



## ODFW LIVESTOCK DEPREDATION INVESTIGATION REPORTS

July – November 2021

This document lists livestock depredation investigations completed by the Oregon Department of Fish and Wildlife since July 1, 2021. Investigations are done at the request of the owner of injured or dead livestock when they suspect wolf depredation. The goal of these investigations is to determine if the livestock was attacked by a predator and if that predator was a wolf. The goal is not necessarily to determine the cause of death, as in some cases that could require a veterinary pathologist (e.g. illness, injury, age, poisonous plants).

In some counties in Oregon, USDA Wildlife Services assists ODFW when wolves are suspected and is the lead agency to investigate when other predators such as coyotes, bear, or cougar are suspected. In some counties, Sheriff's office deputies also attend investigations. ODFW needs to make the determination for lethal removal of chronically depredating wolves to be considered or if the livestock producer wants financial compensation from the Oregon Department of Agriculture.

There is information about methods to minimize conflict at [https://www.dfw.state.or.us/Wolves/non-lethal\\_methods.asp](https://www.dfw.state.or.us/Wolves/non-lethal_methods.asp). The investigation determination criteria and previous investigations are listed at [https://www.dfw.state.or.us/Wolves/depredation\\_investigations.asp](https://www.dfw.state.or.us/Wolves/depredation_investigations.asp). Additional information about Oregon wolves and answers to frequently asked questions are provided at [www.odfw.com/wolves](http://www.odfw.com/wolves).

### November 1, 2021 - Jackson County (Rancheria area)

**Date Investigated:** 11/01/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 11/01/21 a ranch hand found one dead approximately 10-month-old, 650 lb. steer in a 30-acre fenced pasture. Extensive feeding was observed on the right hind quarter and internal organs, but the remainder of carcass was intact. It was estimated that the steer died less than 12 hours prior to the investigation.

**Physical evidence and summary of findings:** The carcass was shaved and skinned. The carcass had numerous pre-mortem tooth scrapes and punctures up to ¼ inch wide at both elbows and on the inside and outside of the remaining hind leg above the hock with associated hemorrhage and tissue trauma up to two inches deep. The size, location and severity of wounds are consistent with wolf attacks on cattle. This depredation event is attributed to the Rogue Pack.

### October 31, 2021 – Klamath County A (Bly area)

**Date Investigated:** 10/31/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 10/31/21 a ranch manager found a dead 530-pound calf in a 110-acre private-land grass pasture. The calf was estimated to have died

approximately 36 hours earlier. Extensive feeding was observed on the hind quarters, pelvis, and internal organs, but the remainder of carcass was intact.

**Physical evidence and summary of findings:** Portions of the calf carcass were shaved, skinned, and examined. Numerous bite marks up to ¼” wide with associated premortem hemorrhaging and tissue trauma up to two inches deep were found in and around both front elbows. Pre-mortem hemorrhaging was found on the remaining hide and tissue of the inside left rear leg above the hock. This is clear evidence of a predator attack. The location and severity of the injuries are similar to injuries observed in calves attacked by wolves. GPS location data places a radio collared wolf within 700 yards of the calf around the estimated time of death. This depredation is attributed to LAS13M AKWA wolf or wolves.

### **October 31, 2021 – Klamath County B (Bly area)**

**Date Investigated:** 10/31/21

**Cause of death/injury:** Possible/Unknown

**General situation and animal information:** On the morning of 10/29/21 a ranch manager found a dead 7-month-old 400-pound calf in a small private land pasture. Most tissue on the hind quarters, ribs, and all the internal organs were missing, but the front quarters, neck, and head were intact. The hide was intact on the front half of the calf and other portions of the hide (including one hind leg) were present. The calf was estimated to have died approximately five days before the investigation.

**Physical evidence and summary of findings:** Portions of the calf carcass were shaved, skinned, and examined. Premortem hemorrhage and tissue trauma was observed at the lower jaw, with some hemorrhage extending 6 inches down the neck. The pre-mortem injury to the throat is consistent with predation injuries on calves, but the area lacked diagnostic bite marks in the hide confirming predator species. No bite scrapes were found in the hide, including near the elbows, a common attack point for wolves. No hemorrhage or tissue trauma was found anywhere but the upper neck (throat) and lower jaw. Because the majority of hide and tissue from the hindquarters, a common attack point for wolves, was missing, the determination is possible/unknown.

### **October 31, 2021 – Baker County (Ebell Creek area)**

**Date Investigated:** 10/31/21

**Cause of death/injury:** Other (1)  
Possible/Unknown (1)

**General situation and animal information:** On the afternoon of 10/31/21, a livestock owner found two dead approximately 8-month-old, 500 lb. calves in his 1500-acre private pasture. The carcasses were heavily scavenged, but portions of the hide remained from the elbows and hindquarters on each calf. The calves were estimated to have died 5-6 days and 3-4 days before the investigation, respectively.

**Physical evidence and summary of findings:** Both of the carcasses were shaved, skinned and examined. No pre-mortem bite or tooth scrapes to the remaining hide or muscle tissue was found on either carcass.

The cause of death for calf 1 is unknown but was not wolf related. Due to missing hide and tissues in areas typically attacked by wolves, the determination for calf 2 is possible/unknown.

## **October 29, 2021 - Jackson County (Rancheria area)**

**Date Investigated:** 10/29/21

**Cause of death/injury:** Confirmed (3)

**General situation and animal information:** On the morning of 10/29/21 a ranch hand found three dead approximately 10-month-old, 650 lb. steers in the same 30-acre fenced pasture. The carcasses were intact except for small portions of the hide and muscle tissue were gone. It was estimated that all three steers died less than 12 hours prior to the investigation.

**Physical evidence and summary of findings:** All three carcasses were skinned and shaved. All three had numerous pre-mortem tooth scrapes and punctures up to ¼ inch wide at both elbows and on the inside and outside of both hind legs above the hocks with associated hemorrhage and tissue trauma up to 2 ½ inches deep. The size, location and severity of wounds are consistent with wolf attacks on cattle. This depredation event is attributed to the Rogue Pack.

## **October 28, 2021 – Wallowa County (Howard Butte area)**

**Date Investigated:** 10/28/21

**Cause of death/injury:** Confirmed (2)

**General situation and animal information:** On the morning of 10/28/21, a livestock producer's agent found the remains of one adult cow and one injured adult cow in a 23,000-acre forested private-land allotment. Approximately 60 percent of the carcass remained but all organs and the left hind leg were consumed. The animal was estimated to have died approximately 3-5 days prior to the investigation. The injured cow was estimated to have been injured approximately 48 hours prior to the investigation.

**Physical evidence and summary of findings:** Portions of the remaining hide were shaved and skinned for examination. There were more than seven pre-mortem tooth scrapes on the right hind leg measuring ¼ inch wide, with underlying tissue trauma and hemorrhage extending up to one inch deep. There were also pre-mortem tooth scrapes and underlying tissue damage and hemorrhaging on and under the left elbow, extending two inches deep. The injured cow had at least ten bite scrapes measuring up to ¼ inch wide on the inside of the right hind leg above the hock. There were also bite scrapes, swelling and torn tissue around the vulva. The pre-mortem trauma and location, size, and direction of tooth scrapes is similar to other confirmed wolf attacks on cattle. These are two separate events of depredation within the Wildcat AKWA. ODFW is unable to determine what wolves are responsible at this time, as a radio-collared wolf from the Wenaha Pack was also present in the area near the time of the depredations and both packs have been using this area.

## October 26, 2021 – Jefferson County (Gray Butte area)

**Date Investigated:** 10/26/21

**Cause of death/injury:** Other

**General situation and animal information:** A livestock producer discovered a dead, two-year-old heifer on the morning of 10/26/21 in a 26-acre private pasture. Some muscle tissue and hide was consumed on the back the right shoulder and below the anus. Otherwise, the carcass was intact. The date of death was estimated to be overnight on 10/25/21.

**Physical evidence and summary of findings:** The carcass was skinned and examined. There were no bite scrapes on the hide, and no bite-caused hemorrhage or muscle tissue trauma to indicate predator attack. Hemorrhaging was observed on an approximately 16 inch by 8 inch area of the dorsal left side of the neck. There was also an approximately 4 inch diameter area of hemorrhaging along the upper left ribs. Both areas of hemorrhaging were no more than ¼ inch deep and had no corresponding wounds to the hide. The cause of death is unknown but was not wolf-related.

## October 21, 2021 – Klamath County (Wood River Valley)

**Date Investigated:** 10/21/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 10/21/21 a ranch manager found a dead 500-pound calf in a 150-acre private land grass pasture. The organs, the majority of the muscle tissue, and portions of the hide had been consumed. The calf was estimated to have died approximately 36 hours prior to the investigation.

**Physical evidence and summary of findings:** Portions of the carcass were shaved, skinned, and examined. Numerous pre-mortem tooth scrapes measuring up to 3 inches long and ¼ inch wide were found on the right hind leg above the hock, right flank, and behind and above both elbows. There were also areas of hemorrhage on underlying tissues. The size, number, and location of bite scrapes and the severity of associated premortem hemorrhage are similar to injuries observed on other calves attacked by wolves. This depredation is attributed to the Rogue Pack.

## October 19, 2021 – Umatilla County (Horseshoe Ridge area)

**Date Investigated:** 10/19/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** While gathering cows on 10/18/21 in a large private-land forested pasture, a livestock producer found an injured approximately 6-month-old, 450 lb. calf. Due to ODFW being notified about an hour before nightfall and the calf being protected in a corral, it was arranged to conduct the investigation the following day. It was estimated that the calf was injured 4 days prior to the investigation.

**Physical evidence and summary of findings:** The injured calf was examined. Multiple bite scrapes and several canine punctures up to 3/16 inch wide, as well as swelling and wounds seeping fluids, were observed on the inside of both rear legs above the hocks. The size and location of wounds are consistent with wolf attacks on calves. This depredation event is attributed to the OR30 Wolves.

## **October 16, 2021 – Baker County (Manning Creek area)**

**Date Investigated:** 10/16/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 10/16/21 an adjacent landowner found a dead approximately 400 lb., 5-month-old calf in a 600-acre private-land pasture. The carcass had been heavily scavenged and was missing all internal organs and most of the tissue, though most of the hide was present from the rear legs above the hocks, belly, and ribcage. The calf was estimated to have died on the night of 10/14/21.

**Physical evidence and summary of findings:** The remaining hide was shaved and skinned. The calf had at least a dozen pre-mortem parallel tooth scrapes  $\geq 1/8$  inch wide in the hide of the rear left leg above the hock. The pre-mortem bite wounds are a clear sign of predator attack and the number, location, and direction of tooth scrapes is similar to other confirmed wolf attacks on calves. A GPS location from a radio-collared Lookout Mountain wolf around the time of the calf's death was at the carcass location. The depredation is attributed to the Lookout Mountain Pack.

## **October 5, 2021 – Union County (Balloon Tree area)**

**Date Investigated:** 10/5/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 10/5/21 an employee for a sheep producer found a deceased 40 lb. adult male herding dog on a private industrial timberland pasture. The dog was intact with no scavenging. Estimated time of death was the early morning of 10/5/21.

**Physical evidence and summary of findings:** The carcass was shaved and skinned. Pre-mortem bite wounds were found on the hindquarters, front shoulders, back, right flank, neck, and head. Associated canine punctures were approximately 1/4 inch in diameter and depth of hemorrhage/tissue trauma was up to 2 inches. The size of canine punctures, depth of pre-mortem trauma, and location of injuries are similar to other confirmed wolf attacks on working dogs. This depredation is attributed to the Balloon Tree Pack.

## **October 5, 2021 – Baker County (Lawrence Creek area)**

**Date Investigated:** 10/5/21

**Cause of death/injury:** Possible/Unknown

**General situation and animal information:** On the afternoon of 10/5/21, ranch staff found a dead 400 lb. calf on public land within a 3000-acre mixed public/private land pasture. The carcass was mostly consumed with portions of hide from the hind legs, neck, and head intact. The calf was estimated to have died 5 to 7 days prior to the investigation.

**Physical evidence and summary of findings:** There was no evidence of a chase or struggle scene. The hind legs, head, and neck were shaved and examined. There were no pre-mortem bite scrapes on the hide or hemorrhage in the remaining tissues indicating a predator attack. Due to the lack of hide and muscle tissue the determination is possible/unknown.

## **October 3, 2021 – Wallowa County (Deer Creek area)**

**Date Investigated:** 10/3/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 10/3/21, a cattle producer's agent found a dead, 9-month-old, 600-700 lb. calf in a 15,000-acre forested private-land allotment. The carcass was mostly intact, though hide and muscle was consumed at the stomach, right side ribs, sternum, and throat. The right front leg was also missing. The calf was estimated to have died approximately 24-48 hours prior to the investigation.

**Physical evidence and summary of findings:** The carcass was skinned and examined. There were more than 20 pre-mortem tooth scrapes and punctures up to 3/8 inch wide found on both hindquarters between the hocks and anus. Underlying tissue trauma and hemorrhage extended up to 2 inches deep. There were similarly sized pre-mortem tooth scrapes and punctures located behind the left jaw. The pre-mortem tooth scrapes and punctures, hemorrhaging, and muscle tissue trauma are indicative of a predator attack. The size and location of the bite wounds and severity of trauma are similar to those observed in other older calves attacked by wolves. This depredation is attributed to the Clark Creek Pack.

## **October 2, 2021 – Wallowa County A&B (Deer Creek area)**

**Date Investigated:** 10/2/21

**Cause of death/injury:** Confirmed (2)

**General situation and animal information:** On the morning of 10/2/21, a hunter found a dead, 9-month-old, 650-700 lb. calf (calf A) in a 15,000-acre forested private-land allotment. During the afternoon of 10/2/21, the livestock producer's agent found another dead 9-month-old, 650-700 lb. calf (calf B) in the same allotment. Almost all muscle tissue on calf A was scavenged. The skeleton and the majority of the hide, excluding the stomach, right flank, and right jaw areas remained. Calf B was scavenged on the left shoulder and along the abdomen and ribcage, with all organs consumed. The majority of the hide remained. Calf A was estimated to have died approximately 72 hours prior to the investigation. Calf B was estimated to have died approximately 48 hours prior to the investigation.

**Physical evidence and summary of findings:** Portions of the remaining hides were shaved, calf B was skinned, and both carcasses were examined. Calf A had a 3 inch by 6-inch area of pre-mortem bruising on the underside of the hide on the right hind leg above the hip. Multiple pre-mortem tooth scrapes up

to 1/4 inch wide with an associated 2 inch by 5 inch area of bruising on the underside of the hide were found on the lower neck. There were also multiple 1/4 inch wide tooth scrapes and 1 inch wide tooth tears on the inner hind legs and groin. Calf B had more than 30 pre-mortem tooth scrapes and punctures up to 1/4 inch wide on the back of the hindquarters above the hocks, groin, right jaw, and right elbow. Associated hemorrhaging and tissue trauma was at least 1 1/2 inches deep. The pre-mortem bite wounds on both calves indicate attack by a predator and the size, location, and/or severity of injuries are similar to other confirmed wolf attacks on older calves. Both depredation events are attributed to the Clark Creek Pack.

## **October 1, 2021 – Union County (Balloon Tree area)**

**Date Investigated:** 10/1/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** The morning of 10/1/21, a sheep herder found two injured Kangal guard dogs on an industrial timberland allotment. The herder reported that at approximately 2:00 a.m. on 10/1/21, he had heard a fight between his guard dog and an unknown predator(s) that included barking and growling. The injuries were estimated to have occurred the night of 9/30-10/1/21.

**Physical evidence and summary of findings:** Both dogs were examined. One dog had an approximately 6 inch long area of matted blood on the throat and left side of the neck, that was dripping blood onto its front leg. This dog was agitated and could not be restrained for further examination. The second dog had a bite puncture 1/4 inch in diameter on the inside of the front right leg near the elbow. It also had two 1/4-3/8 inch diameter bite marks with an associated 3/8 inch wide, 2 inch long tooth scrape on the inside of the upper right rear leg. The observed bite wounds are consistent with a predator attack. The size and location of wounds are similar to other wolf/livestock guarding dog conflict investigations. This depredation event is attributed to the Balloon Tree Pack.

## **September 30, 2021 – Union County (Balloon Tree area)**

**Date Investigated:** 9/30/21

**Cause of death/injury:** Confirmed (12 ewes)

**General situation and animal information:** On 9/29/21 an employee of a sheep producer found three adult ewes deceased in a large timbered private-land pasture. Upon arrival on 9/30/21, USDA Wildlife Services and ODFW found four additional dead ewes. Wildlife Services found three more dead ewes on 10/1/21 and one dead ewe on 10/4/21. One injured ewe was also found on 10/4/21. All animals were found in the same pasture. Eight ewes were fully intact with no feeding or scavenging present, and three were partially scavenged. The injured ewe was euthanized by Wildlife Services. The estimated time of injury or death for all twelve sheep was the night of 9/28/21.

**Physical evidence and summary of findings:** Seven sheep were examined on 9/30/21; three on 10/1/21, and two on 10/4/21. Most of the sheep were shaved and/or skinned, and all were examined. All sheep had pre-mortem wounds. Pre-mortem hemorrhage and/or tissue trauma up to 2 inches deep was found on the throats of eleven sheep. Pre-mortem hemorrhage and tissue trauma up to 2 inches deep was found on the hindquarters above the hocks of eight sheep. Tooth scrapes associated with these injuries

were up to 3/16 inch wide, and a set of paired canine punctures had a spacing of 1 7/8 inches. The location, size, and severity of bite wounds are consistent with wolf attacks on sheep. This depredation event is attributed to the Balloon Tree Pack.

## **September 28, 2021 – Baker County (Amalgamated Mine area)**

**Date Investigated:** 9/28/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/28/21, a hunter found a dead approximately 400 lb. calf in a large, forested public-land pasture. The carcass was intact with the entrails and most of the muscle tissue consumed from the left rear leg. The calf was estimated to have died in the early morning hours of 9/28/21.

**Physical evidence and summary of findings:** The carcass was skinned. Over 30 pre-mortem parallel tooth scrapes up to 3/16 inch wide and 2 1/2 inches long were found on the outside and back of the left hind leg above the hock. Similarly sized pre-mortem tooth scrapes were also found on the right hind leg above the hock and both elbows. The location, size, number, and direction of tooth scrapes are consistent with wolf attack injuries on calves. This depredation occurred within the Keating AKWA and is believed to have been caused by wolves of the Keating Pack.

## **September 28, 2021 – Umatilla County (Ukiah Valley area)**

**Date Investigated:** 9/28/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/28/21, a ranch hand found a dead calf in a 200-acre flat, grassland private pasture. The calf was approximately 6 months old and weighed about 500 pounds. The carcass was fed on below the anus and pelvis area and on the right front shoulder above the elbow. It was estimated the calf was killed the night of 9/27/21 or the morning of 9/28/21.

**Physical evidence and summary of findings:** The calf was shaved and skinned on both hindquarters above the hock, both front legs above the elbow, and along parts of the spine. Numerous pre-mortem tooth scrapes, punctures, and tears were found on the backside of both hindquarters above the hock, the groin, both front legs above the elbow, and smaller wounds on both sides of the spine. Tooth scrapes were up to 1/4" wide and up to 4" long with pre-mortem hemorrhage and tissue trauma underneath up to 1 1/2" deep. The calf had pre-mortem bite wounds indicating it was attacked by a predator. The size, number, location, and severity of wounds were consistent with wolf attacks on calves. This depredation happened in the same pasture as the depredations investigated on 9/25/21. It is currently unknown what wolves are responsible for this depredation. ODFW is monitoring the Fivemile Pack and new wolves to determine which are responsible.



## September 25, 2021 – Umatilla County (Ukiah Valley area)

**Date Investigated:** 9/25/21

**Cause of death/injury:** Confirmed (7 calves)

**General situation and animal information:** While feeding and checking weaned calves the morning of 9/25/21, a ranch hand found one dead and six injured calves in an approximately 200-acre grass private-land pasture. Two of the injured calves were euthanized due to their injuries. All calves were approximately six months old and weighed 450-550 lbs. All calves were estimated to have sustained their injuries the night of 9/24/21.

**Physical evidence and summary of findings:** Portions of the three carcasses were shaved and skinned. All three calves had dozens of parallel pre-mortem tooth scrapes on the back of the hindquarters between the hocks and anus. Tooth scrapes were up to 3/16 inch wide and approximately 3 inches long. Numerous similarly sized tooth scrapes were found between the elbow and shoulder of all three calves. Tissue trauma associated with the tooth scrapes was up to 3 inches deep. Each injured calf was examined in a squeeze chute. The calves had numerous tooth scrapes up to 3/16 inch wide and 3-5 inches long on the hindquarters between the hocks and anus. The location, size, number, and direction of tooth scrapes and/or severity of associated tissue trauma is consistent with wolf attack injuries on calves. It is currently not known what wolves are responsible for this depredation. No radio-collar locations from the Ukiah Pack have been in the area. It is possible the Fivemile Pack is using areas east of their estimated AKWA. In addition, recent reports suggest a new group of wolves may be present southeast of the depredation location. This report may be updated as new information is collected.

## September 20, 2021 – Baker County (Timber Canyon area)

**Date Investigated:** 9/20/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the afternoon of 9/18/21 a livestock producer, while checking cattle, found an injured approximately 450 lb. calf on a 10,000+ acre private-land pasture. The calf was moved to a corral and examined by ODFW on 9/20/21. The calf was estimated to have been injured 3 weeks before the examination.

**Physical evidence and summary of findings:** The calf was examined and the hair was shaved around the injury. The calf had at least ten parallel, mostly healed tooth scrapes on the outside and rear of the left leg above the hock. The bite scrapes, at least 1/8 inch wide and up to 4 inches long, led into a 5-inch-wide open wound with regenerating muscle tissue. The location, size, and direction of tooth scrapes are consistent with wolf attack injuries on cattle. The depredation is attributed to the Lookout Mountain Pack.

## September 17, 2021 – Baker County (Daly Creek area)

**Date Investigated:** 9/17/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/17/21, ODFW staff found a dead approximately 450 lb. calf in a 3500-acre forested private-land pasture. The carcass was intact with most of the muscle tissue consumed from the left rear leg. The calf was estimated to have died late on 9/16/21.

**Physical evidence and summary of findings:** Portions of the hide were shaved, and all the remaining hide was skinned. Over 30 pre-mortem parallel tooth scrapes up to 3/16 inch wide and 3 inches long were found on the outside and back of the left hind leg above the hock. Similarly sized pre-mortem tooth scrapes were also found on the right hind leg above the hock and the left elbow. Associated muscle tissue trauma was up to 2 inches deep. The location, size, number, and direction of tooth scrapes and severity of tissue trauma is consistent with wolf attack injuries on calves. The depredation is attributed to the Lookout Mountain Pack.

## **September 15, 2021 – Union County (Five Points Creek area)**

**Date Investigated:** 9/15/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/15/21, a range manager found an injured 7-month-old, 450 lb. calf in a large public grazing allotment. The live calf was trailered to an ODFW office for examination. The calf was estimated to have been injured approximately one week prior to the investigation.

**Physical evidence and summary of findings:** Part of the left hind quarter was shaved and the calf was examined. Over 40 parallel tooth scrapes up to 3/8 inch wide and up to 3 inches long were found on the hindquarters above the hocks. There were also several tooth scrapes up to 1/4 inch wide and 2 inches long on the left side of the neck. The location, size, number, and direction of tooth scrapes is consistent with wolf attack injuries on calves. The depredation is attributed to the Five Points Pack.

## **September 13, 2021 – Baker County (Lawrence Creek area)**

**Date Investigated:** 9/13/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the afternoon of 9/13/21, ODFW staff found a dead approximately 400 lb. calf in a 2000 acre forested private-land pasture. The carcass was largely consumed but most of the hide was intact. The calf was estimated to have died three to four days prior to the investigation.

**Physical evidence and summary of findings:** Portions of the hide were shaved and all of the remaining hide was skinned. Over 40 pre-mortem parallel tooth scrapes up to 1/4 inch wide and 4 inches long were found on the outside and back of the left hind leg above the hock. Similarly sized pre-mortem tooth scrapes were also found on the right hind leg above the hock and at both elbows. The location, size, number, and direction of tooth scrapes is consistent with wolf attack injuries on calves. The depredation is attributed to the Lookout Mountain Pack.

## September 12, 2021 – Umatilla County (Pine Creek area)

**Date Investigated:** 9/12/21

**Cause of death/injury:** Other

**General situation and animal information:** Late on the afternoon of 9/11/21, archery hunters found a dead approximately 90 lb. week-old calf in a partially forested private pasture. The calf was completely intact with only minor scavenging from birds around the left eye and anus. It was estimated the calf died during the early afternoon of 9/11/21.

**Physical evidence and summary of findings:** The calf carcass had blood around its mouth and nose, but no external injury was observed. It was completely shaved and skinned. There were no marks on the exterior of the hide and no pre-mortem injuries to underlying muscle tissues, indicating the calf was not attacked by a predator. The calf's death was not wolf related.

## September 9, 2021 – Baker County (Lawrence Creek area)

**Date Investigated:** 9/9/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/9/21, ODFW staff found a dead 600 lb. calf on private land within a 2800+ acre mixed public/private land pasture. The carcass was partially consumed but most of the hide was intact. The calf was estimated to have died the night of 9/7/21.

**Physical evidence and summary of findings:** The front legs, hindquarters, head, and neck were skinned. Numerous pre-mortem tooth scrapes up to 3/8 inch wide and 2 1/4 inches long were found on the rear right leg above the hock and on both front legs near the elbows. Associated tissue damage was up to 2 inches deep. A few pre-mortem tooth scrapes with associated tissue damage were found on the back and neck. The location, size, and number of tooth scrapes and severity of tissue trauma are consistent with wolf attack injuries on calves. The depredation is attributed to the Lookout Mountain Pack.

## September 8, 2021 – Wallowa County (Noregaard area)

**Date Investigated:** 9/8/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** Midday on 9/8/21, a ranch manager found a dead, seven-month-old, 400 lb. calf in a 6,000-acre private-land forested pasture. The carcass was intact with the majority of the soft tissue having been consumed. The calf was estimated to have died within 24 hours of the investigation.

**Physical evidence and summary of findings:** The carcass was shaved and skinned. There were multiple parallel pre-mortem bite scrapes up to ¼" wide on the hide of the right hind leg above the hock, and numerous similarly sized scrapes on the remaining hide of the left hind leg, both front legs near the elbows, and throat. Pre-mortem hemorrhaging and tissue trauma up to 1 ½" deep was found on the right

rear leg above the hock and the throat. The location, size, and number of tooth scrapes and severity of associated tissue trauma is similar to other confirmed wolf attacks on calves. The depredation is attributed to the Wildcat Pack.

### **September 3, 2021 – Wallowa County (Deer Creek area)**

**Date Investigated:** 9/3/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 9/3/21, a hunter found a dead, eight-month-old, 650-700 lb. calf in a 15,000-acre forested private-land allotment. The carcass was intact with approximately 50% of the tissue consumed. The calf was estimated to have died within 48 hours of the investigation.

**Physical evidence and summary of findings:** The carcass was shaved and skinned. There were several pre-mortem bite scrapes up to 1/4" wide on the remaining hide of the left hind leg above the hock, both front legs near the elbows, and throat. Pre-mortem hemorrhaging and/or trauma was found on the remaining muscle tissues of the right rear leg above the hock, elbows, back, and throat. The size of tooth scrapes and location of injuries is similar to other confirmed wolf attacks on calves. A GPS location from a radio-collared Clark Creek wolf around the time of the calf's death was within 200 yards of the carcass. The depredation is attributed to the Clark Creek Pack.

### **August 30, 2021 – Baker County (Lawrence Creek area)**

**Date Investigated:** 8/30/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 8/30/21 a livestock producer, while checking cattle, found a dead 600 lb. calf on public land within a 2800+ acre mixed public/private land pasture. The carcass was partially consumed but most of the hide was intact. The calf was estimated to have died late in the day on 8/29/21 or in the early morning of 8/30/21.

**Physical evidence and summary of findings:** A struggle scene consisting of broken vegetation and blood trail was found approximately 25 yards from the carcass leading to the deceased calf. Blood on the ground and on overhanging branches and vegetation was from a standing animal, and wolf tracks were found along the trail. The front legs and hindquarters were shaved and skinned. Numerous pre-mortem tooth scrapes up to 3/16 of an inch wide and 3 inches long were found on both rear legs above the hock, and the left front leg near the elbow. Associated tissue damage was up to 1 ½ inches deep. The location, size, number, and direction of tooth scrapes and severity of tissue trauma are consistent with wolf attack injuries on cattle. The depredation is attributed to the Lookout Mountain Pack.

## **August 29, 2021 – Umatilla County A&B (Horseshoe Ridge area)**

**Date Investigated:** 8/29/21

**Cause of death/injury:** Confirmed (2)

**General situation and animal information:** While checking cows, a livestock producer found an injured calf (calf A) the evening of 8/28/21 in a large private-land forested pasture. It died a few minutes after discovery. Calf A was approximately 4 months old, weighed around 400 lbs., and was intact. It was estimated calf A was injured the evening of 8/28/21. On the morning of 8/29/21, several cow/calf pairs independently returned to the livestock producer's camp and a calf (calf B) was observed with an open wound above the right hock. This calf was approximately 3 months old and weighed around 300 lbs. During the investigation on 8/29/21, the producer was unable to restrain calf B for close examination. On 8/31/21, the calf was restrained and examined. It was estimated calf B was injured 6 days prior to this examination.

**Physical evidence and summary of findings:** Calf A's legs, rump, and neck were shaved and skinned. Numerous pre-mortem bite scrapes and punctures measuring up to 3/16 inch wide were found on the inside and outside of both rear legs above the hocks, near the anus, and front right leg above the elbow. Underlying pre-mortem hemorrhage and muscle tissue trauma, up to 1 inch deep, was extensive in all areas that showed bite scrapes and bite punctures. Calf B had bite scrapes on both hind legs above the hocks, a 3 inch x 3 inch exposed muscle tissue wound to the inside of its rear right leg above the hock, and a 1 inch x 1 inch exposed muscle tissue wound to the inside of the left rear leg between the anus and groin. The size and location of wounds are consistent with wolf attacks on calves. These two separate depredation events are attributed to the OR30 Wolves.

## **August 25, 2021 – Baker County (Fox Creek area)**

**Date Investigated:** 8/25/21

**Cause of death/injury:** Other

**General situation and animal information:** A ranch manager found a dead three-year-old cow the morning of 8/25/21 while gathering cattle in a large public grazing allotment. The carcass was almost entirely intact. It was estimated the cow died late on 8/24/21 or early on 8/25/21.

**Physical evidence and summary of findings:** The cow carcass was partially shaved and skinned, and the entire carcass was examined. There were no pre-mortem injuries or abnormalities found in the hide or muscle tissue. Most of the tongue had been removed pre-mortem. The margin on the remaining portion of tongue was jagged with no tooth marks, and the blood vessels at the base of the tongue had been severed with extensive blood clots observed in the mouth. A scene was found along a road approximately 100 yards uphill from the carcass location. Large amounts of pooled blood were found in several spots, with additional blood splattered up to 5 feet high in surrounding trees. Additional dripping and pooled blood was found between the apparent initial scene of injury and the carcass. Tracking conditions were good, and no predator tracks were found. The cow died of blood loss associated with the tongue injury. While the cause of the injury is unknown, it was not wolf related.

## **August 19, 2021 – Baker County (Manning Creek area)**

**Date Investigated:** 8/19/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 8/19/21 an adjacent landowner found a dead 150 lb., 3-month-old calf on a 1000 acre private-land pasture and notified the producer. The carcass had been heavily scavenged and was missing the majority of muscle tissues posterior of the lower neck, pelvis, hind left leg, and all internal organs. The calf was estimated to have died late on 8/18/21 or early morning 8/19/21.

**Physical evidence and summary of findings:** An approximately 30 yards long attack scene was found, with blood on standing blades of grass intermixed with wolf tracks. The hair was shaved, and the calf was examined. The calf had pre-mortem bite injuries in the hide with associated hemorrhaging and tissue trauma on the rear right leg above the hock, back, front right elbow, head, and upper neck. Pre-mortem tooth marks were up to 3/16 of an inch wide and 2 inches long. The depredation is attributed to the Lookout Mountain Pack.

## **August 11, 2021 – Union County (Indian Lake area)**

**Date Investigated:** 8/11/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 8/10/21 a producer found an injured 450 lb., 6-month-old calf on a forested public land allotment. The animal was euthanized by the owner and transported to an ODFW office where an investigation was performed the following morning. Open wounds were observed on both rear legs between the anus and hock, the left flank, and the left shoulder. The estimated date of injuries was 7-14 days prior to the investigation.

**Physical evidence and summary of findings:** The entire carcass was shaved and skinned. Numerous pre-mortem tooth scrapes ranging from 1/8-3/16 inch in width and up to 6 inches long were found on both hind legs above the hocks as well as the groin, adjacent to the observed open wounds. Depth of tissue trauma under the tooth scrapes and within the open wounds was up to 2 ½ inches. The pre-mortem bite wounds are a clear sign of predator attack. The location and severity of the injuries is similar to injuries observed on other calves attacked by wolves. This depredation is attributed to the Ukiah Pack.

## **August 4, 2021 – Baker County (First Creek area)**

**Date Investigated:** 8/4/21

**Cause of death/injury:** Other

**General situation and animal information:** On the afternoon of 8/3/21 a livestock producer found an adult cow that had injuries to its udder on a large private rangeland pasture. The cow was moved into a corral and examined the morning of 8/4/21. The injury was estimated to have occurred 1 to 2 weeks before examination.

**Physical evidence and summary of findings:** The areas around the right rear leg and right front elbow were shaved and the entire cow was examined. There were rub marks in the hide in the arm pit area on both sides of the cow. There was an approximately 5-inch-long open wound to the underside of the udder. No marks were found around the injured area. There was no evidence of bite marks or predator attack on the cow. The cause of the wound is unknown but was not wolf related.

## **August 1, 2021 – Baker County (Fivemile Creek area)**

**Date Investigated:** 8/1/21

**Cause of death/injury:** Other

**General situation and animal information:** On the night of 7/31/21, a livestock owner found a dead approximately 1.5-year-old, 150 lb. ewe on public land. The carcass was mostly intact with a small area of scavenging around the anus and upper hind legs. The sheep was estimated to have died between the night of 7/30/21 and early afternoon of 7/31/21.

**Physical evidence and summary of findings:** The carcass was skinned and examined. There were pre-mortem bite scrapes and punctures 1/16-1/8 inch wide and up to 1 ½ inch long above the hocks on the hind legs, on the upper back in front of the hips, and in the left front leg armpit. Associated tissue trauma was 1/4-3/4 inch deep. There were also several canine tooth tears in the hide of the throat up to 3/16 inch long with associated tissue trauma approximately 1/2 inch deep. The pre-mortem bite wounds are a clear sign of predator attack but lacked diagnostic evidence to differentiate between coyote and domestic dog. The ewe's death was not wolf related.

## **July 30, 2021 – Baker County (Sisley Creek area)**

**Date Investigated:** 7/30/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the afternoon of 7/26/21 a livestock producer, while checking cattle, found an injured 6-month-old, 325 lb. calf in a 1900-acre private-land pasture. The calf was moved to a corral on 7/29/21 and examined by ODFW on 7/30/21. The calf was estimated to have been injured approximately 3 weeks before the examination.

**Physical evidence and summary of findings:** The calf was examined, and the hair was shaved around the injuries. The calf had over 30 tooth scrapes at least 1/8 inch wide and up to 4 inches long on the rear of the hind legs above the hock and on the tail. There was also an approximately 7 inch by 3 inch area of missing hide and muscle tissue on the inside of the left hind leg above the hock. The location, size, and number of tooth scrapes and associated tissue trauma are consistent with wolf attacks on calves. The depredation is attributed to the Lookout Mountain Pack.

## July 26, 2021 – Umatilla County (Spring Mountain area)

**Date Investigated:** 7/26/21

**Cause of death/injury:** Possible/Unknown

**General situation and animal information:** On the evening of 7/24/21, a livestock producer discovered a dead 3-month-old, 65 lb. lamb on the public land grazing allotment. The carcass was collected and brought to an ODFW office cooler, and the examination was performed on 7/26/21. The carcass of the sheep had been mostly consumed, leaving only the head, neck, one front leg, rib cage and hind legs. It was estimated that the lamb died within 24 hours prior to the carcass being collected.

**Physical evidence and summary of findings:** The lamb was skinned and examined. There was pre-mortem hemorrhaging and tissue damage on the throat approximately 1 ½" wide x 3 ½" long x ½" deep. There was pre-mortem hemorrhaging to the front right leg above the elbow measuring 1" x 2 1/4" x 1/16" deep. The pre-mortem injury to the throat is consistent with predation injuries on lambs but lacked diagnostic evidence to differentiate between carnivore species. The determination is possible/unknown.

## July 26, 2021 – Baker County (Manning Creek area)

**Date Investigated:** 7/26/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the afternoon of 7/25/21 a livestock producer, while checking cattle, found an injured 850 lb., 1.5-year-old steer on a 3000+ acre private-land pasture. The steer was moved to a squeeze chute for examination by ODFW the next morning. The steer was estimated to have been injured 10-12 days before the examination.

**Physical evidence and summary of findings:** The steer was examined, and the hair was shaved around the injuries. The steer had parallel pre-mortem tooth scrapes on the rear of both back legs above the hock. There were over 40 bite scrapes at least 1/8 inch wide and up to 4 1/2 inches long above the left hock associated with deep tissue trauma and missing tissue. There were numerous similarly sized tooth scrapes to the left and right flanks, right rear leg above the hock, and behind the right shoulder. The location, size, number, and direction of tooth scrapes are consistent with wolf attack injuries on adult cattle. The depredation is attributed to the Lookout Mountain Pack.

## July 23, 2021 – Baker County (Nodine Creek area)

**Date Investigated:** 7/23/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the morning of 7/23/21 a livestock producer, while checking cattle, found a dead 850 lb., 1.5-year-old heifer on private public land within a 3200+ acre mixed public/private land pasture. The carcass was intact and complete, except for scavenging on the upper hindquarters, groin, right flank, and some organs. The majority of the hide remained. The heifer was estimated to have died late in the day on 7/22/21 or in the early morning of 7/23/21.



**Physical evidence and summary of findings:** A struggle scene was found approximately 50 yards from the carcass, and a blood trail that led from the struggle scene to the carcass. Blood on the ground and on overhanging branches was from a standing animal, and wolf tracks were found along the trail. The hair was shaved around the front and rear right legs, and the entire carcass was skinned. There was pre-mortem hemorrhaging and muscle tissue trauma on the inside and back of the left rear leg from below the hock to the groin, as well as to the left flank. Tissue trauma extended up to 1 inch deep. The right rear leg had numerous pre-mortem tooth scrapes to the rear and inside of the leg above the hock. The tooth scrapes were up to 3/16 of an inch wide and ranged from 5/8 of an inch to over 3 inches long. The location, size, number, and direction of tooth scrapes are consistent with wolf attack injuries on adult cattle. The depredation is attributed to the Lookout Mountain Pack.

**Addendum (7/29/21):** The carcass was found on public land, not on private land as previously reported.

### **July 23, 2021 – Umatilla County (Meacham area)**

**Date Investigated:** 7/23/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** While checking cows a livestock producer's range rider found the remains of a dead 5-month-old, 300 lb. calf late in the morning of 7/23/21 in a 4000-acre forested private-land pasture. Most muscle tissue was consumed except for below the elbow and stifle joint, back of the neck, and head. Hide remained on the rear legs below the mid-point of the shank bone, on the front legs below the mid-point of the forearm, on the dorsal side of the head, and areas that covered the back, neck, and shoulders. The calf was estimated to have died the morning of 7/22/21.

**Physical evidence and summary of findings:** A kill scene was found with disturbed soil and blood from a standing animal. The legs of the calf were shaved where muscle tissue remained, and all remaining hide was skinned. Numerous pre-mortem tooth scrapes and punctures up to 3/16 inch wide and 3 inches long wide were found on both rear legs above the hock as well as on the inside of each front leg between the knee and elbow. Underlying pre-mortem hemorrhaging and/or muscle trauma was observed in all areas with bite scrapes. The calf had pre-mortem bite wounds indicating it was attacked by a predator. The size, number, and location of wounds are consistent with wolf attacks on calves. This depredation event is attributed to the OR30 Wolves.

### **July 21, 2021 – Umatilla County (Meacham area)**

**Date Investigated:** 7/21/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** A livestock producer's range rider found the remains of a dead calf on the morning of 7/21/21 in a 4000-acre forested private-land pasture. The calf was approximately 5 months old and weighed around 300 lbs. The carcass was mostly intact. Tissue from the inside of both hind legs and part of the right side of the neck and jaw had been consumed, but the majority of the hide remained. The calf was estimated to have died the evening of 7/20/21 or the morning of 7/21/21.

**Physical evidence and summary of findings:** One side of the calf was shaved and both sides were skinned. Pre-mortem tooth scrapes and punctures up to 1/4 inch wide were found on the spine, both hind legs above the hock, both front legs above the elbow, the brisket, and on the right side of the rump just forward of the tail. Underlying pre-mortem hemorrhage and muscle trauma was extensive in all areas that showed bite scrapes and was up to 3 inches deep. The calf had pre-mortem bite wounds indicating it was attacked by a predator. The size, number, location, and severity of wounds were consistent with wolf attacks on calves. This depredation event is attributed to the OR30 Wolves.

## **July 21, 2021 – Baker County (Manning Creek area)**

**Date Investigated:** 7/21/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the evening of 7/20/21 a livestock producer, while checking cattle, found an injured 950 lb., 1.5-year-old steer on a large 2500+ acre private-land pasture. The steer was trailered to a corral the evening of 7/20/21 and examined on 7/21/21. The steer was estimated to have been injured 3-4 days before the examination.

**Physical evidence and summary of findings:** The steer was examined, and the hair was shaved around the injuries. The steer had parallel pre-mortem tooth scrapes on the rear of both back legs above the hock, and in front of the left front leg. There were at least 30 bite scrapes about 3/16 inches wide and up to 4.5 inches long above the left hock. The location, size, number, and direction of tooth scrapes are consistent with wolf attack injuries on adult cattle. The depredation is attributed to the Lookout Mountain Pack.

## **July 17, 2021 – Morrow County A&B (Butter Creek area)**

**Date Investigated:** 7/17/21

**Cause of death/injury:** Other (2)

**General situation and animal information:** On the morning of 7/15/21, a livestock producer found two dead calves while moving cattle in a forested private-land pasture. ODFW was contacted the evening of 7/16/21 and the investigation was conducted the next morning. Both carcasses were intact. Calf A was a 5-month-old 400 lb calf. The carcass had minor scavenging, the tissue was mostly consumed by maggots, and all of the hide was present except at the groin. Calf B was a 5-month-old 250 lb calf, that was scavenged at the abdomen, right front leg and inside of left hind leg. It was estimated that calf A died between 7/13/21 and 7/14/21, and calf B died approximately 7/12/21.

**Physical evidence and summary of findings:** The left shoulder and left rear leg of calf A were shaved and both calves were skinned and examined. No pre-mortem injuries were found on the hide or in the remaining muscle tissues of calf A. The cause of death of calf A is unknown, but was not wolf related. Calf B had an area of pre-mortem hemorrhaging approximately 3 inches by 6 inches near the base of the skull and jaw on the right side of the head. The spinal column was severed immediately behind the location of the hemorrhaging. Calf B died from a severed spinal column and was probably killed by a cougar. There were no pre-mortem injuries in the areas associated with wolf attacks on calves, and the death was not wolf-related.

## July 14, 2021 – Baker County (Manning Creek area)

**Date Investigated:** 7/14/21

**Cause of death/injury:** Confirmed

**General situation and animal information:** On the evening of 7/14/21 a livestock producer, while checking cattle, found a dead 5.5-month-old calf in a 3500+ acre public land allotment. The calf carcass had been heavily fed upon with little remaining muscle tissue, but the majority of the hide remained. The calf was estimated to have died approximately 36 hours before the investigation.

**Physical evidence and summary of findings:** The calf carcass was skinned, partially shaved and examined. The calf had numerous parallel pre-mortem tooth scrapes up to 5 inches long and 1/4 inch wide with associated bruising under the hide on the rear of both back legs above the hock. There were additional pre-mortem tooth scrapes at the right front elbow. The location, size, number, and direction of tooth scrapes are consistent with wolf attack injuries on calves. A collared Lookout Mountain Pack wolf was present at the carcass location at the approximate time of death. The depredation is attributed to the Lookout Mountain Pack.

## July 13,2021 – Baker County (First Creek area)

**Date Investigated:** 7/13/21

**Cause of death/injury:** Other

**General situation and animal information:** A ranch hand found a dead calf on 7/13/21 in a large, private-land pasture near several watering holes. The carcass was intact except for scavenging of internal organs and portions of the right ribs, right shoulder, and anus. It was estimated that the calf had died within the last 12 hours.

**Physical evidence and summary of findings:** The entire carcass was skinned. No pre-mortem bites, scratches, cuts, scrapes, or punctures were found on the hide. The underlying muscle tissue showed no evidence of hemorrhage or tissue damage. There was no evidence of predator attack on the carcass or the scene. The cause of death was not wolf related.

## July 4, 2021 – Union County (Kamela area)

**Date Investigated:** 7/4/21

**Cause of death/injury:** Confirmed (9)

**General situation and animal information:** On the morning of 7/4/21, a herder notified a ranch hand that sheep had scattered from around their bedding area near his trailer the previous evening. That same morning, a member of the public found two dead ewes and one dead lamb on the same large, timbered private-land pasture and notified the ranch hand. The ranch hand found an additional three dead lambs, one dead ewe, and two injured lambs. One of the injured lambs was not relocated until 7/7/21. Of the dead sheep, one was mostly consumed, two were completely intact, two were mostly intact, and two were partially consumed. All animals were estimated to have been injured or killed on the evening of 7/3/21.

**Physical evidence and summary of findings:** A GPS location from a radio-collared Ukiah wolf around the time of the sheep injuries and mortalities was within 150 yards of three of the sheep carcasses. Tracks of multiple wolves were also found near several of the carcasses. One injured lamb and one dead ewe were examined on site on 7/4/21, the remaining dead sheep were partially shaved/skinned and examined on 7/6/21. The dead sheep had pre-mortem tooth punctures up to 3/8" in diameter on the neck, throat, groin, and/or hindquarters. Associated hemorrhage and tissue trauma extended up to 2" deep. One injured lamb had an open bite wound on the backside of the right hindquarter above the hock with exposed tissue damage. The other injured lamb had a bite wound to the throat. All sheep had pre-mortem bite wounds indicating they were attacked by a predator. The size, location, and severity of wounds were consistent with wolf attacks on sheep. This depredation event is attributed to the Ukiah Pack.

## **July 1, 2021 – Umatilla County (Meacham area)**

**Date Investigated:** 7/1/21

**Cause of death/injury:** Possible/Unknown

**General situation and animal information:** A livestock producer's range rider found the remains of a dead calf on 7/1/21 in a 4000-acre forested private-land pasture. The calf was approximately 4 months old weighing 325 lbs. and had been nearly consumed with only the head, portions of both front legs and scapula, and pelvis with attached vertebrae remaining. The calf was estimated to have died 2-3 days prior to the investigation.

**Physical evidence and summary of findings:** The remaining hide was shaved and skinned with no pre-mortem bite marks, scrapes, or muscle trauma found. No evidence was found to suggest the death was wolf related. Due to the lack of hide and muscle tissue on the calf, the determination is possible/unknown.