



North Cascades Elk Herd Management Summary

Actions Summary

For many years, WDFW has contributed significant effort and resources to assist property owners with managing and preventing human-wildlife conflict issues. In areas the North Cascades elk herd frequents, WDFW staff have partnered with local landowners, Tribal Co-managers, non-governmental organizations, and others to mitigate human-elk conflicts in the Skagit Valley and nearby areas. Our objective is to reduce negative impacts and costs landowners, agriculture, and local communities incur, while respecting that elk are native to the North Cascades region including the Skagit and Nooksack watersheds, naturally inhabit valley bottoms during portions of the year, and are of significant value for hunters, wildlife enthusiasts, Tribal Co-managers, and many other Washingtonians.

WDFW has funded full-time wildlife conflict staff to provide expert support and field assistance, assist landowners with fencing materials and installation, reimburse commercial producers for the costs of fertilizer, seed, and noxious weed control in areas disturbed by elk, offer hazing and other deterrents, deploy Master Hunters to properties where elk damage is greatest, and provide landowners with authority to remove elk using Damage and Kill Permits. We continually seek the appropriate balance between elk conflict management and conservation and are committed to working collaboratively with landowners, Tribal Co-managers, and others in this community.

Background

The North Cascades elk (*Cervus elaphus*) herd (NCEH) is the smallest of ten herds formally recognized and managed by the Washington Department of Fish and Wildlife (WDFW) and is the northernmost elk herd in western Washington. The herd is co-managed with the Point Elliott Treaty Tribes. Despite the herd's relatively small size, it is an important resource providing recreational, aesthetic, and economic benefits to Washington citizens. While hunting can be very challenging due to access constraints, special permit hunting opportunities in Game Management Units (GMU) 418 and 437 are prized by recreational hunters, typically requiring many years of application to draw. Tribal Co-managers value this elk herd as a significant cultural, subsistence, and ceremonial resource.

WA Laws and Rules Governing Elk Damage Management

WDFW addresses elk damage conflict within the constraints of applicable Revised Codes of Washington (RCW) and Washington Administrative Codes (WAC). These laws and rules dictate,

among other things, who is eligible to file a crop damage claim, how a claim is assessed and processed, the conditions required before a landowner can kill an elk causing property damage, and who can receive Damage Prevention Permits. Key RCWs and WACs are listed below. Click on the RCW or WAC number to review the original document.

RCWs:

RCW 77.12.240 – Authority to take wildlife—Disposition

RCW 77.36.010 – Definitions

RCW 77.36.030 – Trapping or killing wildlife threatening human safety or causing property damage—Limitations and conditions—Rules

RCW 77.36.070 – Limit on total claims from the fish, wildlife, and conservation account per fiscal year

RCW 77.36.080 – Limit on total claims from general fund per fiscal year—Emergency exceptions

RCW 77.36.100 – Payment of claims for damage to commercial crops or livestock—Noncash compensation—Offer of materials or services to offset or prevent wildlife interactions—Appeal of decisions—Adoption of rules

RCW 77.36.110 – Eligibility for compensation under this chapter—Adoption of rules

RCW 77.36.120 – Department's duties

RCW 77.36.130 – Limit on cash compensation—Burden of proof

RCW 77.36.140 – Chapter represents exclusive remedy

RCW 82.08.855 – Exemptions—Replacement parts for qualifying farm machinery and equipment. Includes definition of “eligible farmer.”

WACs:

WAC 220-101-020 – Department description and authority

WAC 220-440-010 – Wildlife Management and wildlife interaction

WAC 220-440-020 – Definitions. Includes definitions to key terms, including “claim”, “claimant”, “commercial crop”, and “eligible farmer.”

WAC 220-440-040 – Wildlife/human interaction and conflict resolution for private property damage

WAC 220-440-060 – Killing wildlife causing private property damage

WAC 220-440-130 – Limitations to managing damage caused by big game on private property

WAC 220-440-140 – Payment for commercial crop damage—Limitations

WAC 220-440-150 – Application for cash compensation for commercial crop damage—procedure

WAC 220-440-160 – Valuation methods for crop damage assessment

WAC 220-440-190 – Public hunting requirements

WAC 220-440-200 – Damage prevention permit hunts—Deer, elk, and turkey.

WAC 220-440-230 – Commercial crop or livestock damage claim—Dispute resolution

WAC 220-440-240 – Unlawful taking or possession of wildlife for personal safety or causing property damage—Penalties

WAC 220-440-250 – Failure to comply with the conditions of permits, provide completed forms, or submit required documents or reports for the purposes of this chapter

NCEH Population Surveys

The Point Elliott Treaty Tribes and WDFW conduct aerial surveys in the core area of the NCEH. Surveys are either a single survey, involving one survey of the core area, or a replicate survey, involving two surveys of the core area approximately one to two weeks apart. Replicate surveys are more accurate, but also more expensive. Surveys can cost \$20,000 – \$40,000+, depending on survey type. Within the past six years, replicate surveys were completed in 2016, 2019, and 2021 (Table 1). WDFW and Tribal Co-managers believe that an additional 200–300 elk may reside outside the surveyed core area.

Table 1. Population estimates by survey type for the North Cascades elk herd within the core survey area, 2016–2023.

Year	Population Estimate	Survey Type
2023	Analysis in progress	Single
2022	N/A	No survey conducted
2021	1,194	Replicate
2020	1,339	Single
2019	1,493	Replicate
2018	1,593	Single
2017	1,163	Single
2016	1,257	Replicate

WDFW Recreational and Damage Harvest

Table 2. Recreational and damage harvest of elk in all GMUs comprising the North Cascades elk herd, 2018–2022 hunting and damage harvest seasons.

State	2018–19		2019–20		2020–21		2021–22		2022-23	
GMU	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows
407	2	10	10	12	9	2	2	4	16	4

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418	16	0	20	0	24	0	15	0	19	0
437	0	0	0	0	0	0	11	6	8	5
448	2	2	0	0	0	0	0	0	0	0
4941^a	13	8	11	10	14	8	N/A	N/A	N/A	N/A
Damage^b	11	37	10	39	8	34	7	38	3	41
Total	44	57	51	61	55	44	35	48	46	50
Grand Total	101		112		99		83		96	

^a Elk Area 4941 was a Skagit Valley elk conflict management zone within GMU 437, and the only part of GMU 437 where recreational hunters could hunt elk with a special permit. As of the 2021-22 hunting season, hunters drawing a GMU 437 special permit can hunt the entirety of the GMU.

^b Harvests from landowner permits and Master Hunter Special Permits in GMUs 407, 418, and 437 and Elk Area 4941.

Damage Complaints and Crop Damage Claims

Table 3. Elk damage complaints, commercial crop claims, and Kill and Damage Prevention Permits and harvest for the North Cascades elk herd, 2015 – 2022.

Year (July 1 – March 31)	Total of all Damage Complaints	Complaints by Commercial Producers	Complaints Eligible for a Claim	Claims Submitted by Producers to WDFW	Total Kill and Damage Prevention Permits Issued to Landowners	Total Elk Harvested with Landowner Permits
2015-16	48	19	1	1	30	25
2016-17	64	24	2	0	40	24
2017-18	78	31	2	0	52	34
2018-19	63	23	1	0	66	30
2019-20	68	25	1	0	66	40
2020-21	36	22	1	1	62	35
2021-22	56	19	2	2	63	34
2022-23	54	18	1	1	60	37

Skagit Valley Elk-Damage Mitigation Funds

The Washington State Legislature periodically appropriates funds for use by WDFW to mitigate elk damage to private properties in Skagit Valley. These funding efforts by the Legislature recognize the valuable contribution farmers make to the State of Washington and the negative impacts that elk foraging can have on commercial crops, including pasture and hay fields used to feed commercial livestock. Expenditure of funds is governed by the language drafted by the State Legislature, known as provisos. Key proviso grants appropriated in recent years include:

- **FY16 – FY18 – WDFW and Stillaguamish Tribe Cooperative Fencing Project:** The total grant amount was \$300,000. WDFW received \$54,000 to fund a technician to build fence, and the Stillaguamish Tribe of Indians received \$36,900 in indirect costs, leaving over \$209,000 for cooperative fencing projects. WDFW, Stakeholders, and the Stillaguamish Tribe made 50 individual purchases of fencing materials, providing materials to a total of 31 landowners from December 2015 to September 2017. Participating landowners received a total of 85,794 linear feet of fencing materials.
- **FY20 – FY21 – General Elk Damage Management:** The Legislature appropriated about \$340,000 in funds for the biennium that allowed WDFW to address different elk damage management needs in Skagit Valley. To assist commercial livestock producers who were experiencing damage to pasture and hay fields, WDFW established a Crop Mitigation Program, which used part of the proviso funding to establish contracts with qualifying producers and reimburse them with a maximum of \$2,500 annually for commercially purchased fertilizer or grass-type seed and/or noxious weed control to offset elk forage loss of orchard type grasses. During the biennium, 25 Skagit Elk Mitigation contracts were signed by commercial producers (23 producers provided receipts by payment deadline), with payments totaling \$100,000. Additionally, WDFW used funds from this Proviso to pay for a technician to help with elk damage issues, buy elk fence materials, and purchase and deploy 9 GPS satellite collars on cow elk in Skagit Valley. Fence materials purchased with this Proviso grant provided several more thousand linear feet of fence for Skagit Valley landowners.
- **FY22 – Landowner and School Fencing Project:** The Legislature appropriated funds to provide fencing to one or more landowners along State Route 20, as well as a school district to address elk damage to athletic fields. More than \$400,000 of this Proviso Fund is being used by the Concrete School District. One landowner with a 30-acre hay field off Wilde Rd will be provided approximately 4,700 linear feet of fencing materials at a cost of approximately \$25,000.

- **FY23** – Skagit Elk Fencing. During the most recent supplemental session, the Legislature appropriated \$75,000 for elk fencing projects in Skagit Valley. Fencing materials have been purchased for five landowners.



Figure 1. Hay field in Day Creek that was cut early after being fertilized with funding from the Crop Mitigation Program



Figure 2. Completed woven wire fencing on property adjacent to SR20. To date, no elk intrusions have occurred on the property since installation of the fence.



Figure 3. Fencing project in Day Creek

Treponeme-Associated Hoof Disease (TAHD)

The Department understands the concerns held by some landowners regarding treponeme-associated hoof disease (TAHD) in elk and the potential for its spread to domestic livestock. Importantly, no research to date has shown that elk can spread TAHD to cattle, though further research may shed additional light on this possibility. The worldwide dairy industry has dealt with a form of hoof disease called digital dermatitis for many decades before TAHD was discovered in elk, and the potential for hoof disease transmission between wild and domestic species is unknown. Unlike with domestic cattle, there is no treatment available for free-ranging elk. Fortunately, anecdotal evidence suggests the prevalence of TAHD in the North Cascades elk herd is much lower than in southwest Washington where prevalence is greatest; we estimate that less than 10% of this elk population is impacted by the disease.

In 2017, the Washington State Legislature mandated Washington State University’s College of Veterinary Medicine (hereafter, WSU) as the state lead in developing a program to monitor and assess causes of and potential solutions for elk hoof disease. An initial \$1.5 million biennial budget was allocated to the college to begin addressing this issue on July 1, 2017. WDFW assists with this elk hoof disease study, led by Dr. Margaret Wild, by providing hooves from WDFW, landowner, or hunter-killed limping elk, as requested. These hoof samples aid in disease surveillance and provide the WSU research facility with research samples. More information is available on the [WDFW TAHD webpage](#) and [WSU TAHD webpage](#).

The Department is actively trying to harvest limping elk in Skagit Valley to address landowner concerns, reduce suffering of elk with TAHD, and potentially reduce the spread of TAHD between elk. We are using the following tools to harvest limping elk:

1. Landowner Damage Permits – along with general Damage Permits that allow the taking of an antlered or antlerless elk, the Department has issued several Damage Permits (Table 4) that require a landowner to only harvest a limping elk. This has been successful in the past and will be an important tool moving forward.
2. Targeted removals – the Department opportunistically removes limping elk when conditions allow for a safe and humane harvest (Table 4). This harvest method is useful but also challenging, due to issues with access, safety, elk movements, and understandable delays between a limping elk sighting and arrival of Department staff or volunteers. The Department, along with Tribal Co-Managers, will proactively continue to remove limping elk through targeted removals whenever possible.
3. Master Hunters – the Department issues 13 Master Hunter special permits annually to address elk conflict issues in Skagit and Acme Valleys. When limping elk have been spotted in an elk conflict area, Master Hunters may be instructed to specially target a limping elk.
4. Elk Hoof Disease Incentive Program – Beginning in the 2021 license year, the Department started a program to evaluate how hunters can help reduce the prevalence of elk hoof disease by offering an incentive to harvest limping elk. To do so, the Department offers an exclusive draw opportunity for western Washington general elk season and most special permit elk hunters who successfully harvest an elk. Hunters can participate by submitting the hooves of their harvest to the Department. If the hooves display signs of hoof disease (abnormal hooves), hunters will have a chance to draw a premium elk tag the following license year.

Table 4. Limping elk removals during the 2022-23 harvest season from the Skagit Valley area.

Date	Approx. Location	Sex	Age	Harvest	Permit Type
11/11/2022	Lyman Hamilton Rd	Female	Adult	Cull	WDFW Law Enforcement Removal
12/6/2022	Unknown	Female	Adult	N/A	Roadkill
12/10/2022	Hamilton Cemetery Rd	Female	Adult	Cull	Landowner Damage Permit
1/31/2023	Wilde Rd	Female	Adult	Cull	Landowner Damage Permit
2/21/2023	Russell Rd	Female	Adult	Cull	Landowner Kill Permit
3/12/2023	Bacas Rd	Female	Adult	Cull	Master Hunter Special Permit

WDFW and Co-Manager Elk Captures

Tribal Co-managers and WDFW have collared and currently monitor more than 60 elk within GMUs 418 and 437. Collared elk provide movement and home range information and are a

necessity for the survey method used by WDFW and Co-managers. In 2021, WDFW fit nine (9) cow elk in Skagit Valley (included in number above) with GPS satellite collars to better understand movements and home range of elk within the main elk-human conflict zone. Two collared cows have died of unknown causes in July 2021 and March 2023. Biologists follow movements and monitor the collared elk using software on the manufacturer’s website (Figure 4).

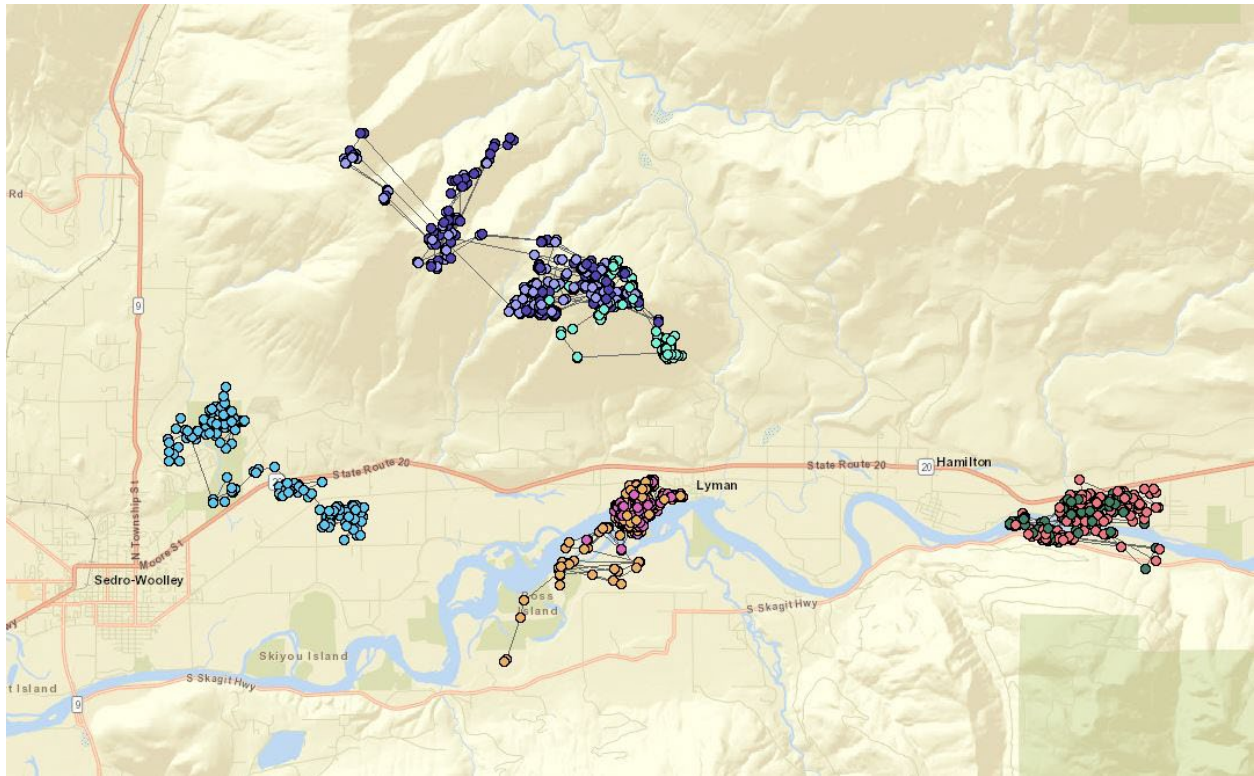


Figure 4. Locations for 8 collared elk along SR 20 over a 30-day period, Skagit County, WA, July – August 2021.