

Oregon Wolf Conservation and Management 2015 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, 2015 to December 31, 2015.



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EXECUTIVE SUMMARY

Two important milestones were reached in Oregon wolf conservation in 2015. This year marks the first year that wolves are managed under Phase II guidelines as defined in the Oregon Wolf Conservation and Management Plan (Wolf Plan) in the East Wolf Management Zone (WMZ). The conservation objective of four breeding pairs for three consecutive years in the East WMZ was reached at the end of 2014, advancing wolf management into Phase II. The population objective has not yet been reached in the West WMZ and wolves there are still managed under Phase I.

The second milestone was reached when the Fish and Wildlife Commission (Commission) voted to remove wolves from the Oregon List of Endangered Species on November 9, 2015. The Commission's decision changed the wolf's ESA status but it has no immediate effects on wolf management in Oregon. Wolves occurring west of Oregon Highways 395/78/95 continued to be federally protected as endangered under the federal ESA.

The 2015 Oregon minimum wolf population is 110 wolves, a 36% increase from the previous year. Twelve packs were documented and eleven of those packs met the criteria as breeding pairs. In addition to the packs, four pairs of wolves were identified. Known wolf groups occurred in parts of Baker, Grant, Jackson, Klamath, Lake, Morrow, Umatilla, Union, and Wallowa Counties. Eight wolves were captured and radio-collared and throughout the year as many as 21 GPS radio-collared wolves were monitored. At year-end twelve wolves (11% of the population) were radio-collared in Oregon. Eight radio-collared wolves dispersed within Oregon, and one moved out-of-state. No incidental take was documented in Oregon. Seven wolf mortalities were documented during the year.

Confirmed depredation events of livestock decreased for the second year in a row; nine incidents of wolf depredation were confirmed in five areas of Oregon in 2015. The incidence of depredation has remained similar from year to year, although the wolf population has increased significantly. Per the Wolf Plan the Oregon Department of Fish and Wildlife (department) and area producers implemented non-lethal measures to minimize depredation. No lethal removal of wolves to minimize depredation was implemented.

The Oregon Department of Agriculture's compensation program awarded \$174,428 in ten counties in 2015. Most funds were used for preventative measures and secondarily for direct payment of confirmed depredations.

Public interest in Oregon wolf management remained high and the department's online wolf pages received nearly 178,000 views. Members of the public can sign up to be automatically notified of new wolf information and the number of subscribers increased by 21%. Currently, 5,428 people subscribe to the department's wolf update web page.

The Oregon State University/ODFW wolf-cougar research project in northeastern Oregon continued in 2015. This project is primarily focused on understanding competitive interactions and prey selection between wolves and cougars in the Mt Emily Wildlife Management Unit (Unit). Since 2014, researchers collected information by monitoring radio-collar data of 18 cougars and 11 wolves in 4 packs within the Mt Emily Unit.

OREGON WOLF PROGRAM OVERVIEW

Regulatory Status

Federal Status: Wolves occurring west of Oregon Highways 395/78/95 continued to be federally protected as endangered under the federal Endangered Species Act (Figure 1). In the federally listed portion of Oregon, the department implements the Wolf Plan under the guidance of the Federal/State Coordination Strategy (March 2011).

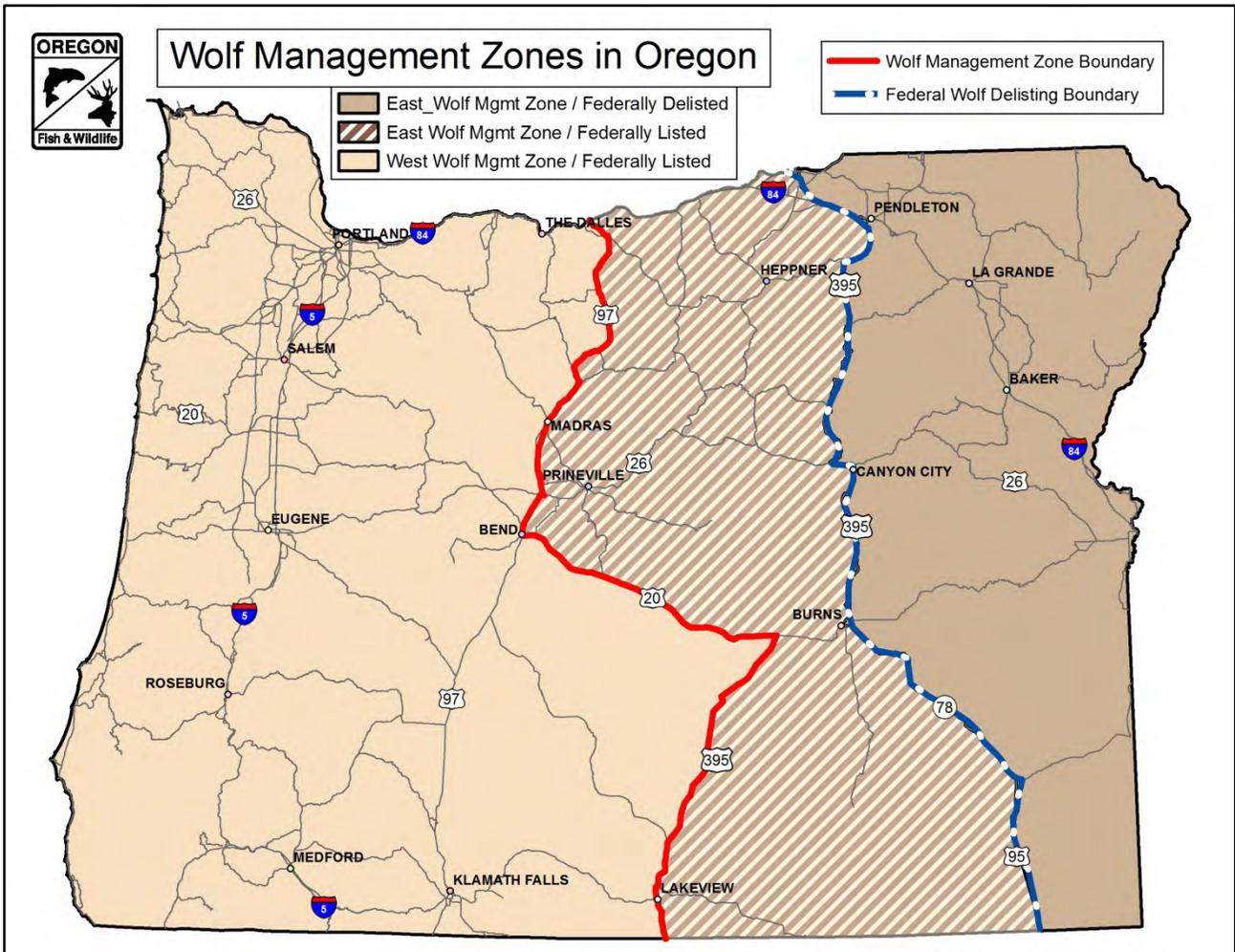


Figure 1. Wolf Management Zones and Federal ESA Status in Oregon

State Status: Wolves were removed from the Oregon List of Endangered Species by the Commission decision on November 9, 2015. The process to consider delisting was prompted by the Wolf Plan when wolves entered Phase II in eastern Oregon in January.

Upon entry into Phase II, the Wolf Plan directed the department to initiate proceedings to consider removing the gray wolf from the list of Oregon Endangered Species. Delisting a species from Oregon ESA (ORS 496.176) requires a public rulemaking decision by the Commission. This decision must be made upon a review of the best available scientific and other data, which means that the scientific

information is documented and verifiable information related to the species’ biological status, and upon the Commission making the following five determinations:

1. The species is not now (and is not likely in the foreseeable future to be) in danger of extinction in any significant portion of its range in Oregon or in danger of becoming endangered; and
2. The species’ natural reproductive potential is not in danger of failure due to limited population numbers, disease, predation, or other natural or human-related factors affecting its continued existence; and
3. Most populations are not undergoing imminent or active deterioration of range or primary habitat; and
4. Over-utilization of the species or its habitat for commercial, recreational, scientific, or educational purposes is not occurring or likely to occur; and
5. Existing state or federal programs or regulations are adequate to protect the species and its habitat.

The resulting biological status review and analysis used in the delisting decision is available at: http://www.dfw.state.or.us/Wolves/management_plan.asp. The delisting decision was the result of three public Commission meetings during the year on April 24, October 9, and November 9.

The Commission’s decision changed the wolf’s ESA status but it has no immediate effects on wolf management in Oregon. Wolves are still protected by the Wolf Plan and its associated rules. Wolves in the East WMZ will continue to be managed under Phase II rules, which did not change with the delisting. Wolves in the West WMZ are managed under the ESA-like Phase I rules until their population also reaches a minimum of four breeding pairs for three consecutive years.

Population, Distribution, and Reproduction

Minimum Population and Distribution: The 2015 minimum known Oregon wolf population is 110 wolves (Figure 2), a 36% increase from the previous year. The 2014 population was reported as 77 wolves in the 2014 Annual Report; this number was increased retroactively to 81 when additional evidence was collected showing that there was a pack of six wolves (with breeding pair status), instead of two, in the South Snake group.

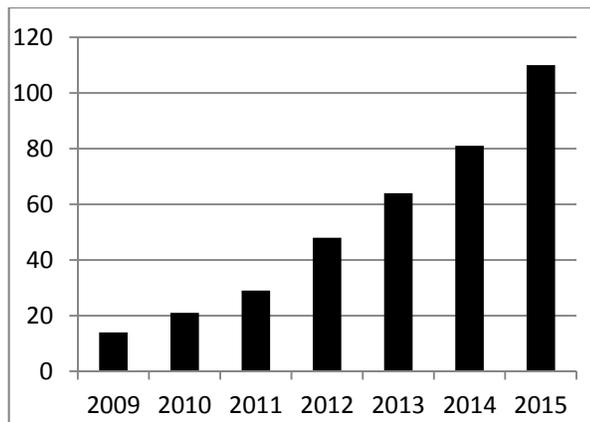


Figure 2. Minimum wolf population in Oregon (2009-2015).

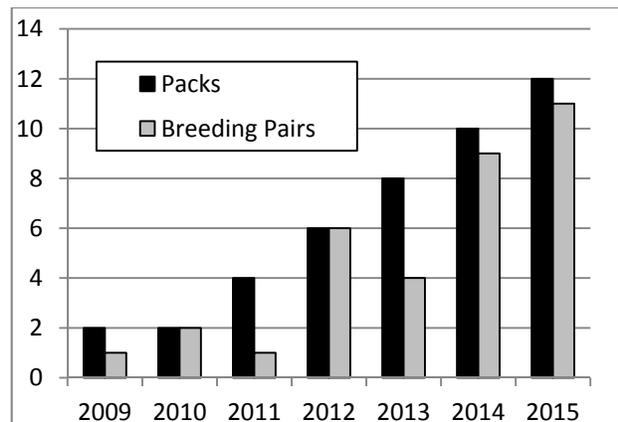


Figure 3. Number of packs and breeding pairs in Oregon (2009-2015).

For monitoring purposes, a pack is defined as 4 or more wolves traveling together in winter. Twelve wolf packs were documented and this included three newly formed packs – Catherine, Shamrock, and a recently discovered unnamed pack in the Heppner Unit (Figure 3). In addition, three new pairs of wolves (OR28 pair, OR30 pair, and OR35 pair) were also documented during the year. One pack and two pairs that were present at the end of 2014 were not counted in the 2015 year-end population due to pack disappearance during the year (Umatilla River and Sled Springs) or lack of recent information (Keno). Observed pack size ranged between 4 and 13 individuals with a mean of 8.2.

The twelve packs were distributed in two geographic areas of Oregon; eleven packs in northeastern Oregon and one in southwestern Oregon (Table 1). Nine percent of Oregon wolves were in the West WMZ. Known wolf groups occurred in parts of Baker, Grant, Jackson, Klamath, Lake, Morrow, Umatilla, Union, and Wallowa Counties. Areas of Known Wolf Activity (AKWA) were mapped for each pack, pair or individual radio-collared wolves that were resident in an area (Figure 4). In 2015, 65% of documented locations for resident wolves were on public lands, 32% on private lands and 3% on tribal lands. For packs that had substantial GPS radio-collar data (n=6), the pack territory sizes ranged from 129 to 428 mi², with a mean 285 mi².

Table 1. Minimum wolf population (Total = 110) in Oregon on Dec. 31, 2015 by pack and Wolf Management Zone. Underlined packs were counted as breeding pairs.

Pack/Group	WMZ	Total
<u>Catherine Pack</u>	East	4
Desolation Pair	East	2
<u>Imnaha Pack</u>	East	8
<u>Meacham Pack</u>	East	5
<u>Minam Pack</u>	East	13
<u>Mt. Emily Pack</u>	East	8
Rogue Pack	West	6
<u>Shamrock Pack</u>	East	6
<u>Snake River Pack</u>	East	11
<u>South Snake Pack</u>	East	9
<u>Unnamed Pack (Heppner Unit)</u>	East	5
<u>Walla Walla Pack</u>	East	11
<u>Wenaha Pack</u>	East	12
OR28 pair	West	2
OR30 pair	East	2
OR35 pair	East	2
Individual Wolves	East	2
Individual Wolves	West	2

Reproduction: Reproduction was documented in fourteen packs and new pairs during the summer. Eleven successful breeding pairs were documented which produced at least 35 known pups surviving through the end of the year. 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.

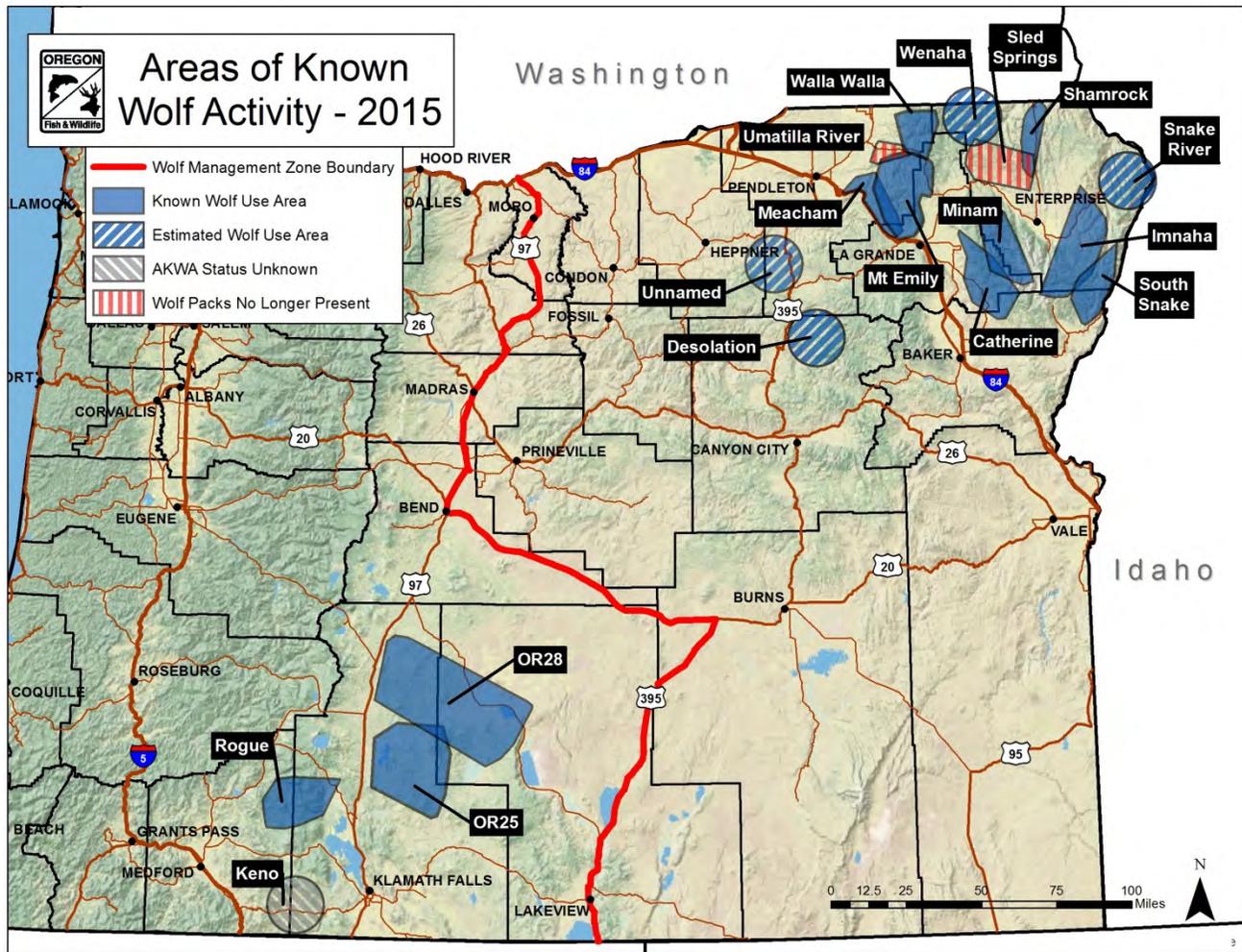


Figure 4. Distribution of Oregon wolves in 2015.

Pack Summaries

Catherine Pack: OR24 and OR27 formed a pair bond in July 2014. In 2015 they produced 2 pups that survived to the end of the year and are counted as a breeding pair. The pack used an area of 293mi² primarily in Catherine Creek Unit and 64% of location data points were on public lands.

Imnaha Pack: Two radio-collared male wolves dispersed and the breeding male's (OR4) collar failed during the year. Limited observations were made of the pack after reproduction was confirmed. However, the pack grew to 8 wolves and was counted as a breeding pair. The pack used an area of 428 mi² and 73% of the pack's location data points occurred on public land.

Meacham Pack: This pack was identified in 2014 in the southern portion of the Mt Emily Unit. In 2015 the pack produced at least three pups that survived to the end of the year and is counted as a breeding pair. The breeding male's radio-collared collar failed in November and a radio-collared male wolf dispersed in late December. GPS data shows the pack using a 167 mi² area which consisted of private land (60%), public land (31%) and tribal lands (9%) locations.

Minam Pack: The pack was discovered within the Eagle Cap Wilderness in the Minam Unit in 2012. The pack produced at least three pups that survived to the end of the year and was counted as a breeding pair. The breeding female's collar failed in May and a radio-collared adult female dispersed in late August. Prior to September the Minam Pack used a 285 mi² area with 99% of locations on public land.

Mt Emily Pack: This pack was first identified in 2013 in the central portion of the Mt Emily Unit. In 2015, the pair produced at least three pups that survived to the end of the year and was counted as a breeding pair. Data from three radio-collared wolves showed the pack using a 409 mi² area with 91% of locations on public lands. By the end of the year no collars were in the pack (via dispersal, mortality or collar failure).

Rogue Pack: This pack was first recognized in 2014 in the southern Cascade Mountains. After four years, the breeding male's (OR7) radio-collar failed in June of 2015. The pair produced at least two pups, but at the time of this report it is unknown if both survived to the end of the year. Thus, the pack is not counted as a breeding pair in 2015.

Shamrock Pack (Chesnimnus Pair): In November of 2014, OR23 (a female from the Umatilla River Pack) dispersed to the northern portion of Wallowa County and later paired with a male wolf. The pair was called the Chesnimnus pair in the 2014 Annual Report. In February the pair moved to the Sled Springs Unit and did not return to the Chesnimnus Unit. The new area they used covered 129 mi² and 90% of locations were on private land. Three pups were produced that survived to the end of the year and the pack counts as a breeding pair. Moving forward the new pack will be named the Shamrock Pack.

Sled Springs Pack: In 2014, OR21 (a radio-collared female from the Wenaha Pack) dispersed to the central portion of the Sled Springs Unit and paired with a male wolf. They produced pups in 2015 but in August both adult wolves were found dead from unknown causes. The status of the pups is unknown. This area is no longer designated as an area of wolf activity.

Snake River Pack: The Snake River pack was first discovered in the fall of 2011. The pack was counted as a breeding pair in 2015 with at least three pups surviving to the end of the year. There are no radio-collars in this pack which historically spent the majority of time in the Snake River Unit with visits to the Chesnimnus Unit.

South Snake Pack: This pack was discovered in early 2015 in the northeastern portion of the Pine Creek Unit. The pack produced at least 2 pups that survived to the end of 2015 and qualifies as a breeding pair. A female wolf was radio-collared in June.

Umatilla River Pack: OR14 had been the breeding male of the Umatilla River pack in the northern part of the Mt Emily Unit since 2011. Early in the year, he left the pack area and became resident in Washington. No Umatilla River pack data was collected after another radio-collared male dispersed in February. The pack disappeared from the area during the spring/summer. OR13, a disperser from the Wenaha Pack, started using the pack area during the summer, but died in August. OR30 used the area starting in November and has been become resident there with another wolf.

Unnamed Pack in Heppner Unit: This pack was discovered in January 2016 in southwestern Umatilla County. The pack includes 2 adults, and 3 pups born in 2015, and counts as a breeding pair. The pack will be named after further investigation determines its use area.

Walla Walla Pack: This pack was first discovered in 2011. In 2015 the pack produced at least four pups that survived to the end of the year and was counted as a breeding pair. One wolf was collared in May, but later was illegally killed, leaving no radio-collared wolves in the pack.

Wenaha Pack: This pack was first discovered in 2008 in the northern part of the Wenaha Unit. The pack produced at least two pups surviving to the end of the year, qualifying as a breeding pair. No collars remained in this pack after OR13 dispersed in February. Though this pack has historically spent time in Washington, most of the packs locations, and the den, were in Oregon therefore this pack is counted in Oregon's wolf population.

Other wolves

Desolation Pair: The Desolation pair was monitored throughout the year, no evidence of reproduction was observed.

Keno Wolves: Limited evidence of three wolves was documented in the western portion of the Keno Unit during January, March and August. Their year-end status is unknown at the time of this report.

OR3: In 2011, OR3 dispersed from the Imnaha Pack and was last detected northeast of Prineville in September of the same year. After several years of receiving no information on this wolf, he was rediscovered in July when a trail camera photograph confirmed his presence in northern Klamath County. No year-end information was available on this wolf and he was not counted in the 2015 minimum population.

OR25: OR25 dispersed from the Imnaha Pack in March. During his dispersal, OR25 traveled through the Columbia Basin, Southern Blue Mountains, and Northern and Central Cascade Mountains. Since the end of May he used an area in the Sprague and Silver Lake Units.

OR28 Pair: In early November 2015, a 2-year-old radio-collared female wolf (OR28) dispersed from the Mt Emily pack. By Nov. 19, OR28 arrived into the area she continued to use in the Fort Rock and Silver Lake Units of Klamath and Lake County. She has been observed repeatedly with a male wolf.

OR30 Pair: OR30 dispersed from the Snake River Pack, and spent much of 2015 in the Mt Emily, Starkey and Ukiah Units. In December, OR30 was observed with another wolf in the area formerly used by the Umatilla River Pack.

OR35 Pair: OR35 dispersed from the Minam Pack in August and was found to be traveling with a male wolf. The pair has alternately used two areas; one in the Minam Unit and the other in the Keating Unit.

Two radio-collared wolves, OR33 (Imnaha Pack) and OR29 (Meacham Pack) were actively dispersing at the end of 2015. In addition, an uncollared wolf was confirmed in southern Wasco County in late December, though the current status of this wolf is unknown.

Monitoring

Capture: Eight wolves from six different packs were captured and radio-collared in 2015. All wolves captured were fitted with Global Positioning System (GPS) collars (Table 2).

Table 2. Wolves captured and radio-collared in Oregon in 2015

Date	Wolf ID#	Age/Color/Sex	Pack	Method
1/15/15	OR29	Subadult, black male	Meacham	Helicopter
2/20/15	OR30	Subadult, black, male	Disperser	Helicopter
2/20/15	OR31	Pup, gray, male	Mt Emily	Helicopter
2/20/15	OR32	Subadult, black, female	Mt Emily	Helicopter
2/25/15	OR33	Subadult, black, male	Imnaha	Helicopter
5/5/15	OR34	Subadult, gray, female	Walla Walla	Trap
5/17/15	OR35	Adult, gray, female	Minam	Trap
6/6/15	OR36	Adult, gray, female	South Snake	Trap

Monitoring: Twenty-one radio-collared wolves were monitored in Oregon in twelve packs. At year-end approximately 11% (n=12) of the population were radio-collared in five packs, three pairs and three individuals. Contact with nine radio-collars was lost during the year because wolves dispersed out of state (1), mortality (5) or the collar failed (3). During the year the department collected a total of 21,804 wolf location data points in Oregon; most using GPS collars.

In addition to monitoring information downloaded from radio-collars, department biologists also monitored radio-collared and accompanying wolves from the air and ground, implemented track and howling surveys and remote camera surveillance.

Wolf reports from the public increased over 2014, with 367 wolf reports received by department biologists or the department's online wolf reporting system during the year. Subsequent follow-up of some of these reports yielded valuable information about packs without radio-collars and new wolf activity.

Incidental Take: No incidental take was documented in Oregon in 2015.

Mortalities: Seven mortalities were documented between August and December (Table 3), including five radio-collared wolves. Oregon State Police (OSP) investigated each incident. Five investigations are still open and OSP is actively seeking more information about the cases.

The cause of death was determined in four incidents; three were illegally shot and one ingested a chemical that is poisonous to animals. In the case of the breeding male and female of the Sled Springs Pack, the cause of death is unknown, but suspicious. An approximately 5-month-old pup was found dead in the Catherine Pack rendezvous area, the cause of death is unknown, though appeared to be natural.

A radio-collared dispersing gray-colored wolf, OR22, traveling through Grant County was shot by an individual who reported that he misidentified the animal as a coyote. The individual turned himself in and was charged with killing an endangered species. The case is currently pending.

Table 3. Wolf mortalities in Oregon in 2015

Date	Wolf	Pack	Cause of Death	Investigation
8/6/2015	OR13	Dispersed from Wenaha Pack	Poison	Open
8/15/2015	OR21 and mate	Sled Springs Pack	Unknown (2)	Open
9/7/2015	OR34	Walla Walla Pack	Shot	Open
10/6/2015	OR22	Dispersed from Umatilla River Pack	Shot	Closed
10/7/2015	Pup	Catherine Pack	Unknown	Closed
12/23/2015	OR31	Mt Emily Pack	Shot	Open

Dispersers: Nine radio-collared dispersing wolves were monitored in 2015; eight dispersed within Oregon, and one left the state. Mapping the paths taken by dispersers show wolves using areas of northeast Oregon as well as traveling through central Oregon to reestablish in areas of southern Oregon (Figure 5).

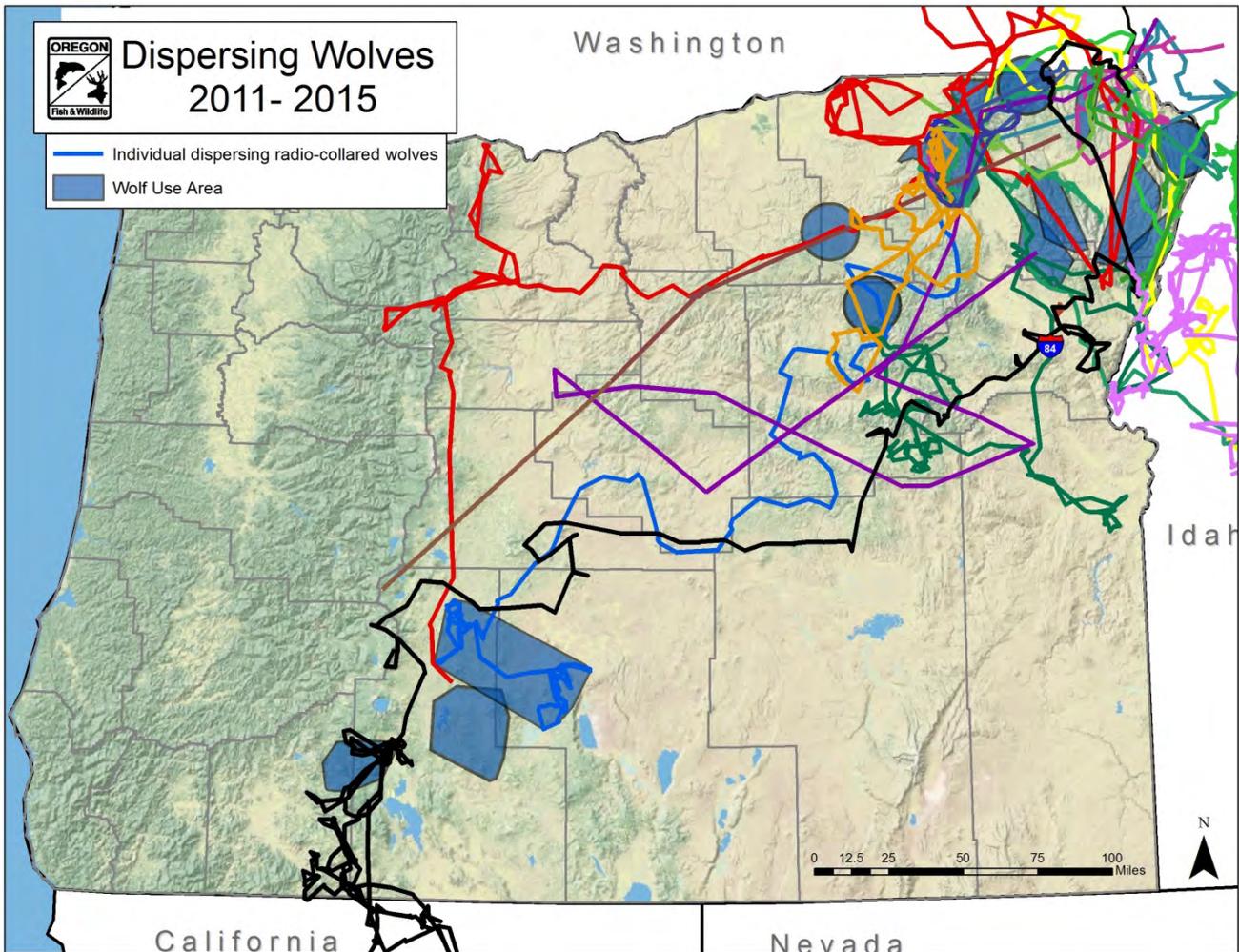


Figure 5. Approximate paths of dispersing wolves in Oregon (2011-2015)

LIVESTOCK DEPREDATION MANAGEMENT

Wolf Depredation Summary

Overall, confirmed incidents of depredation decreased in 2015 from the previous year (9 vs.11), and the number of losses also decreased (Figure 6). Confirmed losses in 2015 were 3 cattle, 10 sheep, and 1 livestock working dog (Table 4). An additional incident, though confirmed as wolf-caused, was not included in this total as it did not meet the Wolf Plan definition of depredation.

Table 4. Summary of 2015 confirmed wolf depredation incidents in Oregon.

Date	Animals Affected	County	Pack Area
6/20/15	Cow (Dead: 1 calf)	Wallowa	Sled Springs
6/22/15	Sheep/Protection Dog (Dead: 3 ewes, 1 dog)	Umatilla	Mt Emily
7/2/15	Sheep (Dead: 1 ewe, 2 lambs. Injured: 1 lamb)	Umatilla	Umatilla River
8/4/15	Sheep (Dead: 1 ewe)	Umatilla	Mt. Emily
8/15/15	Sheep (Dead: 1 ewe)	Umatilla	Mt. Emily
8/24/15	Sheep (Dead: 1 ewe)	Umatilla	Mt. Emily
8/27/15	Sheep (Dead: 1 ewe)	Umatilla	Mt. Emily
10/27/15	Cow (Dead: 1 calf)	Wallowa	Imnaha
11/3/15	Cow (Dead: 1 calf. Injured: 2 calves)	Klamath	OR25

Four of Oregon’s wolf packs (Imnaha, Mt. Emily, Umatilla River, Sled Springs), and one individual wolf (OR25) in Klamath County depredated livestock. During 2015, 29% of packs that were active during the year (n=14) depredated livestock (Figure 7). To date there have been three long-term packs with no confirmed livestock depredation – Minam, Walla Walla, and Wenaha.

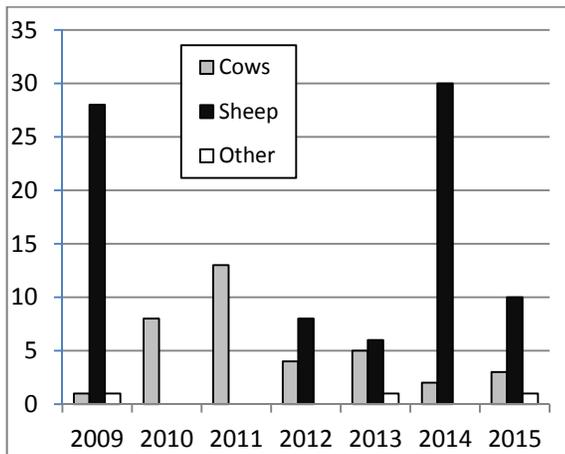


Figure 6. Number of confirmed livestock losses by year (2009-2015).

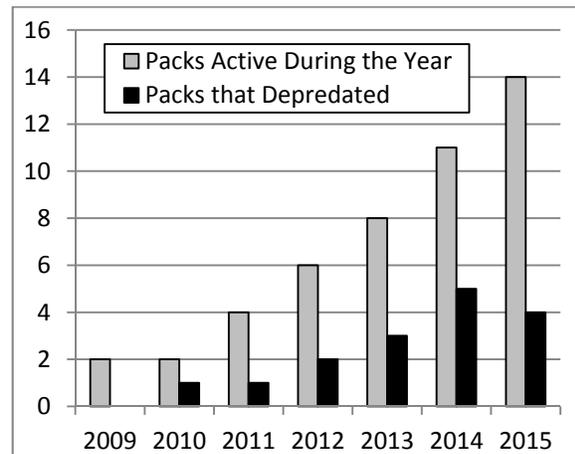


Figure 7. Number of packs active during the year that depredated.

Oregon confirmed depredation of cattle and sheep data across all years (n=64) shows that almost twice as many depredation events happen during four months (May, June, August and September) than the entire rest of the year (Figure 8). Since 2009, 77% of depredation events have occurred on private

land. In 2015, the department conducted 33 wolf depredation investigations in five Oregon counties which resulted in 9 (27%) *confirmed* incidents, 2 (6%) *probable* incidents, 13 (39%) *possible/unknown* incidents, and 8 (24%) *other* incidents.

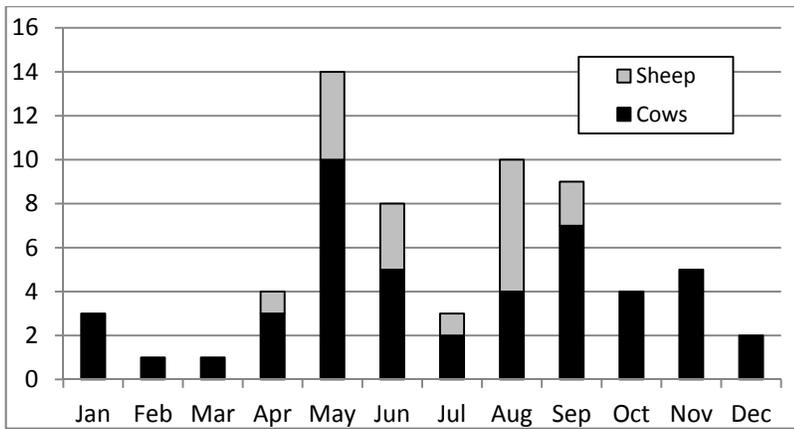


Figure 8. Incidents of cow and sheep depredation by month (2009-2015).

Options to Minimize Depredation

The Wolf Plan mandates focusing on non-lethal efforts before lethal removal is considered. Though the wolf population has increased significantly over the last 7 years, depredation events and livestock losses have stayed relatively stable (Figures 9, 10).

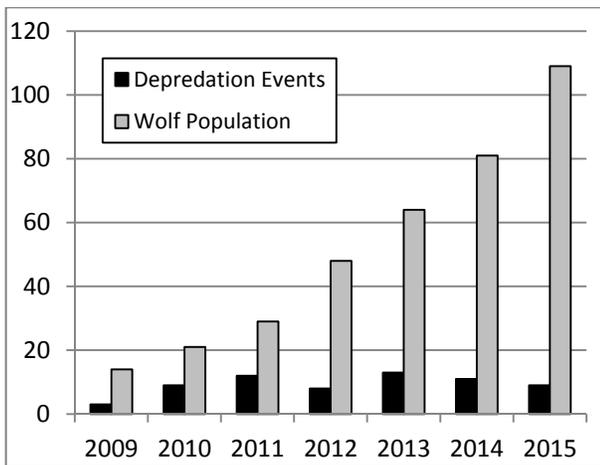


Figure 9. Number of depredation events and wolf population from 2009-2015.

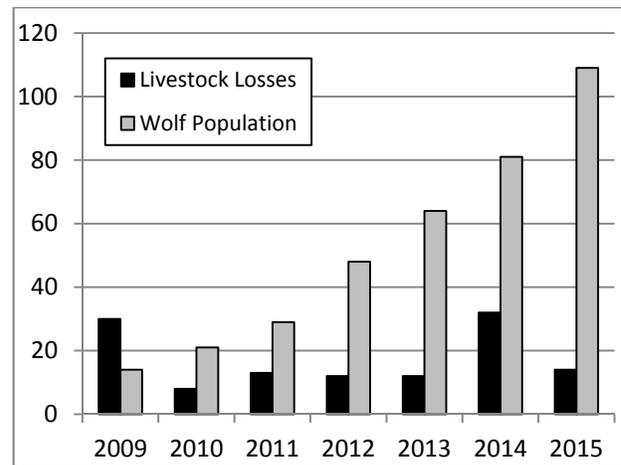


Figure 10. Number of livestock losses and wolf population from 2009-2015.

Non-Lethal Options: Effective non-lethal measures vary by the type of livestock being protected and the size of the pasture. There are no non-lethal measures which are 100% effective in preventing livestock depredation by wolves. Reducing attractants by carcass and bone pile removal may be the single best action to keep from attracting wolves to areas of livestock and in one instance in Wallowa County the removal of several identified bone piles resulted in a corresponding decrease of wolf use (and depredation) in the immediate area. Another effective tool is the use of barrier fences; this was especially effective for protecting smaller areas in Umatilla County. Many non-lethal prevention

measures are less effective in large or dispersed livestock (e.g., cattle) situations. Conversely, many sheep operations are highly protectable using a combination of herders, fladry or fencing, and livestock protection dogs.

Lethal Options: There are two options for lethal control in response to wolf-livestock conflicts; both are only available within the federally delisted portion of Oregon east of Highways 395/78/95. First, under Oregon Administrative Rule 635-110-0020, livestock producers in certain circumstances may shoot a wolf caught in the act of biting, wounding, killing or chasing livestock without a permit. No wolves were killed under this rule in 2015. Second, in certain chronic depredation situations the department may lethally remove wolves to minimize further depredation. No wolves were lethally removed in 2015. Within the federally listed portion of Oregon, all lethal take is regulated by the USFWS and no lethal removal was conducted in this area.

Compensation for Wolf-Caused Losses

The Oregon Department of Agriculture’s Wolf Depredation Compensation and Financial Assistance County Block Grant Program was again implemented in 2015. The program provides four types of financial assistance options; 1) direct depredation payment, and 2) missing livestock payment, and 3) preventative measures, and 4) program implementation costs. The department’s primary roles are determining if wolf depredation has occurred, and to delineate areas of known wolf activity. The department was also asked by some counties to provide input on appropriate non-lethal and preventative measures. A total of 10 counties were awarded \$174,428 in grant funds (Table 5).

Table 5. Funds awarded through the County Block Grant Program in 2015 (source; Oregon Department of Agriculture)

County	Death/Injury	Missing	Prevention	Admin	Total
Wallowa	\$7,817	\$16,600	\$38,262	\$675	\$63,354
Union	0	0	\$8,000	0	\$8,000
Baker	\$1,470	\$19,800	\$5,400	\$495	\$27,165
Umatilla	\$4,731	\$975	\$53,398	\$675	\$59,779
Crook	0	0	\$650	0	\$650
Malheur	0	0	0	\$450	\$450
Morrow	0	0	\$5,700	\$675	\$6,375
Wheeler	0	0	\$750	0	\$750
Klamath	0	0	\$6,000	0	\$6,000
Jefferson	0	0	\$1,230	\$675	\$1,905
Award Amount	\$14,018	\$37,375	\$119,390	\$3,645	\$174,428

Wolf Depredation Tax Credit

The State of Oregon’s wolf depredation tax credit program was created in 2012 by the Oregon Legislature and allowed qualified applicants to receive a state tax credit pursuant to Chapter 65, Oregon Laws 2012, for the market value of any livestock that belonged to a taxpayer and that was killed during the year by a wolf.

The tax credit program ended in 2015 when the Commission, by rule, removed the gray wolf from the Oregon list of endangered species. However, the program had not been well used by livestock producers and only two credit applications were processed by the department since the program's inception.

WOLF RESEARCH

The Oregon State University/ODFW wolf-cougar research project in northeastern Oregon continued in 2015. This project is primarily focused on understanding competitive interactions and prey selection between wolves and cougars in the Mt Emily WMU.

Since summer 2014, researchers have collected data by monitoring 11 radio-collared wolves from 4 packs and 18 collared cougars using the Mt Emily WMU. Researchers used GPS location cluster analysis to identify potential prey acquisition sites (these are normally areas where wolves either have killed or scavenged prey) and document prey species selection and acquisition rates. To date, project researchers have investigated 458 potential wolf prey acquisition sites during winter months and 105 prey items were identified at these sites. Elk remains were identified at approximately 63% of acquisition sites and mule deer at 21% of the sites. White-tailed deer and non-ungulate prey were identified at 16% of the sites. Of the elk remains where age of animal could be determined, 49% were adults, 45% were calves, and 6% were yearlings. Of the mule deer remains, 69% were adults, 25% were fawns, and 6% were yearlings. Prey remains were also located at 44 of 201 potential wolf prey acquisition sites during summer months with elk comprising 61% of the prey remains, mule deer 18%, and white-tailed deer and non-ungulate prey the remainder. The age of the elk prey identified during summer months were calves (78%), adults (15%), and yearlings (7%).

The most common wolf-cougar interaction documented is wolves at cougar caches (63%). Six cases of wolves scavenging kills from cougar have been documented. Other interactions include two cases where wolves chased cougars up trees, one case of collared wolves chasing a collared cougar off a fresh kill, and one case of wolves killing young cougar kittens.

These results are preliminary and data collection for the wolf-cougar research project will continue through summer 2017 and the project will continue to; 1) collar additional wolves and cougars within the study area and investigate competitive interactions between the two species, and 2) conduct cluster analysis and investigate prey acquisition sites for wolves and cougar during both winter and summer seasons. Data analysis and the project are expected to be completed in 2018.

INFORMATION AND OUTREACH

The Department continued to rely on its internet-based wolf webpage (<http://dfw.state.or.us/wolves>) as the primary information distribution tool in 2015. Over the year, the online wolf pages received 177,866 views. The wolf program home page alone received nearly 62,000 views. Currently, 5,428 people subscribe to the department's wolf update page. Its subscribers increased by 932 (21%) during 2015.

In 2013, the department added a Wolf-Livestock update page that focuses on the needs of livestock producers and the requirements of the new Oregon Administrative Rules. Since this page was launched, 3,638 people have subscribed to updates on confirmed depredations, maps of Areas of Known Wolf Activity and Areas of Depredating Wolves, Conflict Deterrence Plans and other information.

In addition to web-based information, the department conducted numerous media interviews to print, radio and television reporters. Presentations were given to schools, universities, other agencies, agriculture meetings and organizations, sportsman organizations, and conservation groups.

WOLF PROGRAM FUNDING

Wolf program funding during the 2015-2017 biennium consists of federal funds from the Pittman-Robertson Grant Program and support grants from the US Fish and Wildlife Service. These federal sources provide 80.6% of the wolf program funding. Some of these federal grants require state match which comes from a combination of Oregon Department of Fish and Wildlife license dollars (6.6%) and Lottery Funds (12.8%). Two full time employees are associated with the program. The total budget allocation for the 2015-2017 biennium is \$793,282.

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