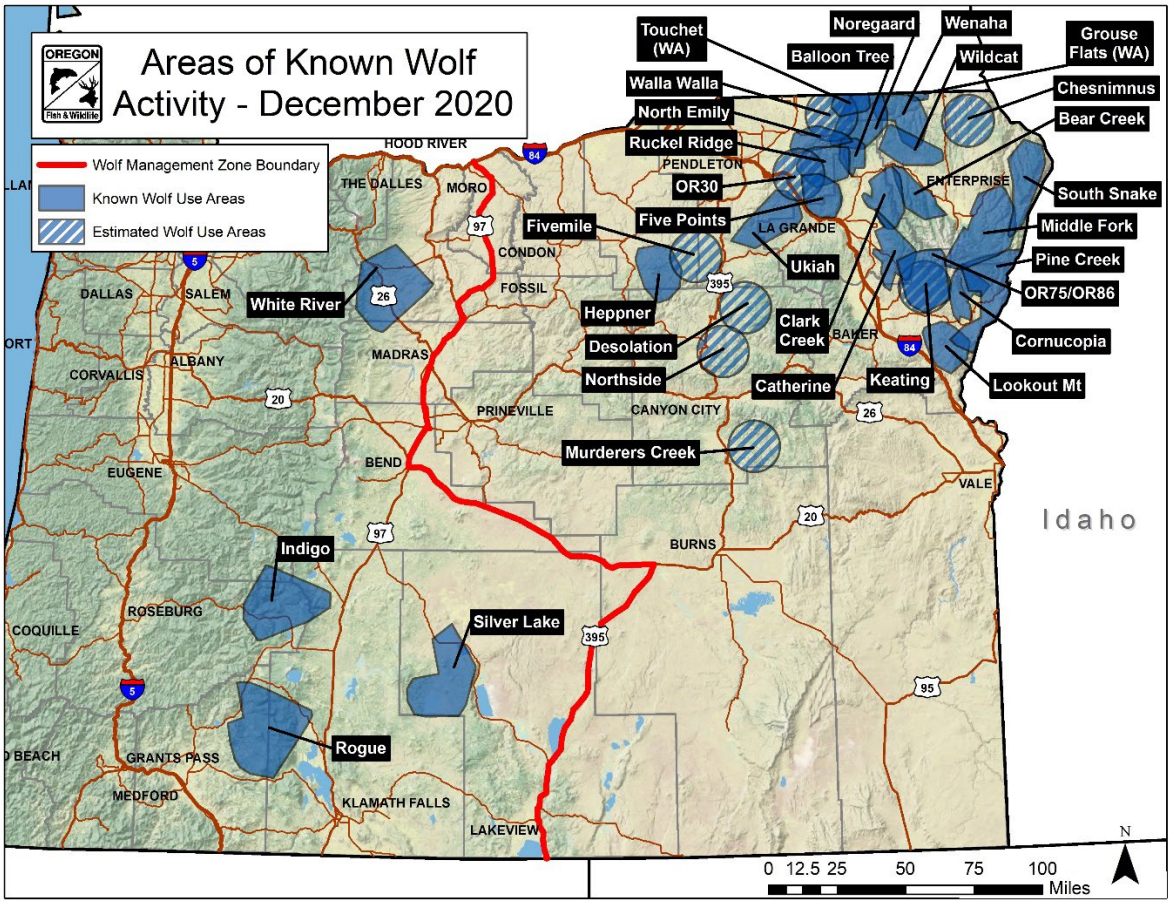

Figure 4. Distribution of known resident wolf activity areas in December 2020.

Monitoring

Twenty-one wolves were captured and radio-collared during 2020, up from the 14 collared in 2019. Four of the wolves were recaptured to replace their radio-collars. Eighteen wolves were radio-collared with satellite GPS radio-collars and three with VHF radio-collars. VHF radio-collars are more labor intensive to monitor in the field, but the collars have a lower failure rate and longer battery life, increasing the ability to track a pack long term. The Department captured four wolves using foothold traps and 11 by helicopter darting. The USFWS trapped (also using foothold traps) two wolves, one with assistance from Confederated Tribes of the Warm Springs. Four wolves were incidentally trapped by licensed trappers, fitted with radio-collars by the Department, and safely released.

Data was collected from 47 radio-collared wolves in 26 groups during 2020, including two wolves collared by Washington Dept. of Fish and Wildlife that occasionally visit Oregon. By year-end, 34 of these wolves were still being actively monitored (20% of the minimum wolf count). Eight radio-collared dispersing wolves were monitored in 2020. Four of the wolves dispersed within Oregon, two dispersed to Idaho, one to California, and one wolf left California and became resident in Oregon. Contact with 14 radio-collars was lost during the year when three wolves dispersed out of state, four radio-collared wolves died, and seven radio-collars failed.

In addition to monitoring information downloaded from GPS radio-collars, Department biologists visually monitored radio-collared and accompanying wolves from the air and ground; implemented track and howling surveys; and conducted remote camera surveillance within areas of known or suspected wolf activity. Through collar data and surveys, the Department collected 17,279 wolf location data points in Oregon in 2020. Of those, 57% of locations for resident wolves were on public lands, 38% on private lands, and 5% on tribal lands. For groups that had considerable GPS radio-collar data (n=15), the pack territory sizes ranged from 97 to 545 mi^2 (251-1,412 km^2) with a mean of 301 mi^2 (780 km^2).

Wolf reports from the public increased in 2020, with 397 wolf reports received by Department biologists or the Department's online wolf reporting system (www.odfw.com/wolves) during the year. Subsequent follow-up of some of these public reports yielded valuable information about new wolf activity and existing groups without radio-collars.

Mortalities: Nine wolf mortalities were documented during 2020, up two from 2019, with eight occurring in the East WMZ and one in the West WMZ. Oregon State Police (OSP) investigated all wolf mortalities. A partially decomposed Wenaha Pack pup was discovered near the pack rendezvous in July. The cause of death is unknown, but likely was natural causes. An Indigo Pack radio-collared yearling was found dead in September. The necropsy identified that the emaciated wolf had been in poor health and likely died from starvation.

Seven wolf deaths were human caused. One wolf, likely dispersing, was killed by a motor vehicle collision on Interstate-84 in Union County. One radio-collared subadult Pine Creek Pack wolf died in March from injuries apparently sustained when hit by a boat while swimming across the Snake River. (The Pine Creek Pack often crossed into Idaho during the winter.) One wolf was killed legally under the Caught-in-the-Act Lethal Take regulations. See the Livestock Depredation Management section (below) for more information.

Four wolves were killed illegally in 2020; three deaths are still under investigation, and OSP is actively seeking more information. The radio-collared breeding male of the Ruckel Ridge Pack was shot in Umatilla County in May. The radio-collared breeding male of the Cornucopia Pack was shot in September in Baker County. A subadult wolf, believed to be from the Pine Creek Pack, was shot in October in Baker County. The case is closed on the fourth wolf, a subadult gray female that was mistaken as a coyote and shot in Union County in December. OSP determined that charges were not warranted, and a warning was given.

OSP and USFWS Law Enforcement are seeking information about these and other illegally killed wolves from previous years. Rewards ranging from $2,500 to $15,000 have been offered for information leading to a conviction. Public reports help protect Oregon wildlife from poaching. Reports can be made anonymously to the OSP Turn In Poachers (TIP) Line at 800-452-7888 or by email: TIP@osp.oregon.gov.

Information and Outreach

The Department continued to rely on its internet-based wolf webpages (www.odfw.com/wolves) as the primary information distribution tool in 2020. The online wolf pages have information about wolf biology, the Wolf Plan, specific pack information, and reporting wolf sightings. Throughout the year, the pages received 145,456 views. The wolf program home page alone received nearly 24,000 views. Currently, 10,341 people subscribe to the Department's wolf program email update page.

The Department also maintains a wolf-livestock update page that focuses on the information needs of livestock producers and the requirements under Phase I Oregon Administrative Rules. Since this page was launched, 8,310 people have subscribed to receive updates on confirmed depredations, maps of AKWAs, Areas of Depredating Wolves, Conflict Deterrence Plans, and other information.

The "What to Expect When You Encounter a Wolf" video (https://youtu.be/r76GJDP0uWQ) was viewed over 10 million times by the end of 2020. The video helps recreationists, hunters and livestock producers better understand wolf behavior. The Coyote and Gray Wolf Identification Quiz webpages continued to be popular with visitors to the website. Hunters are responsible for knowing their target when hunting, so the quiz is designed to help hunters identify the difference between coyotes and gray-colored wolves to reduce the chance of shooting a wolf by mistake.

In addition to web-based information, the Department conducted numerous media interviews with print, radio, television, and documentary reporters, and responded to a number of queries. The Covid-19 pandemic negatively affected outreach plans for 2020. No organized indoor workshops about non-lethal measures were held, but small group and one-on-one conference calls and outdoor discussions were common. In person and virtual presentations were given to schools, agencies, agriculture organizations, ODA county compensation committees, and conservation groups.

Wolf Program Funding

Two full-time biologists that coordinate statewide wolf program activities out of the East Region office in La Grande are funded primarily with a federal grant from the Pittman-Robertson Grant Program. The federal grant budget allocation for the 2019-2021 biennium is $690,502. This grant includes 75% federal funds with 25% state match that comes from a combination of Oregon Department of Fish and Wildlife license dollars (9%) and Lottery Funds (16%).

Starting in early 2020, three regional wolf biologists worked out of the Enterprise, Prineville and Central Point field offices. In 2019, the Oregon Legislature and Governor approved these new positions. The positions were allocated $702,842 for the 2019-2021 biennium from General Fund, though actual expenditures are expected to be lower since the positions were not filled for the first six months of the biennium. These new positions greatly increase capacity for wolf monitoring, livestock producer assistance and outreach.

LIVESTOCK DEPREDATION MANAGEMENT

In 2020, the Department received requests from livestock producers for 73 investigations of dead or injured livestock suspected to be wolf depredation (22 in West WMZ, 51 East WMZ), a 46% increase from 50 requests in 2019 (Figures 5, 6, 7). The investigations resulted in 31 (42%) *confirmed* determinations, 2 (3%) *probable* determination, 15 (21%) *possible/unknown*, and 25 (34%) *other* (not wolf-related). Statewide, confirmed depredation events increased 94% in 2020 from 2019 (31 vs. 16). The majority of the depredation (52%) was attributed to the Rogue Pack, which depredated 16 times in 2020. Since confirmed depredations were first recorded in 2009, the Rogue Pack (2014-Present) and former Imnaha Pack (2008-2016) represent 45% of all confirmed depredations in Oregon. During 2020, 84% of confirmed events occurred on private land, 13% on public land, and 3% on tribal land.

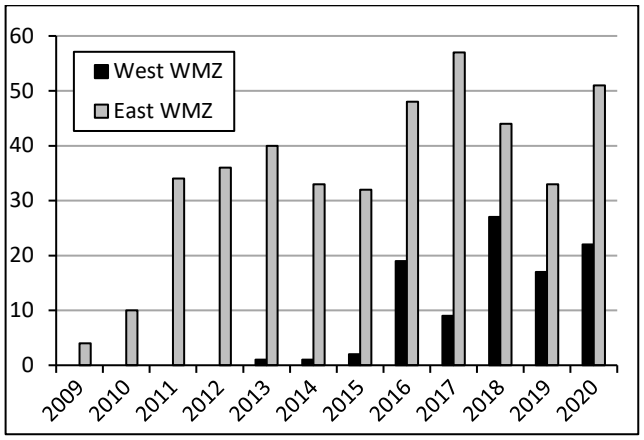

Figure 5. Number of depredation investigations conducted by Wolf Management Zone by year.

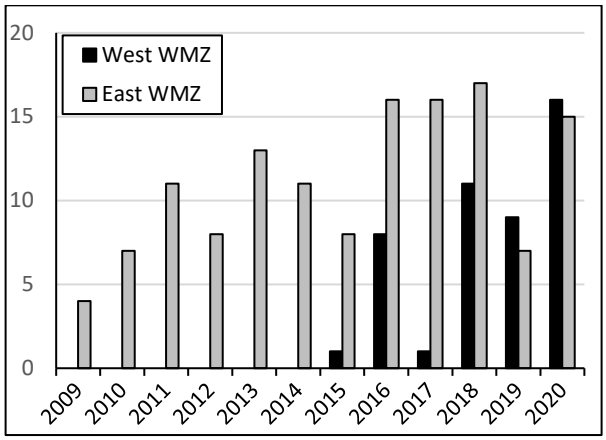

Figure 6. Number of confirmed depredations by Wolf Management Zone by year.

In 2020, 39 newly designated or revised Area of Known Wolf Activity maps were posted on the website in order to inform livestock producers of resident wolf activity. District wildlife biologists informed producers when new areas of resident wolves overlapped with their livestock and advised them of non-lethal strategies to reduce livestock vulnerability. This information may help livestock managers know where and when to focus preventative actions.

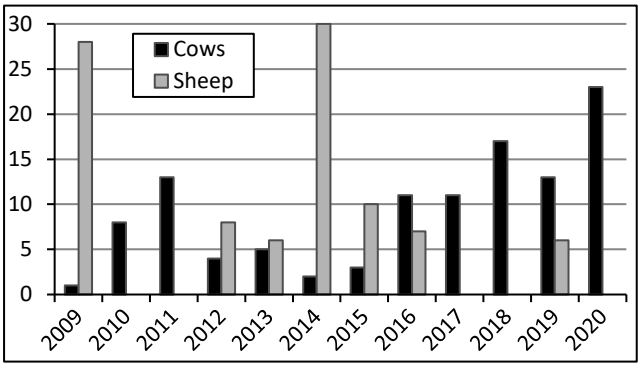

Figure 7. Number of confirmed cattle and sheep losses (deaths) in Oregon by year (2009-2020).

East Wolf Management Zone

The Department confirmed 15 depredations in the East WMZ (Table 2). This is a large increase over 2019 (7), but fewer depredations than 2016, 2017 and 2018 (Figure 8). Five packs each depredated one time, and four packs depredated twice. No packs were known to depredate more than two times in 2020, and 14 packs had no confirmed depredations. Livestock producers in some of these pack areas have been sharing the landscape with wolves for up to 10 years, so many of them are experienced at reducing conflict. The Department authorized incremental lethal removal in the East WMZ during 2011, 2017 and 2018. Full pack (or pair) removal was authorized in 2009 and 2016. Livestock producers were able to kill wolves that were caught in the act of depredating during 2016, 2019 and 2020. This combination of implementing non-lethal and lethal measures, in addition to other factors, has allowed for a Oregon's wolf population to increase significantly while depredation events and livestock losses have increased at a much lower rate (Figure 9).

Table 2. Summary of 2020 confirmed wolf depredation incidents in East Wolf Management Zone.

Date	Animals Affected	County	Pack or Individual
2/16/2020	Cow (Dead: 1 bull)	Baker	Keating
3/9/2020	Cow (Injured: 1 calf)	Baker	Cornucopia
4/16/2020	Llamas (Injured: 1, Dead: 1)	Union	Five Points
4/22/2020	Cow (Injured: 1 calf)	Wallowa	Middle Fork
4/22/2020	Cow (Injured: 1 calf)	Wallowa	Middle Fork
5/13/2020	Cow (Dead: 1 calf)	Umatilla	Mt Emily
5/23/2020	Cow (Injured: 1 calf)	Wallowa	Chesnimnus
5/26/2020	Cow (Injured: 1 calf)	Union	Clark Creek
6/18/2020	Working Dog (Injured: 1 adult)	Umatilla	Mt Emily
7/27/2020	Cow (Dead: 1 calf)	Wallowa	Chesnimnus
8/30/2020	Working Dog (Dead: 1 adult)	Union	Ruckel Ridge
9/22/2020	Cow (Dead: 1 calf)	Union	Five Points
10/5/2020	Cow (Dead: 1 calf)	Morrow	Heppner
10/8/2020	Cow (Dead: 1 calf)	Wallowa	unknown
10/29/2020	Cow (Dead: 1 calf)	Harney	OR85

Lethal Options: Within the federally delisted portion of the East WMZ and under OAR 635-110-0030 (Phase III), the Department may lethally remove wolves or issue a limited duration permit for a livestock producer to kill wolves to minimize further depredation. Four packs chronically depredated (two depredations in a nine-month period) in 2020. The Department evaluated each situation, but none met a level where lethal removal was authorized, so no wolves were lethally removed for chronic depredation.

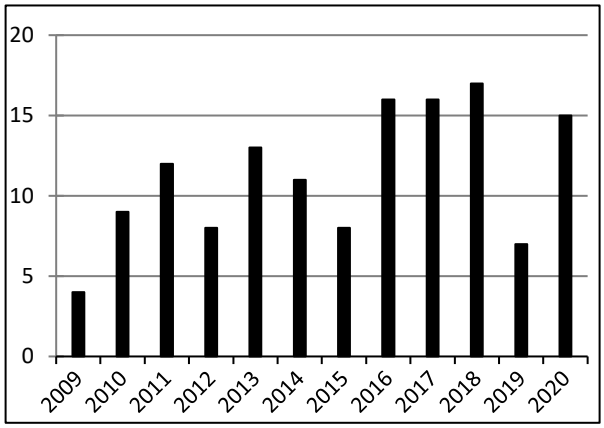

Figure 8. Number of confirmed depredation events in East WMZ by year (2009-2020).

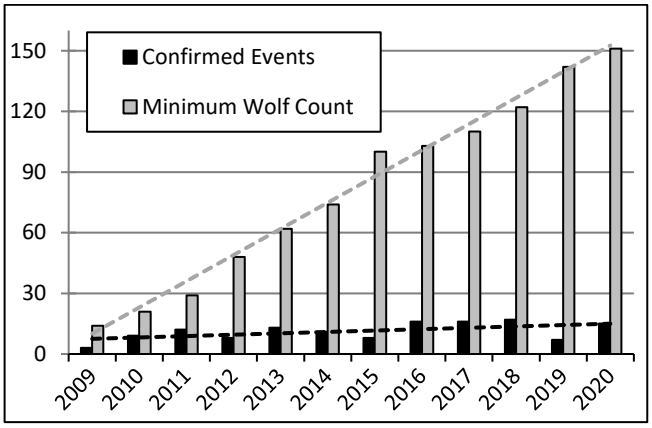

Figure 9. Number and trend of depredation events and minimum wolf count in East WMZ (2009-2020).

A lethal option available to livestock producers east of Highways 395/78/95 was to lawfully shoot a wolf caught in the act of biting, wounding, killing or chasing livestock or working dogs in certain circumstances without a permit. In April, a livestock producer in Wallowa County lawfully shot a yearling wolf from the Middle Fork Pack while it was in the act of chasing his livestock. That producer had hazed wolves multiple times and had lost two calves to wolf depredation in the preceding days.

West Wolf Management Zone

For the third year in a row, all confirmed wolf depredations in the West WMZ were attributed to the Rogue Pack, which depredated 16 times killing or severely injuring (all euthanized) 15 yearling steers and one yearling heifer (Table 3). This is the second year in a row where the number of confirmed depredations in the West WMZ exceeded those of the East WMZ (Figure 6), despite the West WMZ only having 13% of the wolf population. The Rogue Pack has depredated since 2016 despite significant non-lethal measures by livestock producers and agency staff, with 40 depredations total (Figure 10). Lethal removal has not been an option in the federally protected area under the ESA.

Table 3. Summary of 2020 confirmed wolf depredation incidents in West Wolf Management Zone.

Date	Animals Affected	County	Pack
5/11/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
5/14/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
7/17/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
7/30/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
7/31/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/7/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/9/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/10/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/16/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/22/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
8/23/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
9/2/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
11/7/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
11/9/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
11/12/2020	Cow (Dead: 1 yearling)	Klamath	Rogue
11/26/2020	Cow (Dead: 1 yearling)	Jackson	Rogue

Non-Lethal Measures: Efforts to reduce wolf-livestock conflict in the West WMZ started in 2014 when the Rogue Pack first formed. After the first depredation in 2016, the Department designated an Area of Depredating Wolves and posted a Conflict Deterrence Plan to alert livestock owners where to focus non-lethal measures and to identify the most appropriate tools area landowners could use to reduce conflict. Substantial efforts by area livestock owners, the Department, USFWS, USDA Wildlife Services (WS) staff, county compensation committees, and non-profit organizations were implemented over the last five years to limit depredation. Methods included bone pile and carcass removal, human presence, increased vigilance, moving livestock, deploying of electronic light and sound scare devices, livestock protection dogs, fladry, a permanent 3-mile electric fence, and conducting non-lethal workshops.

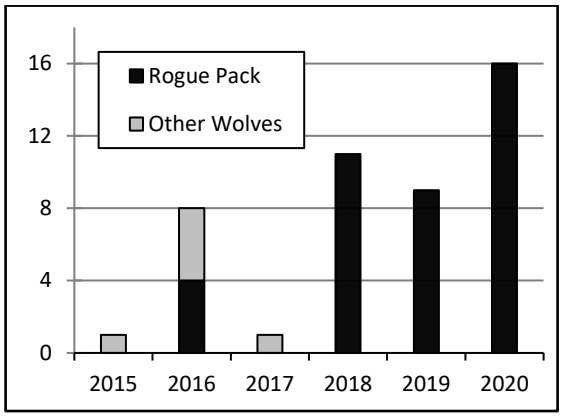

Figure 10. Number of confirmed depredation events in West WMZ (2015-2020)

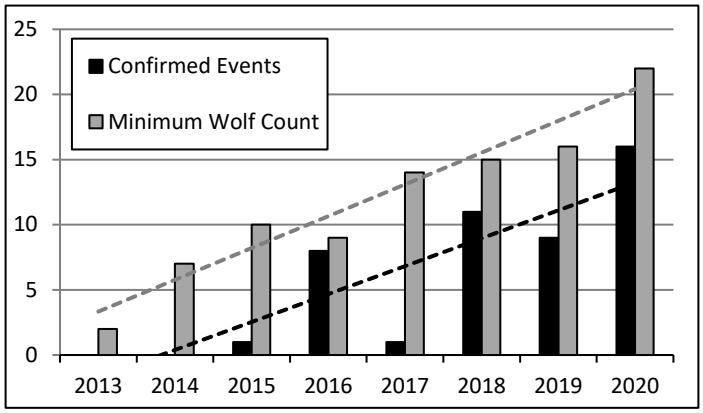

Figure 11. Number and trend of confirmed depredation events and minimum wolf count in West WMZ (2013-2020)

During 2020, USFWS, WS, and Department staff implemented a coordinated nighttime patrol in Klamath County to haze wolves out of livestock pastures in the northern Wood River Valley where depredation was concentrated. Agency staff hazed all night on 99 nights between 30-July-2020 and 25-Nov-2020. This overnight agency presence leveraged real time information about wolf locations derived from howling, radio-telemetry, cattle disturbance, and visual observation through night-vision thermal imaging devices in an attempt to deter wolves. The hazing pushed the wolves back into the forest on some nights, but other nights they depredated. The personnel costs of this collaboration with USFWS, WS and the Department was significant during the four months.

Lethal Options: Prior to and during 2020, all lethal take was regulated by the USFWS, and no lethal removal was authorized in this area. Confirmed depredations in the West WMZ have increased at a rate similar to the increase of the wolf population (Figure 11).

Compensation for Wolf-Caused Losses

The Oregon Department of Agriculture's (ODA) Wolf Depredation Compensation and Financial Assistance County Block Grant Program provides four types of financial assistance options. It provides direct compensation for confirmed and probable wolf depredations during the previous grant period, and payment for livestock reported as missing as a result of wolf depredation. Grant money is awarded to participating counties to assist with costs to purchase supplies and implement preventative measures during the upcoming grant period, and lastly covers some county program implementation costs.

The Department's primary roles are to delineate AKWAs and to investigate dead or injured livestock to determine if wolf depredation has occurred. Some counties request the Department to provide input on wolf activity and appropriate preventative non-lethal measures. ODA awarded $251,529 to twelve counties, up from $178,319 awarded in 2019 (Table 4). The USFWS federal prevention grant awarded to ODA to augment the compensation program was almost doubled in 2020 by using the salaries of the three new Department wolf biologists as in-kind state matching funds.

Table 4. Funds awarded through the County Block Grant Program in 2020 (source; Oregon Department of Agriculture).

County	Death/Injury	Missing	Prevention	Admin	Total
Baker	$2,213	0	$30,000	$495	$32,708
Douglas	0	0	$16,000	$650	$16,650
Grant	0	0	$10,000	$500	$10,500
Jackson	$6,000	0	$20,000	0	$26,000
Klamath	$876	0	$11,000	0	$11,876
Lake	0	0	$1,000	0	$1,000
Malheur	0	0	0	$225	$225
Morrow	0	0	$16,000	$650	$16,650
Umatilla	0	$8,620	$50,000	$650	$59,270
Union	$1,330	0	$16,000	0	$17,330
Wallowa	0	$11,570	$43,000	$650	$55,220
Wheeler	0	0	$4,000	$100	$4,100
Award Amount	**$10,419 (4%)**	**$20,190 (8%)**	**$217,000 (86%)**	**$3,920 (2%)**	**$251,529**