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Washington State Elk Herd Plan

MOUNT ST. HELENS ELK HERD

Washington Department of Fish and Wildlife
Wildlife Management Program
600 Capitol Way North
Olympia, WA 98501-1091

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Date

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MOUNT ST. HELENS ELK HERD PLAN

Executive Summary

The Mount St. Helens Elk Herd is one of ten herds identified in the state. It is one of the most important elk herds in the State as it provides significant recreational, aesthetic, and economic benefit to the citizens of Washington.

The purpose of this document is to provide direction for the management of the Mount St. Helens elk resource into the future. This is a 5-year plan subject to amendment. Before the fifth year this plan should be updated, re-evaluated, amended, and implemented for another 5-year period. The plan will serve as a valuable reference document and guideline for the Department, agency cooperators, landowners, tribes, and the general public. Priority management activities can be implemented as funding and other resources become available.

The three primary goals of the Mount St. Helens Elk Herd Plan are: (1) to preserve, protect, perpetuate, manage, and enhance elk habitat to ensure healthy productive populations; (2) to manage elk for a variety of recreational, educational, and aesthetic purposes, including hunting, scientific study, and photography; and (3) to manage harvest of the elk herd for a sustained yield.

Specific elk herd and habitat objectives, problems, and strategies are identified in the Plan. These are priority objectives identified to address specific problems in elk management. To accomplish each objective a variety of strategies have been proposed. The following objectives have been identified:

1. Manage the Mount St. Helens Elk Herd using the best available science.
2. Manage all open-entry elk units for post-hunting season bull ratios consistent with the Game Management Plan (12 to 20 bulls per 100 cows) in conjunction with overall bull mortality rates $\leq 50\%$. Manage quality GMUs for minimum post-hunting season bull:cow ratios at approximately 20 bulls per 100 cows, in conjunction with overall bull mortality rates of $\leq 40\%$.
3. Decrease the estimated elk population level to 10,000 in balance with both habitat and cultural carrying capacities.
4. Minimize human conflicts and property damage caused by elk.
5. Increase public appreciation of the elk resource and promote non-consumptive values of elk including viewing and photographic opportunities.
6. Continue to monitor the health and winter survival of elk wintering in GMU 522 (Loo-wit) and Mount St. Helens Wildlife Area.
7. Improve the quantity and quality of elk habitat on the Mount St. Helen Wildlife Area.
8. Maintain the current level of elk winter range along the Lewis River.
9. Develop partnerships to improve habitats for elk.

Spending priorities have been identified for the next 5 years. The recommended annual priority expenditures for the Mount St. Helens elk herd are as follows:

<u>Priority Expenditure</u>	<u>1st Year</u>	<u>5 Years</u>
Aerial elk surveys	\$25,000.00	\$125,000.00
Habitat improvement	\$30,000.00	\$125,000.00
Elk survival study	N/A	\$200,000.00
Quantify elk forage condition	\$40,000.00	\$120,000.00
Monitor elk body condition	\$20,000.00	\$50,000.00
Monitor annual harvest	<u>\$12,000.00</u>	<u>\$60,000.00</u>
TOTAL	\$217,000.00	\$680,000.00

MOUNT ST HELENS ELK HERD PLAN

Introduction

The herd plan is a step-down planning document under the umbrella of the Game Management Plan 2003-2009 (WDFW 2003). For management and administrative purposes the state has been divided into numerous Game Management Units (GMUs). A group of GMUs having similar characteristics is described as a Population Management Unit (PMU). The Mount St. Helens Elk Herd is one of ten herds designated in Washington. In this context an elk herd is defined as a population within a recognized boundary as described by a combination of GMUs. The Mount St. Helens Elk Herd is in the following PMUs and GMUs:

PMU	GMUs
51	578, 388
52	564, 568, 574
53	524, 554, 556
54	560, 572
56	505, 520, 550

The Mount St. Helens Elk Herd Plan is a five-year planning document subject to periodic review and amendment. Once approved, the plan will remain in effect, as amended or until canceled. This document recognizes a responsibility of the Washington Department of Fish and Wildlife in cooperative and collaborative management with affected Indian treaty tribes. It also recognizes the role of private landowners and public land management agencies, notably the U.S. Forest Service, Washington Department of Natural Resources and U.S. Fish and Wildlife Service, in elk management.

Area Description

Location

The Mount St. Helens Elk Herd encompasses habitat in five PMUs and fourteen GMUs in Clark, Cowlitz, Klickitat, Lewis, and Skamania counties of southwestern Washington (Map 1). The external boundaries of the geographic distribution of the Mount St. Helens Elk Herd are generally as follows: That area east of Interstate Highway 5 from Centralia south to the Oregon State line; on the south by the Oregon-Washington State line; on the east by Highway 97, the Yakama Indian Reservation boundary, the Cascade Crest Trail to Walupt Lake and following the Cispus River to Highway 12, on the north by Highway 12 from Cispus River to Morton and SR 508, by SR 508 from Morton to the Alpha Road, Salzer Valley Road and point of beginning. A degree of mixing occurs with the South Rainier Elk Herd along the Cowlitz River area, bordering GMUs 513. Physiographically, most of the area belongs within the Southern Washington Cascade Province except the westernmost portion, which belongs to the Puget Trough Province (Franklin and Dyrness 1973).

Ownership

Land ownership is varied throughout the Mount St. Helens herd area. Public and private land ownership is approximately equal in the herd area. Much of the eastern portion of the area is under federal ownership through the U.S. Department of Agriculture's Gifford Pinchot National Forest. The Washington Department of Fish and Wildlife manages a portion (2,800 acres) of the North Toutle river valley as a State Wildlife Area. The majority of the western half of the herd area is in private industrial forestland, owned primarily by the Weyerhaeuser Company. The majority of the northwest and southwest corners of the herd area are privately owned by individuals. Similarly, much of the lands along the major drainages in the herd area (Cowlitz, Toutle, Lewis, and Columbia rivers) are in small private holdings.

Topography

Elevations in the Mount St. Helens herd area range from approximately 6.4m (21 ft) at Longview to 3,729m (12,307 ft) at Mount Adams. Much of the herd area is located in the western Cascades and consists of steep mountainous terrain. The westernmost and northern portions of the herd area consist of rolling foothills and level to mostly level terrain along the major drainages and the Interstate Highway 5 corridor.

Vegetation

Historically the entire area was covered with dense coniferous forests. Considerable agricultural and later residential conversion has occurred in the Puget Trough area, although much of the area still remains in commercial forestland. Coniferous forests dominate the majority of the herd area. Based on a combination of elevation and moisture gradients, Franklin and Dyrness (1973) described three major forest zones in the area. Named after the climax conifer species, these are the lower elevation Western Hemlock (*Tsuga heterophylla*), the mid-elevation Pacific Silver Fir (*Abies amabilis*), and the high elevation Mountain Hemlock (*T. mertensiana*) zones. Franklin and Dyrness (1973) list a variety of plant communities and associations for each of the major zones, reflecting differences in soil type, elevation, aspect, and slope.

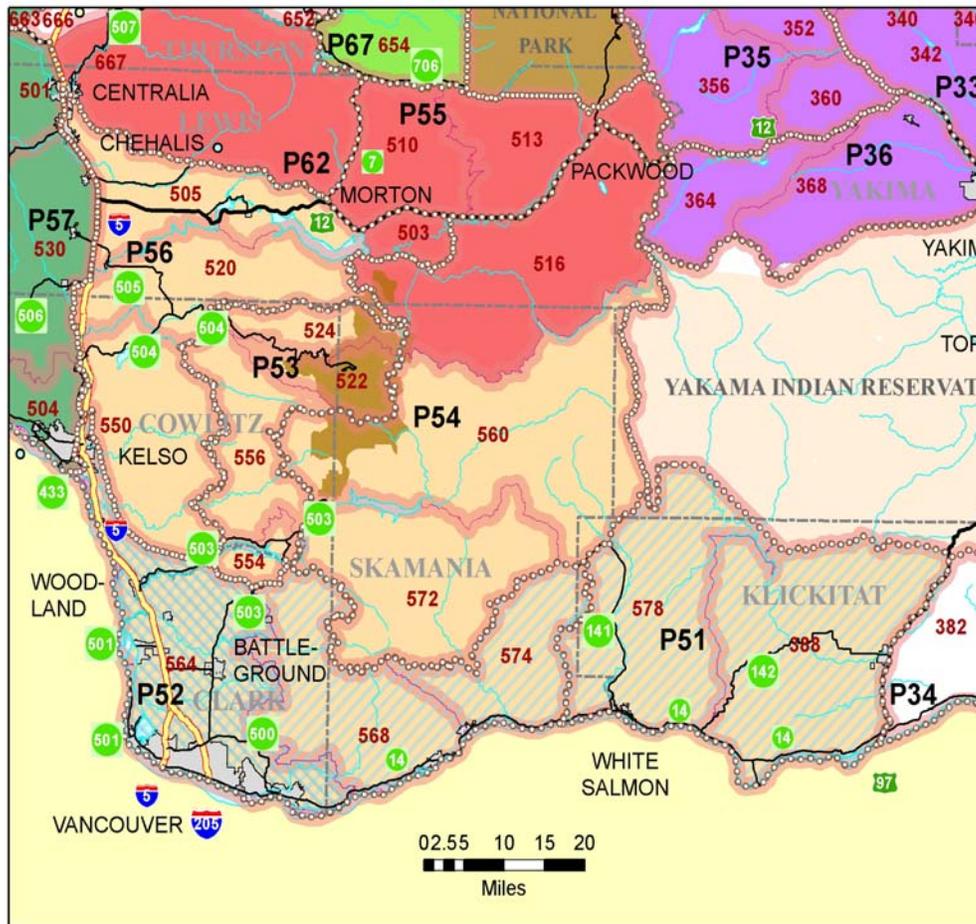
The May 18, 1980 eruption of Mount St. Helens drastically impacted habitat in roughly 575 square kilometer blast zone (230 mi²) of the herd area. The lateral blast and lahar of the eruption destroyed approximately 4 billion board feet of standing timber. The associated ash fall from the eruption deposited a layer ranging from 25cm (10 in) deep 16.7 km (10 mi) from the crater to 2.5 cm (1 in) deep 100 km (60 mi) from the crater. Habitat in the blast zone was instantly transformed from a mixture of old-growth forest and younger secondary growth to pioneer, early successional stages. Most of the adjacent forestland is in 20-25 year old plantations that provide little forage for elk.

Human Influences

Human activities have greatly influenced the landscape of the Mount St. Helens herd area. Much of the herd area is intensively managed industrial or public forest. Outside of protected areas, timber-harvesting operations have greatly changed the composition and structure of forestlands. This is most evident in the highly productive Western Hemlock Zone, which includes virtually all of the elk winter range. Timber harvest has generally been by clear-cutting and following site preparation; these cuts are replanted to desirable tree species. In the Western Hemlock Zone, Douglas fir (*Pseudotsuga menziesii*) tends to be a co-dominant species even in virgin timber stands. A change from the use of fire as the predominant site preparation method to intensive

herbicide application has resulted in poorer forage quality on private timberlands. Initial research conducted by Weyerhaeuser and Oregon State University indicates that intensive herbicide application as a pre planting treatment results in a species shift from native to more exotic species (B. Anderson personal communication 2000). Herbaceous plant communities and grass communities are impacted by these applications. From a landscape perspective, the current impact of the program within the Mount St. Helens herd area is a cause for concern but remains to be quantified.

Map 1. Mount St. Helens Elk Herd Area



Elk Herd Management

Elk Herd Areas

- Willapa Hills
- Mount Saint Helens
- South Rainier
- Yakima
- North Rainier
- No Herd

Deer Management Areas

- Deer Emphasis Area
- Agricultural and/or Urban Conflict

Political Boundaries

- Game Management Unit
- Elk Population Management Unit
- County Line
- State Line
- City or Town
- National Park
- Tribal Land

Transportation Network

- Interstate Highway
- US Highway
- State Route

Hydrography

- River or Shoreline
- Waterbody

Agricultural conversion is common along the major drainages and in the lowland level terrain, particularly in the western and northern portions of the herd area. Agricultural production is varied and includes row and hay crops, orchards, and beef and dairy ranches. Small acreage farms supporting horses or alternative livestock species, such as llamas and emus, are increasingly common near urban areas.

Urban and suburban development is extensive along the Interstate Highway 5, U.S. Highway 12, and State Route 14 corridors. Development has reduced elk habitat along State Routes 503 and 504, and within the Coweeman and Kalama drainages. Urban growth and development will continue to expand in the western portions of the herd area, to detriment of elk.

Continued residential development along the North Fork Lewis River from approximately Merwin Reservoir upstream, is resulting in further loss of elk winter habitat due to both habitat conversion and increased human disturbance. Inundation along the Lewis River, through the creation of Merwin, Yale, and Swift Reservoirs, has already resulted in the loss of much quality winter range. Habitat management by Pacificorp as part of the Merwin Wildlife Habitat Project increased the quality of elk winter range associated with Merwin and Yale Reservoirs, but not the quantity. Residential development threatens to isolate these areas from migratory elk. Loss of winter range along the Lewis River, altered U.S. Forest Service management policies limiting timber harvest, favoring the development of late successional habitats, and some changes in herbicide application regimes by private timber companies are the most important habitat issues facing the Mount St. Helens herd in the future.

Other Ungulates

The Mount St. Helens elk herd shares the majority of its range with an estimated 55,000 black-tailed deer (*Odocoileus hemionus columbianus*). In the southern and eastern portions of the herd area (GMU's 564, 568, 574, 578, and 388), management has emphasized deer by suppressing elk numbers through liberal "any elk" harvest regimes. The purpose of this strategy has been to, (1) minimize potential competition between elk and deer on the open grassland winter ranges used by migratory deer and, (2) reduce agricultural depredation complaints, (3) preclude the establishment of a significant elk population in rural-residential and suburban areas.

Populations of mountain goats (*Oreamnos americanus*) occur in and around the Goat Rocks Wilderness in the northeast portion of the herd range, the Mount Adams area in the southeast, and in possibly the Mount St. Helens area as well. The reintroduction of bighorn sheep (*Ovis canadensis*) into the Dead Canyon area along the Klickitat River, in the southeast portion of the herd area, occurred in 1999. However, the bighorn sheep population within this area has not increased and is currently estimated at no more than a few individuals.

Domestic ungulates occur throughout the herd area, with highest populations in the western agricultural areas. Cattle grazing on U.S. Forest Service, State Department of Natural Resources and private timberlands occur in limited areas in the southeast portion of the herd area. Two grazing allotments occur on the Gifford Pinchot National Forest in areas frequented by summer and wintering elk (Cave Creek and Mount Adams allotments). These grazing allotments represent a sizeable reduction in available big game forage in these portions of the Gifford Pinchot National Forest. Grazing of domestic livestock can have significant effects on the availability of forage to wild ungulates, especially elk (Lyon and Ward 1982, Nelson 1982, Coe et al. 2001).

Distribution

Historic Distribution

The portion of the herd area that lies west of the Cascade Crest is within the original range of the Roosevelt subspecies of North American elk (*Cervus elaphus roosevelti*). Within this area, however, elk were not evenly distributed. Given the nature of the original habitat (largely unbroken stands of dense forests), it is likely that elk were sparse or absent over large areas, tending to concentrate along riparian zones and near disturbed sites, such as fire serres and other natural openings. Following the arrival of settlers in the early 1800's, elk populations were largely extirpated from much of the range of the Mount St. Helens herd.

Releases of Rocky Mountain elk (*C. e. nelsoni*) relocated from Yellowstone National Park occurred at various times and locations throughout western Washington in the early 1900's. Records from 1939 document the releases of 50 elk in 1913 along the Naches River in Yakima County. An additional release of 30 elk from Montana near Eatonville in 1932 may have also contributed to the Mount St. Helens herd. However, small herds of elk reported in the early 1930's near Spirit Lake in Skamania County are thought to represent remnant populations of indigenous Roosevelt elk that survived there due to the inaccessibility of the area (Pautzke et al. 1939). WDFW analyzed over 100 elk samples from the St. Helens herd using a microsatellite DNA assay. The results from this study indicated that individuals from the eastern portion of the herd were Rocky Mountain elk, and, for the most part, individuals from the western and central GMUs were predominately Roosevelt elk, although a there was a scattering of both Roosevelt and Rocky Mountain elk on the southern and northern parts of the herd. Using statistical analyses of these data, we also identified several individuals within the St. Helens herd as Rocky Mountain/Roosevelt hybrids. The Roosevelt elk recognized within the St. Helens herd are more genetically similar to the elk from the Willapa Hills Herd than the Olympic Herd.

Current Distribution

The Mount St. Helens elk herd currently has a wider geographic distribution than at any historical time (Map 2). Elk are currently in significant numbers throughout all GMUs comprising the herd area. Highest populations occur in the core GMUs of the Mount St. Helens herd. Elk numbers in the remaining GMUs have been suppressed to reduce damage problems, potential competition with deer, and rural residential land use (GMUs 564, 568, 574, 578 and 388).

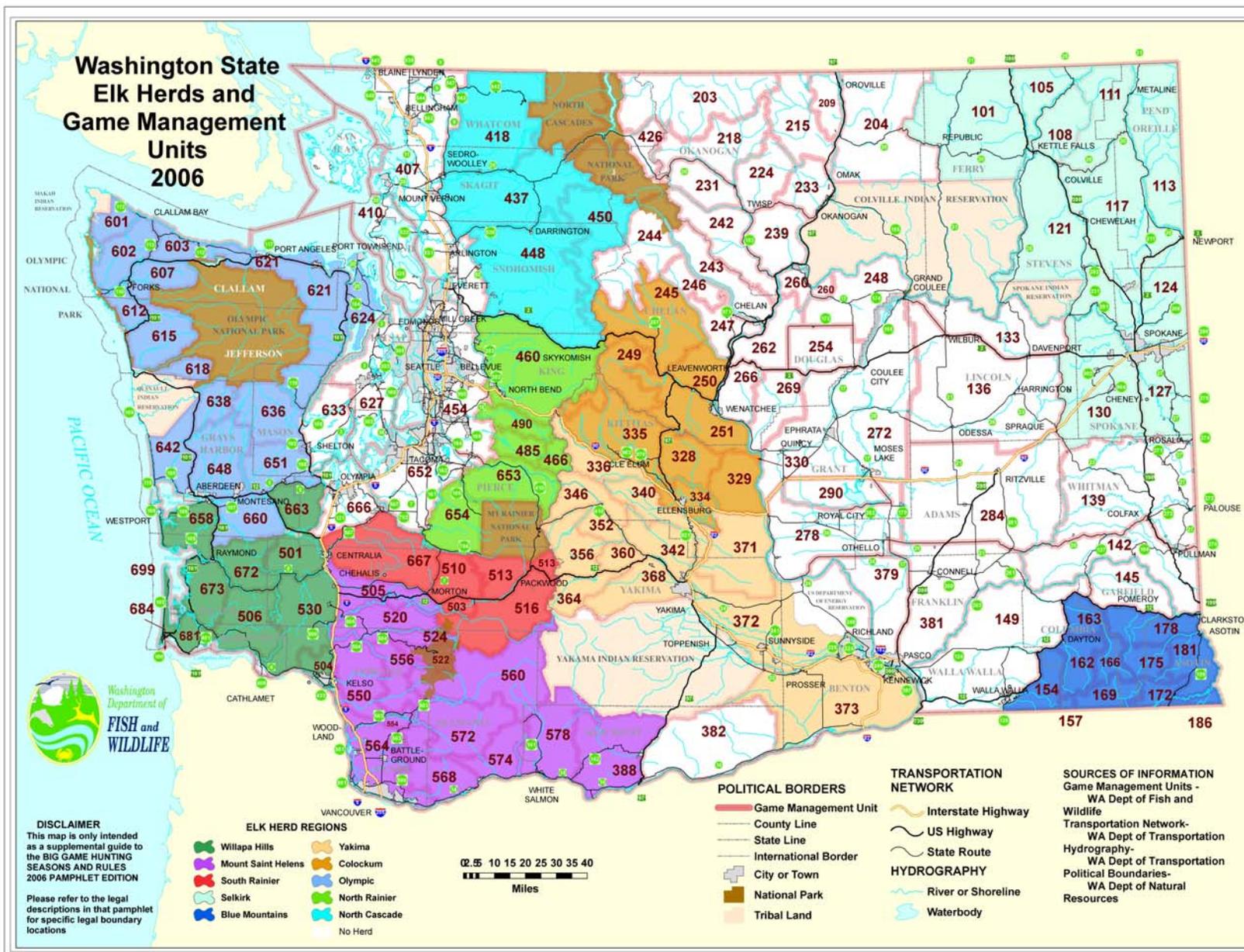
Proposed Distribution

Chronic elk damage occurs in several areas within the herd boundary. Special permit hunts and issuance of landowner preference permits will continue to be the primary tools in addressing this damage. Outside of the primary damage areas (Elk Areas 5029-Toledo, 5052-Mossyrock, 5053-Randle, and GMU 554-Yale), other pockets of landowner intolerance to elk exist, but large-scale elk suppression in these areas is not proposed. A cursory evaluation of the efficacy of current methods of addressing elk damage is underway. Questions that need to be addressed are: (1) do late damage hunts reduce elk damage; or (2) do they merely contribute to overall decline of elk numbers without an appreciable reduction in long-term elk damage; and (3) would resolution be better served solely through the use of landowner preference permits that would target specific elk, possibly create a behavioral negative feedback, and be utilized sporadically as elk damage occurs?

Management strategies aimed at increasing elk numbers in GMUs 568 and 574 and portions of GMU 578 have been considered. These areas have historically been managed to suppress elk populations for the potential benefit of black-tailed deer. Competition between elk and deer in western Washington habitats has not been adequately quantified. One study in western Washington suggest that deer and elk can coexist without negative impacts to either population (Svenson 1992). However, the lack of grasses in these primarily forested habitats is thought to lead to considerable dietary overlap among the two species. Because forage availability is thought to be limited over broad portion of the St. Helens Herd area, some competition for this limited resource likely results. Further evaluation is needed to understand this dynamic in the South Cascades.

Elk will continue to be discouraged in those areas of the St. Helens Herd that are primarily held in private ownership used for agriculture purposes (GMUs 520, 578 and 388). Additionally, elk will continue to be discouraged in those areas densely populated by people (GMU 564). A shift in management emphasis would necessitate a concurrent evaluation of deer population response to increasing elk numbers.

Map 2. Mount St. Helens Elk Herd Distribution



Herd Management

Herd History, Current Status, and Management Activities

Estimated Population Size

The mean annual estimated population for the Mount St. Helens herd from 1996-1999 was 12,500. The mean annual estimated population from 1991-1995 was 14,300. The objective is to decrease and then stabilize the Mount St. Helens herd at a population level of approximately 10,000 in keeping with habitat and public tolerance levels. Earlier versions of this plan included GMU 516 in the St. Helens herd area, but recent information suggests that it may be more appropriate to include GMU 516 as part of the South Rainier elk herd area.

The eruption of Mount St. Helens in 1980 probably helped enhance habitat for elk by returning approximately 575 km² (230 mi²) of forest to early successional habitat, which produced greater quantity and quality of forage. More recently, development of denser timber stands in the "blast zone" has led to a decline in quantity and quality of forage. Without habitat enhancement, these maturing forests will result in localized declines in elk numbers in GMUs 522, 524, 556, and 560. Similarly, new management practices on United States Forest Service (USFS) lands favoring the development of late successional habitat will reduce the habitat capability of USFS lands for elk, gradually resulting in declining elk populations, primarily in GMUs 560 and 572. Therefore, without extensive habitat enhancement, the Mount St. Helens elk numbers will decline in the future in response to lowered habitat capability.

Until a better method of mitigating elk damage is found, current strategies of suppression of local populations in damage areas (e.g. Elk Areas 5029, 5052, and 5053) will continue. Additionally, the Mount St. Helens herd will continue to be suppressed in units with high human populations, where the potential for elk-human conflicts are high (GMU 564).

Elk populations are considerably below habitat capability in portions of GMUs 564, 568, 574, 578, and 388. Elk in these GMUs have been liberally hunted to limit population size and range. The primary purpose of this strategy has been to reduce potential conflicts with the black-tailed deer and agriculture in these units. Competition on habitats where deer use open grasslands and open exposed slopes along the Columbia and Klickitat Rivers for wintering has been thought to be of particular importance. In addition, land ownership in these areas is predominantly private increasing the risk of damage complaints. Historically, these units have been the most popular deer areas in southwest Washington. Additionally, WDFW is required to address damage to agricultural enterprises. Therefore, management favoring deer and agriculture has taken priority over enhancement of the elk resource in these GMUs. However, in some of these areas, especially GMUs 568 and 574, agricultural concerns are nearly non-existent. The potential to increase elk numbers and recreational opportunities without serious conflicts with agriculture are likely present in GMUs 568 and 574. However, such a change in management strategy might come at the detriment of black-tailed deer populations. Additionally, large-scale elk occupation of GMUs 568 and 578 would likely lead to increased emigration to GMUs 564 and 388 where they would be in conflict with suburban landowners and agricultural enterprises.

Herd Composition

In western Washington, herd composition of elk is determined from fall (pre-hunting season) surveys. Statewide objectives for bull:cow ratios are reported using post-hunting season ratios to provide a comparable objective for western and eastern Washington.

Special care is taken to avoid surveying units just prior to or during regulated hunts. Survey data since 1995 are given in Appendix A. Lack of consistent funding for survey work has resulted in sporadic coverage of many of the units within the herd range.

Using estimates of harvest, the pre-hunting season composition data for western Washington are converted to post-hunting estimates to compare to statewide post-season objectives. The Department minimum bull elk survivorship objective of 12 to 20 bulls per 100 cows (WDFW 2003) is currently being met in the permit-only harvesting units (GMUs 524, 554, and 556). The historic 3-pt units in the herd area (GMUs 558 and 572) also meet post-season escapement objectives in some years, based on modeled estimates of bull mortality. In the years since the 1997 regulation changes that were specifically set to increase bull survivorship, the other open-entry 3-pt units (GMUs 505, 520, 550, and 560) may have some times failed to meet escapement goals.

Calf production has historically been good in the Mount St. Helens herd. Pre-hunting season calf:cow ratios provide an index of the amount of mortality the elk population can withstand before declining. Calf:cow ratios greater than 30:100 can maintain the total elk population if cow mortality is about 15% assuming no overwinter calf mortality. Assuming 50% winter calf mortality, that same calf ratio could maintain population levels if adult cow mortality was about 7.5%. In recent history cow elk have been harvested at a rate of 2.5% to 5.0%. That harvest rate will likely be increased for a few years to meet the population management objectives in this plan.

Mortality

Bull elk mortality has not been estimated for Mount St. Helens elk directly, as from radio collared elk. Indirect estimates of survival have been generated from population modeling using harvest and survey data (Bender and Spencer 1999). Such data from 1995-1999, suggested bull elk mortality rates throughout the Mount St. Helens herd vary by harvesting strategy. Mortality rates estimated from modeling in traditional 3-pt units (GMUs 558 and 572) have averaged about 61%. Estimates for permit-only units (Margaret and Toutle) have averaged about 40% and about 45% respectively.

The role predation plays on elk mortality in the Mount St. Helens herd area is unknown and poaching appears to be an increasing problem in some parts of the herd area. Substantial natural mortality has largely been limited to elk wintering along the Toutle River on the Mount St. Helens Wildlife Area and adjacent lands. A notable winterkill occurred there in 1998-1999, when over 79 elk succumbed to malnutrition on the Wildlife Area. Similarly, 63 elk mortalities were recorded for the same area during winter 2005-06. These events were apparently the result of a number of factors: (1) early and sustained mid-elevation snowfall, (2) loss of low and mid-elevation habitat to erosion, (3) continuing maturation of the blast zone vegetation, and (4) low quality of existing forage.

The 1987-2000 State authorized elk harvest averaged 1,782 (range: 1,384-2,266) for the Mount St. Helens herd (Table 1). For this period, State hunters harvested a mean of 1,151 bulls (range: 826-1,443) and 832 antlerless (range: 462-839). Until recently, reported tribal harvest in the herd area has been minimal. A 2-year period from 1997-1999 saw high levels of tribal harvest, primarily in the permit-only areas. State/Tribal Hunting Agreements with various Treaty Tribes resulted in sharing big game harvest information. Beginning in 1988 various Tribes have reported their elk harvest by GMU. However, not all Tribes reported their harvests to the Department. Beginning in 1997 the Northwest Indian Fisheries Commission has summarized tribal harvest data for the 17 western Washington Treaty Tribes (Northwest Indian Fisheries Commission 1997-2000).

Table 1. Reported Harvest and Hunter Effort From the Mount St. Helens Herd (1995-2005)

Year	State Hunters (questionnaire data)*					Tribal Hunters (reports)**			
	Antlered Kill	Antlerless Kill	Total Kill	Total Hunters	Total Days	Antlered Kill	Antlerless Kill	Total Kill	# Tribes Reported
1987	969	504	1,473	14,773	62,926	0	0	0	0
1988	799	493	1,292	13,434	66,602	0	0	0	15
1989	1,312	802	2,114	19,202	90,519	0	0	0	14
1990	0	0	0	0	0	15	21	36	16
1991	1,283	527	1,810	16,024	74,659	11	30	41	11
1992	1,201	560	1,761	15,120	71,250	19	21	40	14
1993	961	446	1,407	17,294	84,447	38	35	73	18
1994	1,266	825	2,091	23,172	120,244	26	18	44	17
1995	876	591	1,467	19,622	119,695	19	27	46	16
1996	1,081	570	1,651	20,044	100,913	0	3	3	7
1997	807	605	1,412	14,681	82,593	57	46	103	Not available
1998	892	728	1,620	22,667	103,085	106	76	182	Not available
1999	1,301	599	1,900	24,822	169,739	14	4	18	Not available
2000	1,371	733	2,104	23,468	120,170	0	0	0	Not available
2001	1,059	473	1,532	19,045	106,106	15	16	31	Not available
2002	1,210	429	1,639	19,001	108,876	6	10	16	Not available
2003	1,534	585	2,119	18,429	102,973	5	15	20	Not available
2004	1,339	458	1,797	20,255	109,546	5	3	8	Not available
2005	1,480	929	2,409	19,187	100,802	Not available	Not available	Not available	Not available

* Washington Department of Fish and Wildlife, Game Harvest Reports 1987-2005.

** From 1988 – 1996 individual Tribes submitted reports voluntarily.

In an effort to meet bull elk survivorship objectives, several any-bull units (GMUs 505, 520, 550, and 560) were managed under a spike-only, branched bull by permit harvesting strategy beginning in 1997. The 3-point GMUs (558 and 572) remained 3-pt minimum. Also in 1997, the general firearm season was shortened from 12 to 9 days. The move to spike-only hunting and the reduction in season length were designed to increase bull survival. Public sentiment resulted in the termination of spike-only regulations after 1 year. The spike-only units were changed to 3-pt minimum units thereafter (Appendix B).

Habitat condition, amount of cover, and human access vary considerably across the range of the GMUs that comprise the Mount St. Helens herd area. It is likely that the effectiveness of 3-pt minimum regulations vary across GMUs. Those GMUs currently managed to limit elk numbers (564, south part of 578, and 388) will continue under an any-elk harvest strategy because of damage problems. Management in GMUs 568, 574, and the northern part of 578, may change, in an effort to increase or stabilize overall elk numbers.

Estimates of bull elk survivorship in quality units (GMUs 524 and 556) currently meet or exceed levels necessary to achieve Department bull elk escapement objectives. The percentage of

mature bulls in these two units, however, may have declined in recent years. In the absence of high levels of un-regulated harvest, continued conservative permit allocation should result in a recovery of mature bull numbers.

Social and Economic Values

Hunter Days

In 1999, an estimated 26,640 hunters spent an estimated 180,188 days a field hunting for Mount St. Helens elk (Table 2). Hunter participation has averaged 20,673 hunters since 1987. The overall trend in hunter effort is variable, but the recent 3-year trend is increasing. Increasing hunter pressure, in conjunction with a stable to declining elk herd and general decline in habitat will likely lead to increased hunter competition and an overall decline in hunt quality in the Mount St. Helens herd area. The revenue generated by hunters contributes significantly to the local economies within the boundaries of the herd area. Based upon figures compiled in a 1996 national survey, approximately 30.4 million dollars is generated annually either directly or indirectly by hunters in the area encompassed by the Mount St. Helens herd.

Harvest Strategies

Specific recommendations for harvest strategies will be made every three years as a part of the current Washington Fish and Wildlife Commission policy of adopting hunting seasons for a three-year period with annual establishment of special permit seasons and necessary amendments. The three-year hunting package will serve as the State's harvest plan. Tribal participation in the formulation of specific recommendations and harvest strategies begin at the regional level. Department regional staff and field personnel meet with tribal representatives periodically to coordinate harvest strategies and other elk management activities

Historically, harvest regimes in the units comprising the Mount St. Helens herd have been variable (Appendix B). These harvesting strategies have ranged from; (1) any bull, (2) "spike-only" and branched bull by permit-only, (3) 3-pt minimum, (4) any elk, (5) limited entry by permit-only. Legal animal descriptions and permit seasons are only a part of the harvest strategies. Equally important is season lengths, early and late seasons, timing of seasons, resource allocation, and equipment restrictions.

Currently, units in the Mount St. Helens herd are managed under one of three harvest regimes; (1) 3-pt minimum, (2) any elk, and (3) limited entry by permit-only. Most units (n=6) are under a 3-pt minimum harvest regulation, which puts the harvest pressure on the older animals in the population. Five units, in which any elk is legal, have been managed to reduce competition with both black-tailed deer, development and agriculture. The two limited entry, permit-only units are managed to provide a quality hunting experience with excellent opportunity for permit holders to both see many elk and harvest an older age-class bull.

In 2004, new hunts were introduced in GMU 522, LooWitt. Two hunt periods with 5 permits each were established for qualified hunters with disabilities. Those hunts were restricted to the St. Helens Wildlife Area. Weyerhaeuser allowed access to parts of the Wildlife Area over their road systems for the permit holders to use vehicles. WDFW provided a special key and lock that was only operational during the time of the hunt.

Nonconsumptive Uses

Viewing is popular throughout all GMUs in the herd area, particularly those around the Mount St. Helens National Volcanic Monument. Groups of several hundred elk are often visible along the mudflow of the Toutle River immediately west of Mount St. Helens, in GMU 522. This area is comprised of portions of the Monument, the Mount St. Helens Wildlife Area, and industrial forestland owned by the Weyerhaeuser Corporation. Several established viewing and interpretive sites occur along State Highway 504 overlooking the Toutle mudflow, and receive many visitors throughout the year. GMU 522 was closed to all hunting until recently.

Damage

Elk damage to commercial agricultural and horticultural crops or silvicultural areas in the Mount St. Helens herd area is becoming more widespread. Depredation occurs on farms and ranches occupying the Cowlitz River lowlands, the Toutle River area, and the Glenwood Valley in Klickitat County. Horticultural damage periodically occurs in developed areas adjacent to the Cowlitz and Lewis Rivers, and sporadically in most developed areas of the elk range. In the recent past, new issues surrounding elk damage on industrial forestland have surfaced.

Elk/human conflicts are also increasing in the Mount St. Helens herd area. Encroaching residential development, particularly in the Coweeman and Kalama River drainages and loss of wintering habitat are resulting in elevated levels of human dissatisfaction with the presence of elk. This has led to an increasing use of lethal removal, through special late damage hunts and issuance of landowner preference permits, as the mode for conflict resolution.

Department and private landowners and tenants share the responsibility for damage prevention. RCW 77.36.005-080 outlines management authority for controlling elk damage and payment of claims (Appendix C). Elk damage complaints and claims received for damages in the Mount St. Helens Herd area from 1991 through 2000 are summarized in Table 2. A total of 7 claims were received requesting \$14,046.08 in compensation. Department paid out \$3,970.50 or approximately 28% of the claimed amount. Cowlitz and Lewis County received the majority of elk damage complaints and monetary claims. In areas of widespread historic damage, specifically the Toledo and Mossyrock areas, special late-season hunts have been used to suppress the local population of elk. The effectiveness of these special hunts in decreasing elk damage and/or suppressing the local elk population has not been objectively quantified.

Table 2. Elk Damage Claims and Payments in the Mount St. Helens Elk Herd Area

Fiscal Year	County	Species	Crop	Claim \$\$	Paid \$\$
1991	Lewis	Elk	Fence	\$641.00	\$41.00
	Lewis		Fence	\$598.04	\$100.00
	Lewis		Fence/trees	\$1,872.00	\$0.00
1992	None	Elk	0	\$0.00	\$0.00
1993	Lewis	Elk	?	\$0.00	\$0.00
1994	None	Elk	0	\$0.00	\$0.00
1995	None	Elk	0	\$0.00	\$0.00
1996	Cowlitz	Elk	Hay	\$600.00	\$600.00
	Lewis	Elk	Alfalfa	\$915.00	\$855.00
	Lewis	Elk/deer	Trees	\$9,070.80	\$2,000.00
1997	None	Elk	0	\$0.00	\$0.00
1998	None	Elk	0	\$0.00	\$0.00
1999	Cowlitz	Elk	Lettuce/peas	\$349.24	\$374.50
2000	None	Elk	0	\$0.00	\$0.00
Total				\$14,046.08	\$3,970.50
Average				\$2,006.58	\$567.21

Landowner preference permits have been used sparingly in the Mount St. Helens herd area. These permits allow landowners to kill an elk to compensate for damage. In addition, landowners agree to not pursue claims. Since 1997, a total of 13 preference permits have been issued to twelve different landowners, mostly (n = 10) in the Mossyrock area. All of these landowners reside within the boundaries of established elk areas. Landowner damage hunts allocate a specific number of permits to the landowner that they distribute to hunters. The advantage of this technique is that the landowner can select the hunters.

Comments gathered from public meetings and other contacts, indicate that damage control hunts are becoming increasingly unpopular among the general public. Hunters do not favor continued general reductions in elk populations in areas where damage problems do not seem to be declining. Late damage hunts may be contributing to overall declines in elk numbers in the surrounding areas, without achieving the goal of reducing damage in the targeted area. Little is currently known of what factors, other than elk numbers, predispose areas to damage. Cultural practices (cultivating techniques, crops grown), landscape characteristics, and elk behavior may all contribute to chronic damage. Greater understanding of these factors may contribute to better mitigation of chronic damage situations.

Tribal Hunting

In 1999 the State Supreme Court ruled that hunting rights reserved by treaties between tribes and the federal government apply to “open and unclaimed lands within each treaty tribe’s aboriginal (traditional) hunting grounds” (State of Washington v. Buchanan, Docket Number 66054-9, 1999). This means that in order to hunt outside the area “ceded,” by a tribe to the federal government through a treaty, a tribe must prove that a certain area was actually used for hunting and occupied by the tribe over an extended period of time at and before the time the treaty was signed (Washington Department of Fish and Wildlife 1999).

Tribal hunting in the Mount St. Helens area mostly occurred in GMUs 520, 524, and 556. Enforcement Program mortality forms, field checks, and locker checks corroborated the reported tribal removals of elk primarily in the permit-only units during the 1997 and 1998 hunting seasons.

Winter Feeding

The Department adopted a winter-feeding policy for wildlife in 1998 that is applicable to all elk herds in the state including the Mount St. Helen’s elk Herd (Appendix D). Elk populations in the western U.S. experience wide seasonal variation in forage quality and abundance. Elk cope with this variation by accruing energy reserves in the form of body fat during the growing season that partly sustains them during winter (Cook 2002). Mount St. Helens elk, like most elk, endure a negative energy balance during winter—they lose fat and body mass. If elk have inadequate reserves they may succumb to starvation during winter. When winters are protracted or particularly severe, atypically high numbers of animals are at risk of mortality (Young 1994, Utah Division of Wildlife Resources 2003). In recent time, severe winters led to above average winter mortality of Mount St. Helens elk on the Toutle River mudflow during 1998-99 and 2005-06.

Although images of winterkilled elk evoke human emotions, substantial mortality following severe winters reflects a natural process on elk inhabited landscapes (Houston 1978, Young 1994, Coughenour and Singer 1996, Raedeke et al. 2002). Over a long period of time, reducing

elk densities can lessen overwinter mortality by improving elk nutrition and body condition (Stewart et al. 2005); however, overwinter mortality has been shown to often operate independently of population density (Singer et al. 1997, Smith and Anderson 1998, Raedeke et al. 2002, Putman and Staines 2004).

Feeding elk baled or pelleted alfalfa is often suggested as a means to minimize winter mortality. Artificial feeding of elk has a long history, with mixed results (Smith 2001, Dean et al. 2004a, Putman and Staines 2004). Elk feeding has had various justifications, including reducing damage, controlling elk distribution, compensating for lost winter range, and mitigating for severe winters (Smith 2001, Dean et al. 2004b). Some elk feeding has been conducted as part of perennial programs, whereas other feeding has occurred only under short-term emergencies (Dean et al. 2004a, Putman and Staines 2004).

Elk feeding has often been successful in reducing damage and controlling elk distribution (Dunkley and Cattet 2003, Putman and Staines 2004). Although once considered a practice with relatively benign consequences, the list of significant negative effects associated with perpetual elk-feeding programs has grown through time (Smith 2001, Dunkley and Cattet 2003, Dean et al. 2004b, Smith 2005). Among the commonly recognized negative effects of feeding programs are increased risks of spreading diseases and parasites, further reductions in carrying capacity due to concentrating elk use around feed sites, negative effects on local plant communities, permanently changing elk behavior, and low benefit/cost ratios (Murie 1944, Smith 2001, Dean et al. 2004b, Dunkley and Cattet 2003, Smith 2005). In very recent time, the increased risk of diseases with substantial negative management implications has been touted as a strong argument against artificial feeding of wild herbivores (Kreeger 2002, Miller et al. 2003, Dean et al. 2004b, Smith 2005). However, long-term elk feeding programs have proven difficult to reduce or eliminate once in place (Smith 2001). The negatives associated with perpetual elk feeding programs have led some hunter/conservation groups, such as the Rocky Mountain Elk Foundation, to adopt policy statements opposing such programs (<http://www.rmef.org/pages/foundfacts.html>).

Short-term feeding of elk to mitigate severe winter conditions has been less successful in meeting objectives than have perennial feeding programs (Cook 2002, Putnam and Staines 2004; see also Baker and Hobbs 1985 for mule deer). Although winter survival of perpetually fed elk during severe winters can be higher than unfed elk (Smith and Anderson 1998), emergency feeding has not typically enhanced overwinter survival to the same degree. This is largely due to the difficulty in identifying severe winters early enough for feeding to be effective (Putman and Staines 2004). By the time the effects of a severe winter are apparent in declining elk body condition and the occurrence of mortality, offering food supplementation typically will not prevent significant levels of further mortality. At best, even perennial elk feeding programs will only reduce elk mortality during severe winters, not eliminate it (Smith and Anderson 1998, WDFW unpublished data; see also Baker and Hobbs 1985). During very severe winters, elevated numbers of elk and deer will die, despite supplemental feeding. The importance of realistic expectations regarding emergency feeding on elk survival during severe winters cannot be overemphasized.

Western wildlife agencies have had many common experiences managing elk (and deer) populations, including periodic winterkills during severe winters. Wildlife agencies in Colorado, Idaho, Oregon, and Utah have adopted policy statements that acknowledge periodic winterkill events as natural and define the conditions under which they believe emergency feeding would be justified (Appendix E). The triggering levels of winter mortality for elk that would put

emergency feeding programs into motion in those states are substantial. All western states have policies designed to minimize winter-feeding of wildlife because of negative consequences, limited effectiveness for achieving biologically defensible objectives, and high costs. Even states with long-term elk feeding programs strongly oppose expansion of winter-feeding operations.

Habitat Management

Presently, habitat quantity or quality has the greatest influence on overall elk numbers in the Mount St. Helens herd. Continued habitat loss, however, will be the major factor in limiting this population. Hydroelectric dam construction has already resulted in the loss of prime historic wintering habitat along the Cowlitz and Lewis Rivers. The Mount St. Helens herd faces further significant loss of elk habitat through the following activities: (1) creation of Late Successional Reserve areas on USFS lands which will result in loss of both summering and wintering habitat; (2) seral stage age advancement in the areas impacted by the blast zone of 1980; (3) changing forestry practices related to stand regeneration; (4) continued residential development in the major drainages, including the Lewis River corridor, which has already been impacted by hydroelectric dam construction.

On the Gifford Pinchot National Forest, late successional reserves where timber harvest is limited are expected to decrease the carrying capacity for elk by up to 40% in certain areas (R. Scharpf, Gifford Pinchot National Forest, unpublished data). Efforts to minimize this impact are currently being evaluated by the National Forest and the Department in conjunction with the Department's Integrated Land Management program for the Lewis River watershed (Washington Department of Fish and Wildlife 1995). Alternative strategies such as manipulating Managed Late Successional Areas to provide elk forage are also being evaluated by USFS.

The move from prescribed burning of clear-cut units prior to re-forestation to a more intensive herbicide treatment may be substantially impacting both quality and quantity of forage for elk on private and state owned timberlands. Intensive chemical site preparation will result in less species diversity in clear cuts and a likely reduction in nutritive quality (B. Anderson personal communication 2000).

Mitigation for the loss of winter range along the Lewis River corridor has been addressed in the Merwin Wildlife Management Plan, a cooperative agreement between PacifiCorp (Portland, OR) and the Department for the Merwin Reservoir. PacifiCorp is the utility company that manages Merwin, Swift, and Yale and Swift Reservoirs. Similar negotiations are currently ongoing with PacifiCorp over Yale Reservoir. The Department's Integrated Landscape Management program for the Lewis River watershed, proposed a plan to modify residential development to minimize impacts to winter range (Washington Department of Fish and Wildlife 1995). Unfortunately, implementation of the plan has not materialized. Additional winter range must be protected in the Lewis River watershed to ensure maintenance of the elk population.

Habitat improvement projects have been conducted sporadically throughout the range of the Mount St. Helens herd (Table 3). Consistent funding and cooperation with the Forest Service will be paramount to future habitat improvement efforts within the Gifford Pinchot National Forest. Large-scale habitat improvements on industrial timberlands within the herd area may prove more difficult, as increasing elk numbers may be detrimental to tree production.

Table 3. Elk Enhancement Projects Within Mount St. Helens Herd Area, 1992-1999

Year	Project	Cooperator	RMEF	Total
1992	Lone Butte Wildlife Area Prescribed Burn	GPNF	\$0	\$9,000
1992	Mount St. Helens Interpretive Site	GPNF	\$3,586	\$7,086
1992	Lewis River Prescribed Burn	GPNF	\$0	\$1,500
1992	Lewis River Home Range Study	WDFW	\$2,500	\$94,300
1992	North Fork Ridge Viewpoint	WDOT, Weyco	\$36,741	\$66,741
1992	Woods Creek Watchable Wildlife Interpretive	GPNF	\$2,000	\$4,000
1992	Black Creek Swamp Rehabilitation (Prescribed burn)	GPNF	\$0	\$2,500
1993	Mount St. Helens Weed Control	WDFW	\$450	\$1,450
1993	Swift Reservoir Access Mgmt	WDFW, Plum Creek	\$18,000	\$36,000
1993	Swofford Pond Habitat Enhancement (seeding)	WDFW, Tacoma Public Utility	\$3,466	\$4,397
1993	Lone Butte Access Mgmt		\$0	\$1,500
1994	Woods Creek Interpretive Site	GPNF	\$250	\$500
1994	Mount St. Helens/Olympic Peninsula Elk Population Study	WDFW	\$5,000	\$12,500
1997	Sawtooth Berry Fields Restoration	GPNF	\$4,000	\$17,000
1998	Mount St. Helens Fertilization and Planting	WDFW, Weyco	\$8,000	\$18,011
1999	Mount St. Helens Forage Expansion #2 (seeding)	WDFW, Mt St. Helens Pres Soc., Weyco	\$37,500	\$75,000

The 2,773 acre Mount St. Helens Wildlife Area (includes portions of GMUs 522, 524 and 556) has been managed for both summer and winter elk habitat on the mud flow of the Toutle River, immediately downstream from Mount St. Helens. Poor range conditions exist on much of the area, which supports approximately 100 resident and over 600 migratory elk. In the winter of 1998-99 a relatively large winterkill of at least 79 animals was documented (Table 4). The actual number of mortalities along the entire Toutle River Valley was certainly higher than the 79 found on the Wildlife Area itself. Although high calf mortality is to be expected during a winterkill, the poor quality of the wintering habitat was evident in the large proportion of prime age animals that succumbed during this particular event. Using the same survey protocol to index winter mortality, a winterkill of 63 elk was documented on the St. Helens Wildlife Area in 2006 (Appendix F).

Table 4. Documented Elk Winter Mortality on the Mount St. Helens Wildlife Area, 1999-2006.

Year	1999	2000	2001	2002	2003	2004	2005	2006
Total	79	1	0	28	38	22	17	63

Enhancement of forage quantity and quality on the Toutle mudflow through plantings and fertilization continues to be the management emphasis. With the cooperation of the Rocky

Mountain Elk Foundation, The Mount St. Helens Preservation Society, and other volunteers, seeding of three hundred and sixty acres occurred in 1999. A cooperative project with Weyerhaeuser in the spring of 1999 fertilized an additional 200 acres. Additional seeding and fertilization in 2000 brought the total seeded acreage to approximately 700 acres, with an additional 500 acres fertilized. Results of these projects have been variable. Stabilization of the mudflow itself through tree planting is also occurring.

The Mount St. Helens Wildlife Area is receiving by transfer from the Washington Department of Transportation, an additional 4,000 acres of property along the Toutle mudflow downstream of the existing property. Habitat enhancements in the form of timber harvest, fertilization, and plantings are planned for the bulk of the acquisition. This should greatly improve the wintering habitat along the mudflow from Hoffstadt Creek to the sediment dam.

The Mount St. Helens Wildlife Area is also extremely popular for elk viewing, with several thousand viewers each year observing elk from lookouts located along the Mount St. Helens Highway (SR 504) or from foot or horseback on the mudflow itself. Habitat condition on the Wildlife Area must continue to be significantly improved to support the numbers of elk currently wintering there.

The Department has concerns regarding cattle grazing on wintering areas, specifically the Cave Creek and Mount Adams grazing allotments in the Gifford Pinchot National Forest. Warm season grazing may limit the amount of forage available to wintering elk in these areas.

Research Needs

1. Current assessments of elk mortality, including hunting mortality of bulls in the Mount St. Helens elk herd are derived from population models and survey and harvest data. Similarly, management inference regarding the effectiveness of harvest strategies employed across Mount St. Helens GMUs has likewise been largely based on population models, not direct estimates of elk survival. It would be useful to evaluate these modeled estimates of elk mortality using more direct measures of survival, using radio-collared elk.
2. Changes in forest structure as replanted stands have matured on industrial timberlands clearly have changed the nutritional capacity of the Mount St. Helens elk herd area. These effects have been modeled by the U.S. Forest Service. It is assumed that elk in this herd have been impacted by loss of prime foraging habitat. There is a need to better quantify elk nutrition and condition dynamics for these elk. Data could be collected through live animal assessments using ultrasound or other condition scoring systems, through assessment of organ fat levels from hunter harvested elk, or from a combination of live animal and organ sampling approaches.
3. There is a need to better refine assessments of the winter nutritional setting for elk wintering along the Toutle River mudflow. Formal vegetation sampling could generate better estimates of forage availability and seasonal forage quality, factors that interact to define the foraging environment for elk. Quantification of elk diets, as from microhistological analysis of elk fecal samples would also improve the current understanding of limiting nutritional factors for Mount St. Helens elk.

4. Quantifying elk population characteristics for Mount St. Helens elk is difficult due to issues such as winter segregation of the sexes and low sightability of elk during fall. Aerial surveys in some GMUs generate adequate sample sizes of observed groups, whereas, in other GMUs the number of elk groups observed and classified is chronically low. There is a need to further refine population assessment tools and strategies for the Mount St. Helens elk herd. Investigations being done for other Washington elk herds may prove useful for the Mount St. Helens herd. Corroboration of estimates of survival, population ratios, and trends derived from population models currently used to assess this elk herd is needed.

Management Goals

The Mount St. Helens Elk Herd Plan provides the historical background, current condition, and trend of this important resource. The Plan is essentially an assessment document that; identifies management problems, develops solutions to overcome these problems, and sets future direction. The Plan outlines goals, objectives, problems, strategies, and helps establish priorities in resolving management of the elk herd. It provides a readily accessible reference for biological information collected from the herd and identifies inadequacies in the scientific database. The goals of the Mount St. Helens Elk Herd Plan are to:

- 1.) Preserve, protect, perpetuate, manage, and enhance elk and their habitats to ensure healthy, productive populations and ecosystem integrity.
- 2.) Manage elk for a variety of recreational, educational, and aesthetic purposes including, hunting, scientific study, wildlife viewing, and photography.
- 3.) Manage harvest of the Mount St. Helens elk herd for a sustained yield.

Management Objectives, Problems and Strategies

Herd Management

Objective # 1

Manage the Mount St. Helens herd utilizing the best science.

Problem

Inadequate survey intensity limits the ability to collect adequate samples of elk herd age and sex composition data.

Strategies

1. Monitor annual production and recruitment levels using composition surveys. Increase present level of composition surveys by 100% to more precisely (90% C.I. of $\leq 10\%$ of the mean) document herd demographics and population size.
2. Monitor annual bull survival to determine impacts of current harvest strategies.
3. Evaluate other techniques to monitor population levels, recruitment, survival, and composition.

4. If bull mortality rates or herd recruitment levels are below objectives, develop strategies to determine the cause and adjust harvest management regimes.

Problem

Accurate harvest data are critical for making sound management recommendations.

Strategy

1. Increase compliance with the hunter reporting system to improve the precision of estimating State recreational harvest.

Objective # 2

Decrease the current estimated elk population to 10,000 in keeping with both habitat and cultural carrying capacities.

Problem

The Mount St. Helens Elk Herd has declined from an estimated pre-1995 population of approximately 14,000 to an estimated population of 12,500. The current carrying capacity of the St. Helens Elk Herd Area is probably unable to adequately support the current number of elk in the population.

Strategies

1. Maintain low elk population levels in GMUs 568, 574, and northern part of 578.
2. Reduce elk numbers in appropriate GMUs by increasing antlerless harvest.

Objective # 3

Minimize damage caused by elk.

Problem

Elk damage and human/elk conflicts are increasing throughout the herd area.

Strategies

1. Identify factors that predispose areas to damage, such as increasing elk numbers, elk behavior, cultural practices (cultivating techniques, crops grown), and landscape patterns. Use knowledge gained to develop and implement new strategies for alleviating damage.
2. Use hot-spot hunts, landowner damage hunts, and landowner preference permits that target depredating individual elk. In areas of widespread historic damage, use special early and late-season hunts to suppress local populations of elk. Long duration, low intensity hazing/hunting may change elk foraging behavior.
3. Increase forage enhancement projects on WDFW Wildlife Areas and on private industrial forestlands.
4. Discourage elk from increasing in elk elimination units (GMUs 564 and 388) to reduce damage potential.

Objective # 4

Increase public appreciation of the elk resource and promote nonconsumptive values of elk including viewing and photographic opportunities.

Problem

Increasing human populations are resulting in less tolerance for elk, which is resulting in an increase in damage removals and some landowner dissatisfaction.

Strategy

1. Develop a brochure for the public with general information on living with elk, their natural history, management, and areas where elk can be observed.

Objective # 5

Continue to monitor the health and winter survival of elk wintering in GMU 522 (Loo-wit) and Mount St. Helens Wildlife Area.

Problem

Large numbers of wintering elk utilize the area. Elk numbers may exceed carrying capacity during years with harsh winter conditions.

Strategy

1. Evaluate increased hunter access and harvest in unit 522, 524 and 556.
2. Continue to conduct an annual winter mortality survey on the mudflow area as identified in the MSHWA Management Plan.
3. Reduce harassment of elk wintering on the MSHWA.
4. Collect major organ samples to evaluate body condition from hunter harvested elk in GMU 522.

Habitat Management

Objective # 1

Maintain current habitat capability of USFS lands to support elk (no net loss).

Problem

Creation of Late Successional Reserves (LSRs) and overall decline in timber harvest on USFS lands will result in gradual decline in elk carrying capacity.

Strategies

1. Work with USFS to develop silvicultural treatments to improve and increase elk habitat on Managed Late Successional Reserve Areas.

2. Identify suitable matrix (non-LSR) lands and other early successional habitat to manage preferentially for elk.
3. Monitor elk use and forage availability on wintering areas within cattle grazing allotments.
4. Continue efforts to reduce road densities to 1 mi/mi² on wintering areas.

Objective # 2

Maintain current level of elk winter range along the Lewis River.

Problem

Continued development along the reservoirs and upper Lewis River watershed are reducing elk winter range.

Strategies

1. Continue to work with Pacificorp on the Merwin Wildlife Plan and other hydropower mitigation agreements for elk winter range.
2. Continue efforts to reduce road densities to 1 mi/mi² on wintering area
3. Coordinate with local government entities to develop comprehensive land use plans that maintain current winter range capacity for elk.
4. Acquire management authority on critical elk wintering areas through conservation easements, lease agreements, land exchanges, landowner incentives, and fee purchases.
5. Work with both public and private landowners to design development strategies that do not result in declines in winter range capacity for elk.
6. Continue to work with the USFS and Department of Natural Resources (DNR) to manage for no net loss of winter range capacity from forest practices.

Objective # 3

Improve the quantity and quality of elk habitat on the Mount St. Helens Wildlife Area.

Problem

The Mount St. Helens Wildlife Area provides critical winter range for up to 400 elk. Poor quality of much of the existing habitat and continual habitat loss due to changes in the Toutle River results in periodic, excessive winter mortality.

Strategies

1. Increase the acreage producing preferred grasses and forbs.
2. Decrease noxious weed levels below current levels on important elk habitats.
3. Plant erosion prone areas with palatable woody forage plantings to improve forage quantity and quality, as well as stabilize the remaining mudflow.
4. Collaborate with the Weyerhaeuser Corporation on complimentary management of their adjacent property to increase habitat capacity above current levels.
5. Reduce non-compatible public use during periods of winter stress.
6. Improve forage quality through regular fertilization applications.

Objective # 4

Maintain quality of elk summer ranges on all land ownerships.

Problem

Changing forestry practices may result in a decline in forage quantity and quality.

Strategies

1. Participate in District Teams and review Forest Practice Applications and other project proposals for their potential affects on elk habitat and recommend mitigative measures.
2. Increase forage enhancement partnership efforts with public and private landowners.
3. Identify and protect key habitats by easements or fee title acquisition

Objective # 5

Develop partnerships to improve habitat for elk.

Problem

Varied ownership throughout the range of the Mount St. Helens herd make creation of partnerships paramount in affecting positive habitat change.

Strategies

1. Seek funding for acquisitions, enhancements, and easements.
2. Develop MOU's, Conservation Easements, and Cooperative Agreements with various stakeholders.
3. Seek funding and support from conservation organizations.
4. Work closely with agencies and industrial timber landowners.
5. Solicit volunteers to conduct projects.

Spending Priorities

Priority # 1

Composition Surveys

Composition surveys should be substantially improved in the Mount St. Helens herd area. Fall pre-season composition surveys are the main tool currently used to estimate mortality rates of bull elk and to determine the level of antlerless harvest that the herd can sustain. These mortality rates must be more precisely estimated to assess the affects of harvesting strategies as well as to more precisely estimate elk population sizes. These surveys are the single most important elk management activity conducted by the Department.

Priority: High

Timeline: Fall annually 2006-2010

Cost: \$25,000/year

Priority # 2

Enhance habitat quality for the Mount St. Helens Elk Herd.

Habitat condition for this herd needs to be improved if current objectives for elk are to be maintained on public and private lands.

Priority: High

Timeline: Spring/Summer annually 2006-2009

Cost: \$30,000/year

Priority # 3

Evaluate elk mortality estimates for Mount St. Helens elk herd

Evaluate modeled estimates of elk mortality using more direct measures of survival, using radio-collared elk. Capture and instrumentation of elk will lead to better estimates of mortality and contribute to elk condition information.

Priority: High

Timeline: 2008-2009

Cost: \$200,000

Priority # 4

Evaluate elk nutritional status

There is a need to better quantify elk nutrition and condition dynamics for these elk. Data could be collected through live animal assessments using ultrasound or other condition scoring systems, through assessment of organ fat levels from hunter harvested elk, or from a combination of live animal and organ sampling approaches.

Priority: High

Timeline: Spring/Summer annually 2006-2010

Cost: \$20,000/year

Priority # 5

Evaluate winter habitat for elk in the Mount St. Helens herd

There is a need to better refine assessments of the winter nutritional setting for elk wintering along the Toutle River mudflow. Formal vegetation sampling could generate better estimates of forage availability and seasonal forage quality, factors that interact to define the foraging environment for elk. Quantification of elk diets, as from microhistological analysis of elk fecal samples would also improve the current understanding of limiting nutritional factors for Mount St. Helens elk.

Priority: Moderate

Timeline: Summer/Fall annually 2009-2010

Cost: \$40,000/year for two years

Herd Plan Review and Amendment

The Mount St. Helens Elk Herd Plan is a five-year document subject to periodic review and amendment. As new information is gathered and conditions change it will be necessary to track strategies and their impact on the plan's goals and objectives in order to re-evaluate and modify this plan as needed. A free exchange of information and communication between Washington Department of Fish and Wildlife, Tribes, and cooperators will be key to this plan's success. An annual review of the plan by Washington Department of Fish and Wildlife will be announced and new information and emergent issues shared with all cooperators.

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APPENDIX A. Aerial Survey Elk Composition Data From Mount St. Helens Herd, 1995-2005

Year	GMUs	Spike Bulls	Raghorn Bulls	Prime Bulls	Total Bulls	Cows	Calves	Total	Ratio B/Cow/C
2005	520	19	29	6	54	122	54	230	44/100/44
2005	550	29	21	8	58	146	72	276	40/100/49
2005	554	1	1	0	2	3	2	7	67/100/67
2005	556	13	22	2	37	75	33	145	49/100/44
2005	558	24	25	2	51	157	92	300	32/100/59
2005	560	1	2	0	3	40	28	70	8/100/70
2005	568	1	1	0	2	2	2	6	100/100/100
2005	572	7	12	1	20	58	28	106	34/100/48
2004	520	9	10	2	21	81	28	130	26/100/35
2004	524	26	65	16	107	257	73	439	42/100/28
2004	550	16	11	0	27	67	29	123	40/100/43
2004	554	6	5	0	11	27	8	46	41/100/30
2004	556	10	27	4	41	139	55	235	30/100/40
2004	558	4	11	4	19	39	16	74	49/100/41
2004	560	1	0	0	1	3	1	5	33/100/33
2004	568	1	1	1	3	10	3	16	30/100/30
2004	572	3	5	1	9	21	5	35	43/100/24
2003	520	14	14	3	31	52	24	107	60/100/46
2003	524	19	43	16	78	124	53	255	63/100/43
2003	550	24	11	1	36	61	26	123	59/100/43
2003	554	7	7	0	14	33	20	67	12/100/47
2003	556	11	42	3	56	133	70	259	42/100/53
2003	558	14	11	4	29	100	48	177	29/100/48
2003	560	4	5	0	9	76	36	121	12/100/47
2003	568	0	2	2	4	11	1	16	36/100/9
2003	572	2	4	1	7	28	12	47	25/100/43
2002	520	35	17	9	61	104	48	213	59/100/46

Year	GMUs	Spike Bulls	Raghorn Bulls	Prime Bulls	Total Bulls	Cows	Calves	Total	Ratio B/Cow/C
2002	524	22	42	19	83	132	77	292	63/100/58
2002	550	28	27	4	59	92	51	202	64/100/55
2002	554	2	4	0	6	10	8	24	60/100/80
2002	556	24	60	11	95	199	74	368	48/100/37
2002	558	1	7	1	9	35	12	55	26/100/34
2002	560	0	4	4	8	38	12	57	21/100/32
2002	568	1	4	2	7	9	4	20	78/100/44
2002	572	2	6	2	10	30	8	48	33/100/27
2001	520/550	NA	NA	NA	83	207	100	390	40/100/48
2001	524	37	38	15	90	153	95	338	59/100/62
2001	556	10	21	12	43	144	65	252	30/100/45
2000	506	20	9	2	31	82	41	154	38/100/50
2000	520	23	12	3	38	76	37	151	50/100/49
2000	524	39	55	13	107	189	85	381	57/100/45
2000	530	30	12	0	42	67	36	145	55/100/47
2000	550	20	11	0	31	73	36	140	42/100/49
2000	556	17	27	4	48	140	73	261	34/100/52
2000	558	2	2	0	4	29	12	45	14/100/41
1999	520/550	9	12	3	24	79	40	143	30/100/51
1999	524	13	39	11	63	145	44	252	43/100/31
1999	556	5	20	3	28	84	29	141	33/100/35
1999	558	12	20	3	35	108	42	185	32/100/39
1998	520/550	40	9	10	59	156	52	267	37/100/33
1998	524	38	37	20	95	193	70	358	49/100/36
1998	556	29	20	7	56	158	52	266	35/100/33
1997	505	2	4	2	8	44	24	76	18/100/54
1997	520/550	34	9	3	46	176	74	296	26/100/42
1997	524	35	39	26	100	210	100	410	48/100/48

Year	GMUs	Spike Bulls	Raghorn Bulls	Prime Bulls	Total Bulls	Cows	Calves	Total	Ratio B/Cow/C
1997	556	18	17	11	46	131	64	237	35/100/49
1997	558	5	3	2	10	39	15	64	26/100/38
1996	520/550	16	5	2	23	90	38	151	26/100/42
1996	524	34	29	27	90	167	75	332	54/100/45
1996	556	25	27	16	68	109	53	230	62/100/49
1996	558/572	14	13	2	29	75	40	144	39/100/53
1995	520/550	32	5	2	39	165	89	293	24/100/54
1995	524	25	28	20	73	128	70	271	57/100/55
1995	556	18	13	9	40	92	47	179	43/100/51
1995	558/572	3	1	1	5	20	6	31	25/100/30

APPENDIX B. Elk Hunting Seasons for St. Helens Herd Area

YEAR	GMU & # of Permits	Dates	Days	Legal Animal	Hunting Description and Tag Type	
2006	388	9/8 - 9/21	14	Any elk	Early Archery General (EF)	
	505, 550, 554, 560, 572 520	9/8 - 9/21 9/8 - 9/21	14 14	3 Pt. min. or antlerless 3 Pt. min.	Early Archery General (WA)	
	388	11/20 - 12/8	19	Any elk	Late Archery General (EF)	
	505 564 520 520	11/22 - 12/15 11/22 - 12/15 11/22 - 12/7 12/8 - 12/15	24 24 16 8	3 Pt. min. or antlerless Any elk 3 Pt. min. or antlerless 3 Pt. min.	Late Archery General (WA)	
	564, 568, 574, 578 554	10/7 - 10/13 10/7 - 10/13	7 7	Any elk 3 Pt. min.	Early Muzzleloader General (WM)	
	505 564, 568 574, 578 550	11/22 - 12/8 11/22 - 12/15 11/22 - 11/30 11/22 - 12/15	17 24 9 24	3 Pt. min. or antlerless Any elk Any elk 3 Pt. min.	Late Muzzleloader General (WM)	
	382, 388	10/28 - 11/5	9	Any elk	Modern Firearm General (EF)	
	505, 520, 550, 560, 572 564, 568, 574, 578	11/4 - 11/13 11/4 - 11/13	10 10	3 Pt. min. Any elk	Modern Firearm General (WF)	
	524(23), 556(91) 520(12), 550(15), 560(80), 572(40), Elk Area 5051(10) 524(30), 556(50) Elk Area 5059(5)	11/4 - 11/12 11/4 - 11/12 11/13 - 11/17 10/1 - 10/10	9 9 6 10	Any bull Antlerless Antlerless Any bull	Modern Firearm Permit Only Hunts (WF)	
	524(5), 556(17) 520(3), 524(15), 550(5), 556(15) 560(25), 572(10) 554(75) Elk Area 5051(30), Elk Area 5052(20)	10/7 - 10/13 11/22 - 12/15 10/7 - 10/13 11/22 - 12/15 1/1 - 1/16/07	7 24 7 24 16	Any bull Antlerless Antlerless 3 Pt. min. or antlerless Antlerless	Muzzleloader Permit Only Hunts (WM)	
	524(8), 556(47)	9/15 - 9/30	16	Any bull	Archery Permit Only Hunts (WA)	
	Elk Area 5051(20), Elk Area 5052(20), Elk Area 5060(10) Elk Area 5060(10)	1/17 - 1/30/07 11/24 - 12/15	14 22	Antlerless Antlerless	Advanced Hunter Education Master Hunter Permit Only Hunts (Any elk tag)	
	Elk Area 5062(5) Elk Area 5062(5) Elk Area 5062(5) Elk Area 5062(5) Elk Area 5062(5)	9/1 - 9/7 10/1 - 10/7 11/20 - 11/30 12/1 - 12/14 1/15 - 1/30/07	7 7 11 14 16	Antlerless Antlerless Antlerless Antlerless Antlerless	Advanced Hunter Education Master Hunter Second Elk Permit Only Hunts (Any elk tag)	
	Elk Area 5099(5) Elk Area 5099(5)	11/6 - 11/12 11/20 - 11/26	7 7	Antlerless Antlerless	Persons of Disability Permit Only Hunts (Any elk tag)	
	2005	564, 568, 574, 578, 588 505, 550, 554, 560, 572 520	9/8 - 9/21 9/8 - 9/21 9/8 - 9/21	14 14 14	Any elk 3 Pt. min. or antlerless 3 Pt. min.	Early Archery General (WA)
		505 564, 588 520 520	11/23 - 12/15 11/23 - 12/15 11/23 - 12/7 12/8 - 12/15	23 23 15 8	3 Pt. min. or antlerless Any elk 3 Pt. min. or antlerless 3 Pt. min.	Late Archery General (WA)
		564, 568, 574, 578 554	10/1 - 10/7 10/1 - 10/7	7 7	Any elk 3 Pt. min.	Early Muzzleloader General (WM)
		505 564, 568 574, 578 550	11/23 - 12/8 11/23 - 12/15 11/23 - 11/30 11/23 - 12/15	16 23 8 23	3 Pt. min. or antlerless Any elk Any elk 3 Pt. min.	Late Muzzleloader General (WM)
		382	10/29 - 11/6	9	Any elk	Modern Firearm General (EF)
		505, 520, 550, 560, 572 564, 568, 574, 578, 588	11/5 - 11/13 11/5 - 11/13	9 9	3 Pt. min. Any elk	Modern Firearm General (WF)
524(22), 556(87) 520(12), 524(25), 550(15), 556(35), 560(60), 572(40) Elk Area 5059(5)		11/5 - 11/13 11/5 - 11/13 10/1-10/10	9 9 10	3 Pt. min. Antlerless 3 Pt. min.	Modern Firearm Permit Only Hunts (WF)	

YEAR	GMU & # of Permits	Dates	Days	Legal Animal	Hunting Description and Tag Type	
	524(5), 556(17) 520(3), 524(10), 550(5), 556(10) 560(15), 572(10) 554(75) Elk Area 5051(30), Elk Area 5052(20)	10/1 - 10/7 11/23 - 12/15 10/1 - 10/7 11/23 - 12/15 1/1 - 1/16/06	7 23 7 23 16	3 Pt. min. Antlerless Antlerless 3 Pt. min. or antlerless Antlerless	Muzzleloader Permit Only Hunts (WM)	
	524(10), 556(55)	9/8 - 9/21	14	3 Pt. min.	Archery Permit Only Hunts (WA)	
	Elk Area 5051(20), Elk Area 5060(10) Elk Area 5060(10)	1/17 - 1/31/06 11/24 - 12/15	15 24	Antlerless Antlerless	Advanced Hunter Education Master Hunter Permit Only Hunts (Any elk tag)	
	Elk Area 5099(5) Elk Area 5099(5)	11/7 - 11/13 11/21 - 11/27	7 7	Antlerless Antlerless	Persons with Disabilities Permit Only Hunts (Any elk tag)	
	564, 568, 574, 578, 588 505, 550, 554, 560, 572	9/8 - 9/21 9/8 - 9/21	14 14	Any elk 3 Pt. min. or antlerless	Early Archery General (WA)	
2004	505 564, 588 520 520	11/24 - 12/15 11/24 - 12/15 11/24 - 12/7 12/8 - 12/15	24 24 14 8	3 Pt. min. or antlerless Any elk 3 Pt. min. or antlerless 3 Pt. min.	Late Archery General (WA)	
	564, 568, 574, 578 554	10/2 - 10/8 10/2 - 10/8	7 7	Any elk 3 Pt. min.	Early Muzzleloader General (WM)	
	505 564, 568 574, 578 550	11/24 - 12/8 11/24 - 12/15 11/24 - 11/30 11/24 - 12/15	15 24 7 24	3 Pt. min. or antlerless Any elk Any elk 3 Pt. min.	Late Muzzleloader General (WM)	
	382	10/30 - 11/7	9	Any elk	Modern Firearm General (EF)	
	505, 520, 550, 560, 572 564, 568, 574, 578, 588	11/6 - 11/14 11/6 - 11/14	9 9	3 Pt. min. Any elk	Modern Firearm General (WF)	
	524(22), 556(87) 520(12), 524(25), 550(15), 556(35), 560(60), 572(40) Elk Area 5059(5)	11/6 - 11/14 11/6 - 11/14 10/1 - 10/10	9 9 10	3 Pt. min. Antlerless 3 Pt. min.	Modern Firearm Permit Only Hunts (WF)	
	524(5), 556(17) 520(3), 524(10), 550(5), 556(10) 560(15), 572(10) 554(75)	10/2 - 10/8 11/24 - 12/15 10/2 - 10/8 11/24 - 12/15	7 24 7 24	3 Pt. min. Antlerless Antlerless 3 Pt. min. or antlerless	Muzzleloader Permit Only Hunts (WM)	
	556(58)	9/8 - 9/21	14	3 Pt. min.	Archery Permit Only Hunts (WA)	
	Elk Area 5099(5) Elk Area 5099(5)	11/22 - 11/28 11/29 - 12/5	7 17	Antlerless Antlerless	Persons with Disabilities Permit Only Hunts (Any elk tag)	
	5051(20), 5052(20), 5060(10) 5060(10)	1/17 - 1/31/05 11/24 - 12/15	15 24	Antlerless Antlerless	Advanced Hunter Education Master Hunter Permit Only Hunts (any elk tag)	
	2003	505, 550, 554, 560, 572 520 564, 568, 574, 578, 588	9/8 - 9/21 9/8 - 9/21 9/8 - 9/21	14 14 14	3 Pt. min. or antlerless 3 Pt. min. Any elk	Early Archery General (WA)
		505 520 520 564, 588	11/19 - 12/15 12/8 - 12/15 11/19 - 12/7 11/19 - 12/15	27 8 19 27	3 Pt. min. or antlerless 3 Pt. min. 3 Pt. min. or antlerless Any elk	Late Archery General (WA)
		554 564, 568, 574, 578	10/4 - 10/10 10/4 - 10/10	7 7	3 Pt. min. Any elk	Early Muzzleloader General (WM)
		505 564, 568 574, 578 550	11/19 - 12/8 11/19 - 12/15 11/19 - 11/30 11/19 - 12/15	20 27 12 27	3 Pt. min or antlerless Any elk Any elk 3 Pt. min.	Late Muzzleloader General (WM)
		505, 520, 550, 560, 572 564, 568, 574, 578, 588	11/1 - 11/9 11/1 - 11/9	9 9	3 Pt. min. Any elk	Modern Firearm General (WF)
382		10/25 - 11/2	9	Any elk	Modern Firearm General (EF)	
524(18), 556(89) 520(12), 524(20), 550(15), 556(35), 560(60), 572(40) Elk Area 5059(5)		11/1 - 11/9 11/1 - 11/9 10/1 - 10/10	9 9 10	3 Pt. min. Antlerless 3 Pt. min.	Modern Firearm Permit Only Hunts (WF)	

YEAR	GMU & # of Permits	Dates	Days	Legal Animal	Hunting Description and Tag Type	
	524(4), 556(18) 520(3), 524(5), 550(5), 556(10) 560(15), 572(10) 554(75) Elk Area 5052(20), Elk Area 5051(30)	10/4 - 10/10 11/19 - 12/14 10/4 - 10/10 11/26 - 12/15 1/1 - 1/16/04	7 26 7 20 16	3 Pt. min. Antlerless Antlerless 3 Pt. min or antlerless Antlerless	Muzzleloader Permit Only Hunts (WM)	
	524(7), 556(58)	9/8 - 9/21	14	3 Pt. min.	Archery Permit Only Hunts (WA)	
	Elk Area 5051(20), Elk Area 5052(20), Elk Area 5060(10) Elk Area 5060(10)	1/17 - 1/31/04 11/26 - 12/15	15 20	Antlerless Antlerless	Advanced Hunter Education Graduate Permit Only Hunts (Any elk tag)	
	2002	505, 520, 550, 554, 558, 560 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
		505 564, 588 520	11/20 - 12/15 11/20 - 12/15 11/20 - 12/01	26 26 12	3Pt. min or antlerless Any elk 3Pt. min. or antlerless	Late Archery General (WA)
564, 568 554		10/05 - 10/11 10/05 - 10/11	7 7	Any elk 3Pt. minimum	Early Muzzleloader General (WM)	
505 564, 568 574, 578 550		11/20 - 12/08 11/20 - 12/15 11/20 - 12/08 11/20 - 12/15	19 26 19 26	3Pt. min or antlerless Any elk Any elk 3Pt. minimum	Late Muzzleloader General (WM)	
505, 520, 550, 558, 560, 572 564, 568, 574, 578, 588		11/02 - 11/10 11/02 - 11/10	9 9	3Pt. minimum Any elk	Modern Firearm General (WF)	
568, 574, 578, 588 564*		11/02 - 11/10 11/02 - 11/10	9 9	Any elk Any elk	Specified Tag Holder Hunts (WF) (WA, WF, WM) *Archery & muz. equip. only	
524(18) and 556(90)		11/02 - 11/10	9	3Pt. minimum	Modern Firearm Permit Only Hunt (WF)	
520(15), 524(10), 550(20), 556(30), 558(60) 560(75), 572(50), Elk area 058(5) & 059(5)		11/06 - 11/10 10/01 - 10/10	5 10	Antlerless 3Pt. minimum	Modern Firearm Permit Only Hunts (WF or WM) Modern Firearm Permit Only Hunts (WF or WM)	
524(4) & 556(16) 554(75) Elk area 029Toledo (30) Elk area 052 Mossyrook (20) Elk area 053 Randle (15)		10/01 - 10/11 11/26 - 12/15 01/01 - 01/16 01/01 - 01/16 01/01 - 01/16	11 20 16 16 16	3Pt. minimum 3Pt. min. or antlerless Antlerless Antlerless Antlerless	Muzzleloader Permit Only Hunt (WM)	
Elk area 029Toledo (20) Elk area 052 Mossyrook (20) Elk area 053 Randle (15)		01/17 - 01/31	15	Antlerless	AHE Permit Only Hunt (Any elk Tag)	
524 (7) and 556 (61)		09/01 - 9/14	14	3Pt. minimum	Archery Permit Only Hunt (WA)	
2001		505, 550, 554, 558, 560 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
		505 564, 588 520	11/21 - 12/15 11/21 - 12/15 11/21 - 12/02	23 23 12	3Pt. min or antlerless Any elk 3Pt. min. or antlerless	Late Archery General (WA)
		564, 568 513, 554	10/06 - 10/12 10/06 - 10/12	7 7	Any elk 3Pt. minimum	Early Muzzleloader General (WM)
		505 564, 568 574, 578 550	11/21 - 12/08 11/21 - 12/15 11/21 - 12/08 11/21 - 12/15	18 25 18 25	3Pt. min or antlerless Any elk Any elk 3Pt. minimum	Late Muzzleloader General (WM)
	505, 520, 550, 558, 560, 572 564, 568, 574, 578, 588	11/03 - 11/11 11/03 - 11/11	9 9	3Pt. minimum Any elk	Modern Firearm General (WF)	
	568, 574, 578, 588 564*	11/03 - 11/11	9	Any elk	Specified Tag Holder Hunts (WF) (WA, WF, WM) *Archery & muz. equip. only	
	524(10) and 556(85)	11/04 - 11/12	9	3Pt. minimum	Modern Firearm Permit Only Hunts (WF)	
	520(15), 524(10), 530(40), 550 (20), 556(30), 558(60) 560(75), 572(50), Elk area 057 (5), 058 (5) & 059 (5)	11/08 - 11/12 10/01 - 10/10	5 10	Antlerless 3Pt. minimum	Modern Firearm Permit Only Hunt (WF or WM) Modern Firearm Permit Only Hunts (WF or WM)	
	524(3) & 556(15) 554(75) Elk area 029Toledo (30) Elk area 052 Mossyrook (10) Elk area 053 Randle (15)	10/01 - 10/12 11/26 - 12/15 01/01 - 01/16 01/01 - 01/16 01/01 - 01/16	12 20 16 16 16	3Pt. minimum 3Pt. min. or antlerless Antlerless Antlerless Antlerless	Muzzleloader Permit Only Hunt (WM)	

YEAR	GMU & # of Permits	Dates	Days	Legal Animal	Hunting Description and Tag Type
	Elk area 029Toledo (20) Elk area 052 Mossyrock (10) Elk area 053 Randle (15)	01/17 - 01/31	15	Antlerless	AHE Permit Only Hunt (Any elk Tag)
	524 (8) and 556 (55)	09/01 - 09/14	14	3Pt. minimum	Archery Permit Only (WA)
2000	505, 520, 550, 554, 558, 560 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
	505	11/22 - 12/15	24	3Pt. min or antlerless	Late Archery General (WA)
	564, 588	11/22 - 12/15	24	Any elk	
	520	11/22 - 12/15	24	3Pt. minimum	
	564, 568	10/07 - 10/13	7	Any elk	Early Muzzleloader General (WM)
	554	10/07 - 10/13	7	3Pt. minimum	
	505	11/22 - 12/08	17	3Pt. min or antlerless	Late Muzzleloader General (WM)
	564, 568	11/22 - 12/15	24	Any elk	
	574, 578	11/22 - 12/08	17	Any elk	
	550	11/22 - 12/15	24	3Pt. minimum	
	505, 520, 550, 558, 560, 572 564, 568, 574, 578, 588	11/04 - 11/12	9	3Pt. minimum	Modern Firearm General (WF)
		11/04 - 11/12	9	Any elk	
	564*	11/04 - 11/12	9	Any elk	Specified Tag Holder Hunts (WF) (WA, WF, WM) *Archery & muz. equip. only
	524(10) and 556(85)	11/04 - 11/12	9	3Pt. minimum	Modern Firearm Permit Only Hunt (WF)
	520(15), 524(10), 550(20), 556(30), 558(60)	11/08 - 11/12	5	Antlerless	Modern Firearm Permit Only Hunts (WF or WM)
560(75), 572(50), Elk area 058(5) & 059(5)	10/01 - 10/10	10	3Pt. minimum	Modern Firearm Permit Only Hunts (WF or WM)	
524(2) & 556(17) 554(75)	10/01 - 10/10 11/26 - 12/15	10 20	3Pt. minimum Any elk	Muzzleloader Permit Only Hunt (WM)	
Elk area 029Toledo (75)	01/01 - 01/16	16	Antlerless		
Elk area 052 Mossyrock (10)	01/01 - 01/16	16	Antlerless		
Elk area 053 Randle (15)	01/01 - 01/16	16	Antlerless		
Elk area 029Toledo (50) Elk area 052 Mossyrock (10) Elk area 053 Randle (15)	01/17 - 01/31	15	Antlerless	AHE Permit Only Hunt (Any elk Tag)	
524 (6) & 556 (64)	09/01 - 09/14	14	3Pt. minimum	Archery Permit Only Hunt (WA)	
1999	505, 520, 550, 554, 558, 560 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
	564, 568, 574, 578, 588	09/01 - 09/14	14	Any elk	
	520	11/24 - 12/15	22	3Pt. min or antlerless	Late Archery General (WA)
	564, 588	11/24 - 12/15	22	Any elk	
	564	10/09 - 10/15	7	Any elk	Early Muzzleloader General (WM)
	505	11/24 - 12/15	22	3Pt. min or antlerless	Late Muzzleloader General (WM)
	564, 568	11/24 - 12/15	22	Any elk	
	574, 578	11/24 - 12/08	15	Any elk	
	550	11/24 - 12/15	22	3Pt. minimum	
	505, 520, 550, 558, 560, 572 564, 568, 574, 578, 588	11/06 - 11/14	9	3Pt. minimum	Modern Firearm General (WF)
		11/06 - 11/14	9	Any elk	
	568, 574, 578, 588 564*	11/06 - 11/14 11/06 - 11/14	9 9	Any elk Any elk	Specified Tag Holder Hunts (WF) (WA, WF, WM) *Archery & muz. equip. only
	524(10) and 556(88)	11/01 - 11/14	14	3Pt. minimum	Modern Firearm Permit Only Hunts (WF)
	520(30), 524(10), 550(50), 556(30), 558(60)	11/10 - 11/14	5	Antlerless	Modern Firearm Permit Only Hunts (WF or WM)
	560(75), 572(50), Elk area 058(5) & 059(5)	10/01 - 10/10	10	3Pt. minimum	Modern Firearm Permit Only Hunts (WF or WM)
524(2) & 556(20) 554(75)	10/01 - 10/10 11/26 - 12/15	10 20	3Pt. minimum Any elk	Muzzleloader Permit Only Hunt (WM)	
Elk area 029(75) Toledo	01/02 - 01/16	15	Antlerless		
524(4)	10/01 - 10/10	10	3Pt. minimum	AHE Permit Only Hunt (Any elk Tag)	
524(5) & 556(85)	09/01 - 09/14	14	3Pt. minimum	Archery Permit Only Hunt (WA)	

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	560(1) Lone Butte A	09/01 - 09/14	14	Any elk	Persons of Disability Permit Only -Any archery tag
	560(1) Lone Butte B	11/08 - 11/14	7	Any elk	Persons of Disability Permit Only -Any elk tag
	572(1) Trout Cr. Hill	11/08 - 11/14	7	3Pt. min or antlerless	Persons of Disability Permit Only (WF or WM)
	572(1) Eleven Mile Ridge	11/08 - 11/14	7	3Pt. min or antlerless	Persons of Disability Permit Only (WF or WM)
	572(1) Red Mountain	11/08 - 11/14	7	3Pt. min or antlerless	Persons of Disability Permit Only (WF or WM)
	572(1) Paradise Ridge	11/08 - 11/14	7	3Pt. min or antlerless	Persons of Disability Permit Only (WF or WM)
	572(1) Proverbial Creek	11/08 - 11/14	7	3Pt. min or antlerless	Persons of Disability Permit Only (WF or WM)
1998	505, 520, 550, 554, 558, 560, 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
	564, 568, 574, 578, 588	09/01 - 09/14	14	Any elk	
	505, 520	11/25 - 12/15	21	3Pt. min or antlerless	Late Archery General (WA)
	564, 588	11/25 - 12/15	21	Any elk	
	564	10/10 - 10/16	7	Any elk	Early Muzzleloader General (WM)
	505	11/25 - 12/15	21	3Pt. min or antlerless	Late Muzzleloader General (WM)
	564, 568	11/25 - 12/15	21	Any elk	
	574, 578	11/25 - 12/08	14	Any elk	
	550	11/25 - 12/15	21	3Pt. minimum	
	505, 520, 550, 558, 560, & 572	11/07 - 11/15	9	3Pt. minimum	Modern Firearm General (WF)
	564, 568, 574, 578, & 588	11/07 - 11/15	9	Any elk	
	568, 574, 578, 588	11/07 - 11/15	9	Any elk	Specified Tag Holder Hunts (WF)
	564*	11/07 - 11/15	9	Any elk	(WA, WG, WM) *Archery & muz. equip. only
	524(14) and 556(117)	11/02 - 11/15	14	3Pt. minimum	Modern Firearm Permit Only Hunt (WG)
	520(30), 524(20), 550(50), 556(45), 558(60) 560(75), & 572(50)	11/11 - 11/15	5	Antlerless	Modern Firearm Permit Only Hunt (WG or WM)
	Elk area 058(5) & 059(5)	10/01 - 10/10	10	3Pt. minimum	Modern Firearm Permit Only Hunt (WG or WM)
	524(3) & 556(20)	10/01 - 10/10	10	3Pt. minimum	Muzzleloader Permit Only Hunt (WM)
554(75)	11/26 - 12/15	20	Any elk		
Elk Area 029(75) Toledo	01/02 - 01/16	15	Antlerless only		
524(10)	10/01 - 10/10	10	3Pt. min or antlerless	AHE Permit Only Hunt (Any elk Tag)	
524(6) & 556(89)	09/01 - 09/14	14	3Pt. minimum	Archery Permit Only Hunt (WA)	
560(1) Lone Butte A	09/01 - 09/14	14	Any elk	Persons of Disability Permit Only -Any archery tag	
560(1) Lone Butte B	11/09 - 11/15	7	Any elk	Persons of Disability Permit Only -Any elk tag	
572(1) Trout Cr. Hill	11/09 - 11/15	7	3Pt. min or antlerless	Persons of Disability Permit Only (WG or WM)	
572(1) Eleven Mile Ridge	11/09 - 11/15	7	3Pt. min or antlerless	Persons of Disability Permit Only (WG or WM)	
572(1) Red Mountain	11/09 - 11/15	7	3Pt. min or antlerless	Persons of Disability Permit Only (WG or WM)	
572(1) Paradise Ridge	11/09 - 11/15	7	3Pt. min or antlerless	Persons of Disability Permit Only (WG or WM)	
572(1) Proverbial Creek	11/09 - 11/15	7	3Pt. min or antlerless	Persons of Disability Permit Only (WG or WM)	
1997	505, 520, 550, 560	09/01 - 09/14	14	Either-sex	Early Archery General (WA)
	564, 568, 574, 578, 588	09/01 - 09/14	14	Any elk	Early Archery General (WA)
	558, & 572	09/01 - 09/14	14	3Pt. min or antlerless	Early Archery General (WA)
	505 & 520	11/26 - 12/15	20	Spike or antlerless	Late Archery General (WA)
	564 & 588	11/26 - 12/15	20	Any elk	
	564	10/04 - 10/10	7	Any elk	Early Muzzleloader General (WM)
	505	11/26 - 12/15	20	Spike bull or antlerless	Late Muzzleloader General (WM)
	564, 568, & 578	11/26 - 12/15	20	Any elk	
	550	11/26 - 12/15	20	Spike Bull only	
	505, 520, 550, & 560	11/08 - 11/16	9	Spike Bull only	Modern Firearm General (WG)
		11/10 - 11/16	7	Spike Bull only	Modern Firearm General (WP)
564, 568, 574, 578, & 588	11/08 - 11/16	9	Any elk	Modern Firearm General (WG)	
	11/10 - 11/16	7	Any elk	Modern Firearm General (WP)	
558 & 572	11/08 - 11/16	9	3Pt. minimum	Modern Firearm General (WG)	
	11/10 - 11/16	7	3Pt. minimum	Modern Firearm General (WP)	

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	568, 574, 578, 588, & 564*	11/08 - 11/16	9	Any elk	Specified Tag Holder Hunts (WG, WP) (WA, WG, WP, WM)*Archery & muz. equip. only
	520(9), 524(18), 550(9), 556(114), & 560(14)	11/03 - 11/16	14	3Pt. minimum	Modern Firearm Permit Only Hunt (WP)
	520(30), 524(30), 550(50), 556(50), 558(60), 560(75), & 572(50)	11/12 - 11/16	5	Antlerless only	Modern Firearm Permit Only Hunt (WP or WM)
	Elk area 058(5) & 059(5)	10/01 - 10/10	10	3Pt. minimum	Modern Firearm Permit Only Hunt (WP or WM)
	520(3), 524(6), 550(3), 556(40), & 560(5)	10/01 - 10/10	10	3Pt. minimum	Muzzleloader Permit Only Hunt (WM)
	554(75)	11/26 - 12/15	20	Any elk	Muzzleloader Permit Only Hunt (WM)
	Elk Area # 029(75) Toledo	01/02 - 01/16	15	Antlerless only	Muzzleloader Permit Only Hunt (WM)
	524(15)	10/01 - 10/10	10	3Pt. min or antlerless	AHE Permit Only Hunt (Any elk tag)
	520(9), 524(19), 550(9), 556(123), & 560(15)	09/01 - 09/14	14	3Pt. minimum	Archery Permit Only Hunt (WA)
1996	505, 520, 550, 554, 560, 568, 574, 576, 586, 588	09/01 - 09/14	14	Either-sex	Early Archery General (WA)
	558 & 572	09/01 - 09/14	14	Spike or antlerless	Early Archery General (WA)
	505, 520, 564, & 588	11/27 - 12/15	19	Either-sex	Late Archery General (WA)
	564	10/03 - 10/09	7	Either-sex	Early Muzzleloader General (WM)
	568, 574, 576, & 586	11/27 - 12/15	19	Either-sex	Late Muzzleloader General (WM)
	505	11/19 - 11/24	6	Either-sex	
	550	11/27 - 12/15	19	Bull only	
	505, 520, 550, 560, 564, 568, 574, 576, 586, & 588	11/06 - 11/17	12	Bull with visible antlers	Modern Firearm General (WG)
	558 & 572	11/09 - 11/17	9	Bull with visible antlers	Modern Firearm General (WP)
		11/06 - 11/17	12	3Pt. minimum	Modern Firearm General (WG)
		11/09 - 11/17	9	3Pt. minimum	Modern Firearm General (WP)
	568, 574, 576, 586, 588, & 564*	11/06 - 11/17	12	Either-sex	Specified Tag Holder Hunts (WG, WP) (WA, WG, WP, WM) *Archery & muz. equip. only
	524(30) & 556(150)	11/06 - 11/17	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WP)
524(30), 556(50), 558(60), 560(75), & 572(50)	11/18 - 11/24	7	Antlerless only	Modern Firearm Permit Only Hunt (WP or WM)	
Elk area 058(5) & 059(5)	10/01 - 10/11	11	3Pt. minimum	Modern Firearm Permit Only Hunt (WP or WM)	
554(75)	11/26 - 12/15	20	Either-sex	Muzzleloader Permit Only Hunt (WM)	
Elk Area 029(150) Toledo	01/02 - 01/16	15	Antlerless only	Muzzleloader Permit Only Hunt (WM)	
524(20)	10/01 - 10/12	12	3Pt. min or antlerless	AHE Permit Only Hunt (Any elk tag)	
1995	505, 520, 550, 554, 560, 568, 574, 576, 586, & 588	09/01 - 09/14	14	Either-sex	Early Archery General (WA)
	558 & 572	09/01 - 09/14	14	Spike or antlerless	Early Archery General (WA)
	505, 520, 564, & 588	11/22 - 12/15	24	Either-sex	Late Archery General (WA)
	564	10/05 - 10/11	7	Either-sex	Early Muzzleloader General (WM)
	568, 574, 576, & 586	11/22 - 12/15	24	Either-sex	Late Muzzleloader General (WM)
	505	11/14 - 11/19	6	Either-sex	
	550	11/22 - 12/15	24	Bull only	
	505, 520, 550, 560, 564, 568, 574, 576, 586, & 588	11/01 - 11/13	13	Bull with visible antlers	Modern Firearm General (WB)
	558 & 572	11/04 - 11/13	10	Bull with visible antlers	Modern Firearm General (WC)
		11/01 - 11/13	13	3Pt. minimum	Modern Firearm General (WB)
		11/04 - 11/13	10	3Pt. minimum	Modern Firearm General (WC)
	568, 574, 576, 586, 588, & 564*	11/01 - 11/13	13	Either-sex	Specified Tag Holder Hunts (WB, WC) (WA, WB, WC, WM) *Archery & muz. equip. only
	524(30) & 556(200)	11/01 - 11/13	13	3Pt. minimum	Modern Firearm Permit Only Hunt (WC or WM)
524(30), 556(75), 558(60), 560(75), & 572(50)	11/14 - 11/19	6	Antlerless only	Modern Firearm Permit Only Hunt (WC or WM)	
Elk area 058(5) & 059(5)	10/01 - 10/13	13	3Pt. Bull Minimum	Modern Firearm Permit Only Hunt (WC or WM)	
554(75)	11/22 - 12/12	21	Either-sex	Muzzleloader Permit Only Hunt (WM)	
Elk area 029(150) Toledo	01/02 - 01/16	15	Antlerless only	Muzzleloader Permit Only Hunt (WM)	
524(10)	10/01 - 10/12	12	3Pt. min or antlerless	AHE Permit Only Hunt (Any elk tag)	
1994	505, 520, 550, 554, 560, 568, 574, 576, 586, & 588	09/01 - 09/14	14	Either-sex	Early Archery General (WA)
	558 & 572	09/01 - 09/14	14	Spike or antlerless	Early Archery General (WA)
	505, 520, 564, & 588	11/23 - 12/15	24	Either-sex	Late Archery General (WA)
	564	10/06 - 10/12	7	Either-sex	Early Muzzleloader General (WM)

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	568, 574, 576, & 586 505 550	11/23 - 12/15 11/15 - 12/20 11/23 - 12/15	23 6 23	Either-sex Either-sex Bull only	Late Muzzleloader General (WM)
	505, 520, 550, 554, 560, 564, 568, 574, 576, 586, & 588 558 & 572	11/02 - 11/13 11/05 - 11/13 11/02 - 11/13 11/05 - 11/13	12 9 12 9	Bull with visible antlers Bull with visible antlers 3Pt. minimum 3Pt. minimum	Modern Firearm General (WE) Modern Firearm General (WL) Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, 586, 588, & 564*	11/02 - 11/13	12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM) *Archery & muz. equip. only
	524(30) & 556(200)	11/02 - 11/13	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL or WM)
	524(30), 556(75), 558(60), 560(125), 572(50) Elk area 058(5) & 059(5)	11/15 - 11/20 10/01 - 10/13	6 13	Antlerless only 3Pt. Bull Minimum	Modern Firearm Permit Only Hunt (WL or WM) Modern Firearm Permit Only Hunt (WL or WM)
	554(75) Elk area 029(150) Toledo	11/23 - 12/13 01/02 - 01/16	21 15	Either-sex Antlerless only	Muzzleloader Permit Only Hunt (WM) Muzzleloader Permit Only Hunt (WM)
	524(5)	10/01 - 10/12	12	3Pt. min or antlerless	AHE Permit Only Hunt (Any elk tag)
1993	505, 520, 550, 554, 560, 568, 574, 576, 586, & 588 558 & 572	10/01 - 10/14 10/01 - 10/14	14 14	Either-sex 3Pt. min or antlerless	Early Archery General (WA) Early Archery General (WA)
	505, 520, 564, & 588 564	11/24 - 12/15 10/08 - 10/14	22 7	Either-sex Either-sex	Late Archery General (WA) Early Muzzleloader General (WM)
	568, 574, 576, & 586 505 550	11/24 - 12/15 11/16 - 12/21 11/24 - 12/15	22 6 22	Either-sex Either-sex Bull only	Late Muzzleloader General (WM)
	505, 520, 550, 554, 560, 564, 568, 574, 576, 586, & 588 558,572	11/03 - 11/14 11/06 - 11/14 11/03 - 11/14 11/06 - 11/14	12 9 12 9	Bull with visible antlers Bull with visible antlers 3Pt. minimum 3Pt. minimum	Modern Firearm General (WE) Modern Firearm General (WL) Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, 586, 588,& 564*	11/03 - 11/14	12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM)*Archery & muz. equip. only
	524(30)& 556(200)	11/03 - 11/14	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL or WM)
	524(30), 556(75), 558(60), 560(125), 572(50) Elk area 058(5) & 059(5)	11/16 - 11/21 10/03 - 10/14	6 12	Antlerless only 3Pt. Bull Minimum	Modern Firearm Permit Only Hunt (WL or WM) Modern Firearm Permit Only Hunt (WL or WM)
	554(75) Elk area 029(150) Toledo	11/24 - 12/14 01/03 - 01/17	21 15	Either-sex Antlerless only	Muzzleloader Permit Only Hunt (WM) Muzzleloader Permit Only Hunt (WM)
	1992	505, 520, 550, 554, 560, 568, 574, 576, 586, & 588 558 & 572	09/01 - 09/14 09/01 - 09/14	14 14	Either-sex 3Pt. min or antlerless
505, 520, 564, & 588 564		11/25 - 12/15 10/08 - 10/14	21 7	Either-sex Either-sex	Late Archery General (WA) Early Muzzleloader General (WM)
568, 574, 576, & 586 505 550		11/25 - 12/15 11/17 - 11/22 11/25 - 12/15	21 6 21	Either-sex Either-sex Bull only	Late Muzzleloader General (WM)
505, 520, 550, 560, 564, 568, 574, 576, 586, & 588 558 & 572		11/04 - 11/15 11/07 - 11/15 11/04 - 11/15 11/07 - 11/15	12 9 12 9	Bull with visible antlers Bull with visible antlers 3Pt. minimum 3Pt. minimum	Modern Firearm General (WE) Modern Firearm General (WL) Modern Firearm General (WE) Modern Firearm General (WL)
568, 574, 576, 586, 588, & 564*		11/04 - 11/15	12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM)*Archery & muz. equip. only
524(30) & 556(200)		11/04 - 11/15	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL or WM)
524(30), 556(75), 558(60), 560(125), & 572(50) Elk area 058(5) & 059(5)		11/17 - 11/22 10/04 - 10/16	6 13	Antlerless only 3Pt. bull minimum	Modern Firearm Permit Only Hunt (WL or WM) Modern Firearm Permit Only Hunt (WL or WM)
554(75)		11/25 - 12/15	21	Either-sex	Muzzleloader Permit Only Hunt (WM)
1991		505, 520, 550, 554, 558, 560, 568, 572, 574, 576, 586, & 588 558 & 572	09/28 - 10/11 09/28 - 10/11	14 14	Either-sex 3Pt. min or antlerless
	505, 520, 564, & 588	11/27 - 12/15	19	Either-sex	Late Archery General (WA)

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	564	10/05 - 10/11	7	Either-sex	Early Muzzleloader General (WM)
	568, 574, 576, & 586	11/27 - 12/15	19	Either-sex	Late Muzzleloader General (WM)
	505	11/19 - 11/24	6	Either-sex	
	550	11/27 - 12/15	19	Bull only	
	505, 520, 550, 560, 564, 568, 574, 576, 586, & 588	11/06 - 11/17	12	Bull with visible antlers	Modern Firearm General (WE)
		11/09 - 11/17	9	Bull with visible antlers	Modern Firearm General (WL)
	558 & 572	11/06 - 11/17	12	3Pt. minimum	Modern Firearm General (WE)
		11/09 - 11/17	9	3Pt. minimum	Modern Firearm General (WL)
568, 574, 576, 586, 588, & 564*	11/06 - 11/17	12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM)*Archery & muz. equip. only	
524(30) & 556(200)	11/06 - 11/17	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL or WM)	
524(30), 556(100), 558(50), 560(75), & 572(50)	10/19 - 10/24	6	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)	
	Elk area 058(5) & 059(5)	09/28 - 10/11	14	3Pt. minimum	Modern Firearm Permit Only Hunt (WL or WM)
554(50)	11/22 - 12/10	19	Either-sex	Muzzleloader Permit Only Hunt (WM)	
1990	505, 520, 550, 554, 558, 560, 568, 572, 574, 576, 586, & 588	09/29 - 10/12	14	Either-sex	Early Archery General (WA)
	505, 520, 564, & 588	11/21 - 12/09	19	Either-sex	Late Archery General (WA)
	564	10/06 - 10/12	7	Either-sex	Early Muzzleloader General (WM)
	568, 574, & 576	11/21 - 12/09	19	Either-sex	Late Muzzleloader General (WM)
		550	11/21 - 12/09	19	Bull only
	586	11/21 - 12/02	12	Either-sex	Late Muzzleloader General (WM)
		11/21 - 12/02	12	Either-sex	Late Muzzleloader General (WM)
	505, 520, 550, 560, 564, 568, 574, 576, 586, & 588	10/31 - 11/11	12	Bull with visible antlers	Modern Firearm General (WE)
		11/03 - 11/11	9	Bull with visible antlers	Modern Firearm General (WL)
	558 & 572	10/31 - 11/11	12	3Pt. minimum	Modern Firearm General (WE)
		11/03 - 11/11	9	3Pt. minimum	Modern Firearm General (WL)
	568, 574, 576, 586, 588, & 564*	10/31 - 11/11	12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM) *Archery & muz. equip. only
	524(30) & 556(200)	10/31 - 11/11	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL,WM)
	524(30), 556(100), 558(50), 560(75), & 572 (50)	10/13 - 10/18	6	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
		Elk area 058(5) & 059 (5)	09/29 - 10/12	14	3Pt. minimum
	Elk area 029 Toledo A (50)	01/01 - 01/15	15	Antlerless only	(WL, WM)
Toledo B (50)		01/16 - 01/31	16	Antlerless only	(WL, WM)
Elk area 052 Mayfield (25)	01/01 - 01/15	15	Antlerless only	(WL, WM)	
	01/16 - 01/31	16	Antlerless only	(WL, WM)	
Elk area 053 Randle A (25)	01/01 - 01/15	15	Antlerless only	(WL, WM)	
	Randle B (25)	01/16 - 01/31	16	Antlerless only	(WL, WM)
554(50)	11/22 - 12/10	19	Either-sex	Muzzleloader Permit Only Hunt (WM)	
Elk area 950 Toutle (100)	01/01 - 01/20	20	Antlerless only	Muzzleloader Permit Only Hunt (WM)	
1989	505, 520, 554, 558, 560, 568, & 588	09/30 - 10/13	14	Either-sex	Early Archery General (WA)
	550 & 564	09/30 - 10/13	14	3Pt. or antlerless	Early Archery General (WA)
		09/30 - 10/06	7	Either-sex	Early Archery General (WA)
	505, 520, & 564	11/22 - 12/15	24	Either-sex	Late Archery General (WA)
	588	11/22 - 12/03	12	Either-sex	Late Archery General (WA)
	564	10/07 - 10/13	7	Either-sex	Early Muzzleloader General (WM)
	550, 568, 574, & 576	11/22 - 12/10	19	Either-sex	Late Muzzleloader General (WM)
		11/22 - 12/03	12	Either-sex	Late Muzzleloader General (WM)
	505, 520, 550, 554, 560, 564, 568, 574, 576, 586, & 588	11/01 - 11/12	12	Bull with visible antlers	Modern Firearm General (WE)
		11/04 - 11/12	9	Bull with visible antlers	Modern Firearm General (WL)
	558,572	11/01 - 11/12	12	3Pt. minimum	Modern Firearm General (WE)
		11/04 - 11/12	9	3Pt. minimum	Modern Firearm General (WL)
	568, 574, 576, 586, & 588	11/04 - 11/12	9	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM) *Archery & muz. equip. only
11/01 - 11/12		12	Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM) *Archery & muz. equip. only	
524(30), 556(200).	11/01 - 11/12	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL, WM)	

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	524(30), 556(100), 558(50), 560(75), & 572(50) Elk area 058(5) & 059(5) Elk area 029 Toledo (25) Elk area 052 Mayfield (25) Elk area 052 Mayfield (25) Elk area 053 Randle A (25) Randle B (25)	10/14 - 10/19 09/30 - 10/13 01/02 - 01/24 01/01 - 01/15 01/16 - 01/31 01/01 - 01/15 01/16 - 01/31	6 14 23 15 16 15 16	Antlerless only 3Pt. minimum Antlerless only Antlerless only Antlerless only Antlerless only Antlerless only	Modern Firearm Permit Only Hunt (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM)
	554(50)	11/01 - 11/12	12	Either-sex	Muzzleloader Permit Only Hunt (WM)
1988	505, 520, 554, 558*, 560, 564, 568, 572*, 574, 576, 586, & 588	10/01 - 10/14	14	Either-sex; *except 3Pt. Min. in GMUs 558 and 572.	Early Archery General (WA)
	552, 576, 586, & 588	11/23 - 12/11	19	Either-sex	Late Archery General (WA)
	505, 520, 544, 564, & 568	11/23 - 12/31	39	Either-sex	Late Archery General (WA)
	548 & 552	10/08 - 10/14	7	Bull only	Early Muzzleloader General (WM)
	554	11/02 - 11/13	12	Either-sex	Late Muzzleloader General (WM)
	554, 564, 568, & 574	11/23 - 12/11	19	Either-sex	Late Muzzleloader General (WM)
	505, 520, 548, 552, 560, 564, 568, 574, 576, 586, & 588	11/02 - 11/13 11/05 - 11/13	12 9	Bull with visible antlers Bull with visible antlers	Modern Firearm General (WE) Modern Firearm General (WL)
	558 & 572	11/02 - 11/13 11/05 - 11/13	12 9	3Pt. minimum 3Pt. minimum	Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, 586, & 588 564*	11/05 - 11/13 11/02 - 11/13	9 12	Either-sex Either-sex	Specified Tag Holder Hunts (WE, WL) (WA, WE, WL, WM) *Archery & muz. equip. only
	524(30) & 556(300)	11/16 - 11/20	5	3Pt. minimum	Modern Firearm Permit Only Hunt (WL, WM)
1987	524(30), 548(25), 556(100), 560(75), 572(50), & 558(50) Elk area 052 Mayfield (25) Mayfield (25) Elk area 058(5) & 059 (5) Elk area 029 Toledo (25) Elk area 053 Randle E (25) Randle L (25)	11/16 - 11/20 01/01 - 01/15 01/16 - 01/31 10/01 - 10/14 01/03 - 01/25 01/01 - 01/15 01/17 - 01/31	5 15 16 14 23 15 15	Antlerless only Antlerless only Antlerless only 5Pt. bull minimum Antlerless only Antlerless only Antlerless only	Modern Firearm Permit Only Hunt (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM) (WL or WM)
	505, 520, 554, 558*, 560, 564, 568, 572*, 574, 576, 586, & 588	10/01 - 10/16	16	Either-sex , *except Either-sex; 3Pt. min. in GMUs 558 and 572.	Early Archery General (WA)
	505, 520, 552, 564, 576, 586, & 588	11/25 - 12/10	16	Either-sex	Late Archery General (WA)
	548 & 552	10/10 - 10/16	7	Bull only	Early Muzzleloader General (WM)
	564, 568, & 574	11/25 - 12/10	16	Either-sex	Late Muzzleloader General (WM)
	505, 520, 524, 548, 552, 554, 556, 560, 564, 568, 574, 576, 586, & 588	11/04 - 11/15 11/07 - 11/15	12 9	Bull with visible antlers Bull with visible antlers	Modern Firearm General (WE) Modern Firearm General (WL)
	558 & 572	11/04 - 11/15 11/07 - 11/15	12 9	3Pt. minimum 3Pt. minimum	Modern Firearm General (WE) Modern Firearm General (WL)
	554. (Archery & Muzz only)	11/07 - 11/15	9	Either-sex	Specified Tag Holder Hunt (WE, WL, WA, WM)
	554. (Archery & Muzz only) 568, 574, 576, 586, & 588	11/25 - 12/10 11/07 - 11/15	16 9	Either-sex Either-sex	Specified Tag Holder Hunt (WA or WM) Specified Tag Holder Hunt (WE or WL)
	564. (Archery Only)	11/07 - 11/15	9	Either-sex	(WA, WE, WL)
524(30)& 556(300)	11/04 - 11/15	12	3Pt. minimum	Modern Firearm Permit Only Hunt (WL, WM)	
1986	524(30), 548(25), 556(100), 558(75), 560(75), & 572(50)	11/16 - 11/21	6	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
	Elk area 052 Mayfield (100)	01/03 - 01/25	23	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
	Elk area 058(5) & 059(5)	10/01 - 10/16	16	5Pt. bull minimum	(WL or WM)
	Elk area 029 Toledo (25)	01/03 - 01/25	23	Antlerless only	(WL or WM)
	Elk area 053 Randle E (25)	01/01 - 01/15	15	Antlerless only	(WL or WM)
	Randle L (25)	01/17 - 01/31	15	Antlerless only	(WL or WM)
505, 520, 548, 552, 558*, 560, 564, 568, 572, 574, 576, 586, & 588	09/03 - 09/07 09/08 - 09/17	5 10	Bull only, *3Pt. min. Either-sex *except 3Pt. minimum in GMU 558.	Early Archery General (WA)	
505, 520, 564, 576, 586, & 588	12/06 - 12/31	26	Either-sex	Late Archery General (WA)	

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	548	10/04 - 10/10	7	Bull only	Early Muzzleloader General (WM)
	564	11/30 - 12/21	22	Either-sex	Late Muzzleloader General (WM)
	574	12/06 - 12/21	16	Either-sex	
	505, 520, 548, 552, 558*, 560, 564, 568, 572, 574, 576, 586, & 588	11/05 - 11/16 11/08 - 11/16	12 9	Bull with visible antlers Bull with visible antlers *3Pt. minimum unit.	Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, 586, & 588	11/08 - 11/16	9	Either-sex	Specified Tag Holder Hunt (WE, WL)
	564. (Archery Only)	11/08 - 11/16	9	Either-sex	(WA, WE, WL)
	524(30) & 556(400)	11/05 - 11/16	12	Branched antler	Modern Firearm Permit Only Hunt (WL, WM)
	524(30), 548(25), 556(100), 558(75), 560(75), & 572(50)	11/29 - 12/04	6	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
	Elk area 029 Toledo (25)	01/03 - 01/25	23	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
	Elk area 052 Mayfield (100)	01/03 - 01/25	23	Antlerless only	(WL or WM)
	Elk area 053 Randle X (25)	01/01 - 01/15	15	Antlerless only	(WL or WM)
	Randle Y (25)	01/17 - 01/31	15	Antlerless only	(WL or WM)
	Elk area 055 Cougar X (25)	01/01 - 01/15	15	Antlerless only	(WL or WM)
	Elk area 055 Cougar Y (25)	01/17 - 01/31	15	Antlerless only	(WL or WM)
	Elk area 058 (5) & 059 (5)	10/04 - 10/10	7	5Pt. bull minimum	(WL or WM)
	Elk area 055 Cougar Z (25)	12/13 - 12/28	16	Antlerless only	Muzzleloader Permit Only Hunt (WM)
1985	505, 520, 548, 552, 558*, 560, 564, 568, 572, 574, 576, 586, & 588	09/04 - 09/08 09/09 - 09/18	5 10	Bull only Either-sex *except 3Pt. minimum or antlerless in GMU 558.	Early Archery General (WA)
	505, 520, 564, 576, & 588 586	12/07 - 12/31 12/07 - 12/29	25 23	Either-sex Either -sex	Late Archery General (WA)
	548	10/05 - 10/11	7	Bull only	Muzzleloader General (WM)
	564 (N. of E. F Lewis River)	12/01 - 12/22	22	Either-sex	
	574	12/07 - 12/22	16	Either-sex	
	505, 520, 548, 552, 558* 560, 564, 568, 572, 574, 576, 586, & 588	11/06 - 11/17 11/09 - 11/17	12 9	Bull with visible antlers Bull with visible antlers *3Pt. minimum unit.	Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, 586, & 588	11/09 - 11/17	9	Either-sex	Specified Tag Holder Hunt (WE, WL)
	564. (Archery Only)	11/09 - 11/17	9	Either-sex	(WA, WE, WL)
	524(30), 556(400)	11/06 - 11/17	12	Branched antler	Modern Firearm Permit Only Hunt (WL, WM)
	524(30), 548(25), 556(100), 558(75), 560(75), & 572(50)	11/30 - 12/05	6	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)
Elk area 052 Mayfield (100)	01/04 - 01/26	23	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)	
Elk area 058 (5) & 059 (5)	10/05 - 10/11	7	Branched antler	(WL or WM)	
Elk area 029 Toledo (25)	01/04 - 01/26	23	Antlerless only	(WL or WM)	
1984	505, 520, 548, 552, 558*, 560, 564, 568, 572, 574, 576, & 588.	09/05 - 09/09 09/10 - 09/19	5 10	Bull only Either-sex *except 3Pt. min or antlerless in GMU 558.	Early Archery General (WA) and archery stamp.
	505, 520, 564, 576, & 588	12/08 - 12/31	24	Either-sex	Late Archery General (any tag with archery stamp)
	548	10/06 - 10/11	6	Bull only	Muzzleloader General (WM)
	574	12/08 - 12/23	16	Either-sex	Stamp required
	505, 520, 548, 552, 558* 560, 564, 568, 572, 574, 576, & 588	11/07 - 11/18 11/10 - 11/18	12 9	Bull with visible antlers Bull with visible antlers *3Pt. minimum unit.	Modern Firearm General (WE) Modern Firearm General (WL)
	568, 574, 576, & 588	11/10 - 11/18	9	Either-sex	Specified Tag Holder Hunt (WE, WL)
	564. (Archery Only)	11/10 - 11/18	9	Either-sex	(WA, WE, WL)
	524(50) & 556(400)	11/07 - 11/18	12	Branched antler - 3Pt.	Modern Firearm Permit Only Hunt (WL, WM)
524(50), 548(25), 556(100), 558(75), 560(75), & 572(25)	12/01 - 12/05	5	Antlerless only	Modern Firearm Permit Only Hunt (WL or WM)	
Elk area 058 (5) & 059 (5)	10/06 - 10/11	6	Branched antler - 3Pt.	Modern Firearm Permit Only Hunt (WL or WM)	
Elk area 029 Toledo (25)	01/05 - 01/27	23	Antlerless only	(WL or WM)	
1983	505, 564, 568, & 574	09/10 - 10/02	23	Either-sex (deer/elk)	Early Archery General (W,K,X,Y,A,B)
	520	09/10 - 09/25	16	Bull elk	archery stamp required.
	505 & 574	12/03 - 01/01	28	Either-sex	Late Archery General (W,K,X,Y,A,B)
520, 564, 576, & 588	12/03 - 01/01	28	Either-sex (deer/elk)	archery stamp required.	

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	505, 520, 524, 548, 552, 556, 560, 564, 568, 572, 574, 576, & 588	11/05 - 11/15	11	Bull with visible antlers	Modern Firearm General (W)
	568, 574, 576, & 588 564. (Archery equip. only)	11/05 - 11/15 11/05 - 11/15	9 9	Either-sex Either-sex	Specified Tag Holder Hunt (W)
	Elk area 053 E Toutle (300) Elk area 053 L Toutle (300) Elk area 055 Margaret t(50)	11/05 - 11/07 11/10 - 11/15 11/05 - 11/15	3 6 11	Branched antler - 3Pt.	Modern Firearm Permit Only Hunt (W)
	548(25), 558*(100) 560*(75), & 572 (50) Elk area 029 Toledo (25) Elk area 051* Margaret (25) Elk area 052* Toutle (75)	11/26 - 11/30 01/07 - 01/29 11/26 - 11/30 11/26 - 11/30	5 23 5 5	Antlerless only Antlerless only Antlerless only Antlerless only	Modern Firearm Permit Only Hunt (W) * Outside of St. Helens restricted zone. Modern Firearm Permit Only Hunt (W) (W) (W)
1982	520 564, 568, 574, & 576	09/11 - 09/26 09/11 - 10/03	16 23	Bull elk Either-sex (deer/elk)	Early Archery General (W,K,X,Y,A,B) archery stamp required.
	574, & 520	12/04 - 01/02	30	Either-sex	Late Archery General (W,K,X,Y,A,B) archery stamp required.
	504*, 520, 524, 548, 552, 556, 558* 560, 564, 568, 572, 574, 576, & 588 * East of Interstate 5	11/06 - 11/16	11	Bull with visible antlers *3Pt. minimum unit.	Modern Firearm General (W) GMU 504 East of I-5 included in St. Helens Elk Herd Area.
	568, 574, 576, 588 & 564	11/06 - 11/16	9	Either-sex	Specified Tag Holder Hunt (W). (Archery equip. only)
	Elk area 053 E Toutle (300) Elk area 053 L Toutle (300) Elk area 055 Margaret (50)	11/06 - 11/08 11/11 - 11/16 11/6,7,13, 14	3 6 4	Branched antler - 3Pt.	Modern Firearm Permit Only Hunt (W) St. Helens closure
	548(50), 552(50), 504*(50) 558**(50), 560**(75), & 572(50) Elk area 051** Margaret (25) Elk area 052** Toutle (75)	11/27 - 12/01 11/24 - 11/28 11/27-28 & 12/4-5 11/27 - 12/01	5 5 4 5	Antlerless only Antlerless only Antlerless only Antlerless only	Modern Firearm Permit Only Hunt (MKWY) * East of Interstate 5. ** Outside of St. Helens restricted zone. Modern Firearm Permit Only Hunt (W) (W) (W)
	504*, 520, 564, & 568 *East of Interstate 5	09/12 - 10/04	23	Either-sex (deer/elk)	Early Archery General (W,K,X,Y,A,B) archery stamp required.
504, 520* 564, 574, & 588	12/05 - 01/03 12/05 - 01/03	30 30	Either-sex Either-sex (deer/elk)	Late Archery General (W,K,X,Y,A,B) archery stamp required. * Outside St. Helens closure.	
504*, 520, 524, 548, 552, 556, 558 560, 564, 568, 572, 574, 576, & 588 *East of Interstate 5	11/07 - 11/17	11	Bull with visible antlers	Modern Firearm General (W)	
564 568, 574, 576, & 588	11/07 - 11/17	9	Either-sex	Specified Tag Holder Hunt (W)	
548(50), 552(50) 560 (50), & 572(50)	11/27 - 12/01 11/23 - 11/27	5 5	Antlerless only	Modern Firearm Permit Only Hunt (MKWY) St. Helens closure.	
1980	568	09/06 - 10/05	31	Either-sex (deer/elk)	Early Archery General (W,X,Y,K,M) archery stamp required.
	576 & 588	12/06 - 01/04	30	Either-sex (deer/elk)	Late Archery General (W,X,Y,K,M) archery stamp required.
	504*, 520, 524, 548, 552, 556, 560, 564, 568, 572, 574, 576, & 588. *East of Interstate 5	11/09 - 11/19	11	Bull with visible antlers	Modern Firearm General (W)
	504, 564 568, 574, 576, & 588	11/09 - 11/19	11	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
	548(75), & 552(100)	11/20 - 11/24	5	Antlerless only	Modern Firearm Permit Only Hunt (MKWY)
1979	568	09/08 - 10/07	30	Either-sex (deer/elk)	Early Archery General (W,X,Y,K,M) archery stamp required.
	576, 588 Bow area 23 (Winston-Margaret)	12/08 - 12/31 12/08 - 12/31	24 24	Either-sex (deer/elk)	Late Archery General (W,X,Y,K,M) archery stamp required.
	504*, 520, 524, 548, 552, 556, 560, 564, 568, 572, 574, 576, & 588. *East of Interstate 5	11/11 - 11/25	15	Bulls with visible antlers	Modern Firearm General (W)

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	504*, 564, 568, 574, 576, & 588. *East of Interstate 5	11/11 - 11/25	15	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
	548(100), 552(100), 556(150), 560(150)&572(75) 588(50)	11/14 - 11/25	12	Either-sex	Modern Firearm Permit Only Hunt (W)
	Elk area 29(25) Toledo Elk area 30(75) Mossyrock	01/05 - 01/31	27	Either-sex	Modern Firearm Permit Only Hunt (MKWY) (MKWY) (MKWY)
		01/12 - 01/31	20	Either-sex	
1978	568 Bow area 23 (Winston-Margaret)	09/16 - 10/08	23	Either-sex (deer/elk)	Early Archery General
		12/02 - 12/17	16		
	504* 520, 524, 548, 552, 556, 560, 564, 568, 572, 574, 576, & 588 *East of Interstate 5	11/06 - 11/19	14	Bull with visible antlers	General Bull Season
	504*, 564, 568, 574, 576, & 588 *East of Interstate 5	11/06 - 11/19	14	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
1977	568 Bow area 23 (Winston-Margaret)	11/11 - 11/19	9	Either-sex	Permit Only Hunts
		01/06 - 01/31	26	Either-sex	
	504* 520, 524, 548, 552, 556, 560, 564, 568, 572, 576, & 588 *East of Interstate 5	11/06 - 11/19	14	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
	548 (150), 552 (100), 556 (100), 560(150), & 572 (50) 588 (50)	11/05 - 11/13	9	Either-sex	Either-sex Permit Controlled Hunts
1976	568 Bow area 23 (Winston-Margaret)	09/17 - 10/09	23	Either-sex (deer/elk)	Archery General
		11/26 - 12/11	16		
	504* 520, 524, 548, 552, 556, 560, 564, 568, 572, 576, & 588 *East of Interstate 5	10/31 - 11/13	14	Bull with visible antlers	General Bull Season
	504*, 564, 568, 576, & 588 *East of Interstate 5	10/31 - 11/13	14	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
1975	568 Bow area 23 (Winston-Margaret)	11/05 - 11/13	9	Either-sex	Either-sex Permit Controlled Hunts
		11/06 - 11/14	9	Either-sex	
	504* 520, 524, 548, 552, 556, 560, 564, 568, 572, 576, & 588 *East of Interstate 5.	11/01 - 11/14	14	Bull with visible antlers	General Bull Season
	504* , 564, 568, & 576 *East of Interstate 5	11/04 - 11/14	11	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
1974	564 & 568 520 & 524	11/06 - 11/16	14	Either-sex	Either-sex Permit Controlled Hunts
		11/08 - 11/16	9	Either-sex	
	504* 520, 524, 548, 552, 556, 560, 564, 568, 572, 576, & 588 *East of Interstate 5	11/03 - 11/16	14	Bull with visible antlers	General Bull Season
	504*, 564, 568, & 576 *East of Interstate 5	11/06 - 11/16	11	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
1973	9B, 9G 8G, & 9N	11/03 - 11/16	14	Either-sex	Either-sex Permit Controlled Hunts
		11/08 - 11/16	9	Either-sex	
	8C*, 8G, 8P, 9N, 9R, 9J, 9K, 9L, 9C, 9G, 9B, 9D, & 9E *East of Interstate 5	11/04 - 11/17	14	Bull with visible antlers	General Bull Season
	8C (East of Interstate 5) 9B, 9D, 9E, & 9G	11/07 - 11/17	11	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
1973	8P (100), 9J (150), 9L (100), & 9R (150)	11/04 - 11/17	14	Either-sex	Either-sex Permit Controlled Hunts
		11/09 - 11/17	9	Either-sex	
	9G 8G & 9N	09/22 - 10/07	16	Either-sex (deer/elk)	Special Bow Hunting Seasons
1973	8C*, 8G, 8P, 9N, 9R, 9J, 9K, 9L, 9C, 9G, 9B, 9D, & 9E *East of Interstate 5	12/01 - 12/09	10	Either-sex (deer/elk)	Special Bow Hunting Seasons
		11/05 - 11/18	14	Bull with visible antlers	General Bull Season
	8C (East of Interstate 5) 9B, 9D, 9E, & 9G	11/08 - 11/18	11	Either-sex	Either-sex Elk Seasons: open to all elk hunters in these units only.
		11/05 - 11/18	14	Either-sex	Either-sex Elk Seasons: open to all elk hunters in these units only.

YEAR	GMU & # of Permits	Dates	Days	Legal Animal	Hunting Description and Tag Type
	8P(150), 9J(175), 9L(100), & 9R (150) Elk area 17(100) Lewis R.	11/10 - 11/18 12/01 - 12/31	9 31	Either-sex	Either-sex Permit Controlled Hunts
1972	9G 8G & 9N	09/23 - 10/08 11/18 - 12/03	16 16	Either-sex (deer/elk)	Special Bow Hunting Seasons
	8C*, 8G, 8P, 9N, 9R, 9J, 9K, 9L, 9C, 9G, 9B, 9D, & 9E *East of Interstate 5	10/30 - 11/12	14	Bull with visible antlers	General Bull Season
	8C (East of Interstate 5) 9B, 9D, 9E, & 9G	11/02 - 11/12 10/30 - 11/12	11 14	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.
	8P(125), 9J (175), 9R (150)	11/04 - 11/12	9	Either-sex	Either-sex Permit Controlled Hunts
1971	8G & 9N	12/04 - 12/12	9	Either-sex	Special Bow Hunting Seasons
	8C*, 8G, 8P, 9N, 9R, 9J, 9K, 9L, 9C, 9G, 9B, 9D, & 9E *East of Interstate 5	11/01 - 11/14	14	Bull with visible antlers	General Bull Season
	8C (East of Interstate 5) 9B, 9D, 9E, & 9G	11/04 - 11/14 11/01 - 11/14	11 14	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only
	8P (75), 9J (175), & 9R (125)	11/06 - 11/09	4	Either-sex	Either-sex Permit Controlled Hunts
1970	9N	12/12 - 12/20	9	Either-sex	Special Bow Hunting Seasons
	8C*, 8M**, 8G, 8P, 9A*, 9N, 9R, 9J, 9K, 9L, 9C, 9G, 9B, 9D, & 9E *East of Interstate 5	11/07 - 11/22	16	Bull with visible antlers	General Bull Season *8C & 9A East of I-5 in St. Helens Elk Herd Area. **8M south of Hwy 12 in St. Helens Elk Herd Area.
	8C (East of Interstate 5) 9B, 9D, 9E, & 9G	11/12 - 11/22 11/07 - 11/22	11 16	Either-sex	Either-sex elk seasons: open to all elk hunters in these units only.

APPENDIX C. Authority for Controlling Elk Damage (RCW, Title 77)

RCW 77.36.005

Findings.

The legislature finds that:

(1) As the number of people in the state grows and wildlife habitat is altered, people will encounter wildlife more frequently. As a result, conflicts between humans and wildlife will also increase. Wildlife is a public resource of significant value to the people of the state and the responsibility to minimize and resolve these conflicts is shared by all citizens of the state.

(2) In particular, the state recognizes the importance of commercial agricultural and horticultural crop production, rangeland suitable for grazing or browsing of domestic livestock, and the value of healthy deer and elk populations, which can damage such crops. The legislature further finds that damage prevention is key to maintaining healthy deer and elk populations, wildlife-related recreational opportunities, commercially productive agricultural and horticultural crops, and rangeland suitable for grazing or browsing of domestic livestock, and that the state, participants in wildlife recreation, and private landowners and tenants share the responsibility for damage prevention. Toward this end, the legislature encourages landowners and tenants to contribute through their land management practices to healthy wildlife populations and to provide access for related recreation. It is in the best interests of the state for the department of fish and wildlife to respond quickly to wildlife damage complaints and to work with these landowners and tenants to minimize and/or prevent damages and conflicts while maintaining deer and elk populations for enjoyment by all citizens of the state.

(3) A timely and simplified process for resolving claims for damages caused by deer and elk for commercial agricultural or horticultural products, and rangeland used for grazing or browsing of domestic livestock is beneficial to the claimant and the state.

[1996 c 54 ' 1.]

RCW 77.36.010

Definitions.

The definitions in this section apply throughout this chapter unless the context clearly requires otherwise.

(1) "Crop" means (a) a growing or harvested horticultural and/or agricultural product for commercial purposes; or (b) rangeland forage on privately owned land used for grazing or browsing of domestic livestock for at least a portion of the year for commercial purposes. For the purposes of this chapter all parts of horticultural trees shall be considered a crop and shall be eligible for claims.

(2) "Emergency" means an unforeseen circumstance beyond the control of the landowner or tenant that presents a real and immediate threat to crops, domestic animals, or fowl.

(3) "Immediate family member" means spouse, brother, sister, grandparent, parent, child, or grandchild.

[1996 c 54 ' 2.]

RCW 77.36.020

Game damage control -- Special hunt.

The department shall work closely with landowners and tenants suffering game damage problems to control damage without killing the animals when practical, to increase the harvest of damage-causing animals in hunting seasons, and to kill the animals when no other practical means of damage control is feasible.

If the department receives recurring complaints regarding property being damaged as described in this section or RCW 77.36.030 from the owner or tenant of real property, or receives such complaints from several such owners or tenants in a locale, the commission shall consider conducting a special hunt or special hunts to reduce the potential for such damage.

[1996 c 54 ' 3.]

RCW 77.36.030

Trapping or killing wildlife causing damage -- Emergency situations.

(1) Subject to the following limitations and conditions, the owner, the owner's immediate family member, the owner's documented employee, or a tenant of real property may trap or kill on that property, without the licenses required under RCW 77.32.010 or authorization from the director under RCW 77.12.240, wild animals or wild birds that are damaging crops, domestic animals, or fowl:

(a) Threatened or endangered species shall not be hunted, trapped, or killed;

(b) Except in an emergency situation, deer, elk, and protected wildlife shall not be killed without a permit issued and conditioned by the director or the director's designee. In an emergency, the department may give verbal permission followed by written permission to trap or kill any deer, elk, or protected wildlife that is damaging crops, domestic animals, or fowl; and

(c) On privately owned cattle ranching lands, the land owner or lessee may declare an emergency only when the department has not responded within forty-eight hours after having been contacted by the land owner or lessee regarding damage caused by wild animals or wild birds. In such an emergency, the owner or lessee may trap or kill any deer, elk, or other protected wildlife that is causing the damage but deer and elk may only be killed if such lands were open to public hunting during the previous hunting season, or the closure to public hunting was coordinated with the department to protect property and livestock.

(2) Except for coyotes and Columbian ground squirrels, wildlife trapped or killed under this section remain the property of the state, and the person trapping or killing the wildlife shall notify the department immediately. The department shall dispose of wildlife so taken within three days of receiving such a notification and in a manner determined by the director to be in the best interest of the state.

[1996 c 54 ' 4.]

RCW 77.36.040

Payment of claims for damages -- Procedure -- Limitations.

(1) Pursuant to this section, the director or the director's designee may distribute money appropriated to pay claims for damages to crops caused by wild deer or elk in an amount of up to ten thousand dollars per claim. Damages payable under this section are limited to the value of such commercially raised horticultural or agricultural crops, whether growing or harvested, and shall be paid only to the owner of the crop at the time of damage, without assignment. Damages shall not include damage to other real or personal property including other vegetation or animals, damages caused by animals other than wild deer or elk, lost profits, consequential damages, or any other damages whatsoever. These damages shall comprise the exclusive remedy for claims against the state for damages caused by wildlife.

(2) The director may adopt rules for the form of affidavits or proof to be provided in claims under this section. The director may adopt rules to specify the time and method of assessing damage. The burden of proving damages shall be on the claimant. Payment of claims shall remain subject to the other conditions and limits of this chapter.

(3) If funds are limited, payments of claims shall be prioritized in the order that the claims are received. No claim may be processed if:

(a) The claimant did not notify the department within ten days of discovery of the damage. If the claimant intends to take steps that prevent determination of damages, such as harvest of damaged crops, then the claimant shall notify the department as soon as reasonably possible after discovery so that the department has an opportunity to document the damage and take steps to prevent additional damage; or

(b) The claimant did not present a complete, written claim within sixty days after the damage, or the last day of damaging if the damage was of a continuing nature.

(4) The director or the director's designee may examine and assess the damage upon notice. The department and claimant may agree to an assessment of damages by a neutral person or persons knowledgeable in horticultural or agricultural practices. The department and claimant shall share equally in the costs of such third party examination and assessment of damage.

(5) There shall be no payment for damages if:

(a) The crops are on lands leased from any public agency;

(b) The landowner or claimant failed to use or maintain applicable damage prevention materials or methods furnished by the department, or failed to comply with a wildlife damage prevention agreement under RCW 77.12.260;

(c) The director has expended all funds appropriated for payment of such claims for the current fiscal year; or

(d) The damages are covered by insurance. The claimant shall notify the department at the time of claim of insurance coverage in the manner required by the director. Insurance coverage shall cover all damages prior to any payment under this chapter.

(6) When there is a determination of claim by the director or the director's designee pursuant to this section, the claimant has sixty days to accept the claim or it is deemed rejected.

[1996 c 54 ' 5.]

RCW 77.36.050

Claimant refusal -- Excessive claims.

If the claimant does not accept the director's decision under RCW 77.36.040, or if the claim exceeds ten thousand dollars, then the claim may be filed with the office of risk management under RCW 4.92.040(5). The office of risk management shall recommend to the legislature whether the claim should be paid. If the legislature approves the

claim, the director shall pay it from moneys appropriated for that purpose. No funds shall be expended for damages under this chapter except as appropriated by the legislature.

[1996 c 54 ' 6.]

RCW 77.36.060

Claim refused -- Posted property.

The director may refuse to consider and pay claims of persons who have posted the property against hunting or who have not allowed public hunting during the season prior to the occurrence of the damages.

[1996 c 54 ' 7.]

RCW 77.36.070

Limit on total claims from wildlife fund per fiscal year.

The department may pay no more than one hundred twenty thousand dollars per fiscal year from the wildlife fund for claims under RCW 77.36.040 and for assessment costs and compromise of claims. Such money shall be used to pay animal damage claims only if the claim meets the conditions of RCW 77.36.040 and the damage occurred in a place where the opportunity to hunt was not restricted or prohibited by a county, municipality, or other public entity during the season prior to the occurrence of the damage.

[1996 c 54 ' 8.]

RCW 77.36.080

Limit on total claims from general fund per fiscal year -- Emergency exceptions.

(1) The department may pay no more than thirty thousand dollars per fiscal year from the general fund for claims under RCW 77.36.040 and for assessment costs and compromise of claims unless the legislature declares an emergency. Such money shall be used to pay animal damage claims only if the claim meets the conditions of RCW 77.36.040 and the damage occurred in a place where the opportunity to hunt was restricted or prohibited by a county, municipality, or other public entity during the season prior to the occurrence of the damage.

(2) The legislature may declare an emergency, defined for the purposes of this section as any happening arising from weather, other natural conditions, or fire that causes unusually great damage to commercially raised agricultural or horticultural crops by deer or elk to commercially raised agricultural or horticultural crops, or rangeland forage on privately owned land used for grazing or browsing of domestic livestock for at least a portion of the year. In an emergency, the department may pay as much as may be subsequently appropriated, in addition to the funds authorized under subsection (1) of this section, for claims under RCW 77.36.040 and for assessment and compromise of claims. Such money shall be used to pay animal damage claims only if the claim meets the conditions of RCW 77.36.040 and the department has expended all funds authorized under RCW 77.36.070 or subsection (1) of this section.

(3) Of the total funds available each fiscal year under subsection (1) of this section and RCW 77.36.070, no more than one-third of this total may be used to pay animal damage claims for rangeland forage on privately owned land.

(4) Of the total funds available each fiscal year under subsection (1) of this section and RCW 77.36.070 that remain unspent at the end of the fiscal year, fifty percent shall be utilized as matching grants to enhance habitat for deer and elk on public lands.

APPENDIX D. Washington Department of Fish and Wildlife Winter Feeding of Wildlife Policy

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POLICY - 5302

Cancels: WDFW M6002
See Also:

POL - 5302 FEEDING WILDLIFE DURING THE WINTER

This policy applies to all WDFW employees except if policies and procedures are in conflict with or are modified by a bargaining unit agreement, the agreement language shall prevail.

Definitions:

Artificial feeding: The distribution of harvested feed for wildlife through either supplemental feeding or emergency feeding.

Emergency feeding: The occasional feeding of wildlife, which the Department implements due to extreme winter conditions or a disaster such as fire or drought.

Supplemental feeding: The Department's regular winter-feeding operations to provide feed to wildlife where adequate winter habitat is not available and feeding is necessary to support the population level as identified in a management plan, or for specific control of deer or elk damage.

1. **WDFW May Provide Supplemental or Emergency Feeding for Wildlife for the Following Purposes**
 - A. To prevent and/or reduce deer or elk damage to private property (agricultural or horticultural crops)
 - B. To support a Department management plan
 - C. To respond to an emergency as determined by the Director or the Director's designee
 - D. To allow for the regeneration of winter habitat that has been severely damaged or destroyed by disaster, such as fire or drought
 - E. For Department approved wildlife research or wildlife capture
 - F. In areas or times where hunting seasons have closed

2. The Director or Director's Designee Declares an Emergency

Implementation of emergency feeding operations will begin after an emergency has been declared in a specific location of the state. The Director's Emergency Feeding Advisory Team will include the Assistant Directors of the Enforcement Program, Wildlife Program, and affected Regional Director(s).

3. WDFW Will Use the Following Factors to Determine Whether an Emergency Exists in a Specific Location of the State

- A. Weather conditions and forecast:
Includes conditions such as abnormally cold temperatures, extreme wind chill, snow depth, icing, or crusting over a prolonged period of time. Evaluation may also include the forecasted weather to reflect early arrival and projected duration of severe winter weather.
- B. Concentration and distribution of wildlife:
Includes assessment of wildlife patterns such as animals concentrated in unusually high numbers in a specific area or located in areas where they are generally not found.
- C. Access to natural forage:
Assessment of availability of natural forage, including factors that may limit access (such as snow depth, icing, or crusting)
- D. Disaster:
Includes description of disaster (such as fire or drought) and its impact on wildlife, such as winter range that has been severely damaged or destroyed. Feeding may be an option to provide adequate time for recovery of wildlife habitat and subsequently reduce wildlife mortality.
- E. Physical condition of wildlife:
Evaluation to determine the physiological condition of animals, including experienced judgment by Department personnel based on knowledge of local wildlife. Evaluation may include bone marrow and kidney fat analysis to evaluate body fat reserves necessary for winter survival.

4. WDFW May Discourage Private Feeding of Wildlife

The Department discourages private feeding of wildlife where animals may become a problem or a nuisance, cause damage to property, or present a health risk.

WDFW will provide the public with information on the appropriate way for winter-feeding of wildlife (i.e., deer, elk, upland birds, songbirds).

WDFW may provide feed in those situations where private actions will complement agency staff supplemental or emergency feeding.

5. **WDFW Will Accept Donations to Help Pay for Emergency Winter Feeding**

APPENDIX E. Winter Elk Feeding in the Western United States

State	Policy	Trigger
Arizona	Does not feed	none
California	Law prohibits feeding	none
Colorado	Emergency feeding only	Winter mortality >30% of adult females
Idaho	Emergency feeding or to manage damage	Mortality would prevent recovery of herd; to prevent damage or protect public safety
Montana	Opposes feeding	Emergencies only in priority areas or special situations
Nevada	Does not feed	none
New Mexico	Does not feed	none
Oregon	New feeding for emergencies	Some winter mortality natural; feeding can be used in extreme circumstances
Utah	Emergency feeding	No specific criteria
Wyoming	No new feeding	Last emergency feeding 1979

APPENDIX F. Fact Sheet



FACT SHEET

**WASHINGTON DEPARTMENT OF
FISH AND WILDLIFE**
600 Capitol Way North, Olympia, WA
98501-1091

April 2006

Mount St. Helens elk

The eruption of Mount St. Helens in 1980 dramatically altered the landscape in an area of southwest Washington that supports a portion of the state's largest elk herd. While the herd, now estimated at 12,500 animals, has largely recovered from the blast, lack of adequate forage is a continuing problem for the sub-population of elk that live on the site of the volcanic mudflow.

In the years after the mountain erupted, sending a wall of mud coursing down the Toutle River Valley, vegetation gradually re-appeared and elk returned to the area. Gradually, however, replanted forests grew taller, shading out low-growing forage plants. The soil's mineral content also was dramatically altered by the eruption, reducing nutrients available to the elk in the plants that grow there.

These lasting effects of the volcano challenge both the elk that range there, and the Washington Department of Fish and Wildlife (WDFW) biologists who manage a 2773-acre state wildlife area to support the animals. These challenges are especially evident when harsh or prolonged winter weather takes a toll on elk that are chronically short on nutritious forage.

A portion of wildlife populations throughout nature succumb normally to winter, when harsh weather takes its toll on diseased or aged animals, or the animals become prey for other species. In a typical winter, approximately 10 percent of a wildlife population may typically succumb. In an especially cold or prolonged winter, especially one that follows milder years, mortalities may be much higher. Mount St. Helens elk that succumb to winter conditions are more readily visible to human observers due to area's open terrain.

In 1999, at least 80 of the 600 elk gathered in the Mount St. Helens Wildlife Area died from winter stress. This year, the Washington Department of Fish and Wildlife (WDFW) also is investigating reports of a smaller number of elk mortalities in the area, following a harsher-than-normal winter.

This year, WDFW conducted two elk-mortality surveys in the area of the Mount St. Helens mudflow, and a third is planned in late April. The first survey, in January, located five winter-killed elk, out of an estimated 626 animals that had been observed earlier in the area. The second survey, in late March, showed another 20 mortalities.

Besides monitoring the elk, WDFW has been actively working to improve conditions for the animals. Department wildlife and lands managers have worked for more than a decade, along with other organizations such as the Rocky Mountain Elk Foundation and other volunteers, to improve elk habitat and reduce herd population. Those efforts include:

- **Improving forage:** Since 1990, WDFW wildlife biologists and land managers have improved forage for elk by seeding and fertilizing forage plants, removing weeds and controlling erosion. Much of the work has been conducted with partners such as the Rocky Mountain Elk Foundation and local volunteers. More than 700 acres were seeded from 1999 through 2000, although continued shifts in the Toutle River channel and resulting erosion destroyed a large area of the plantings. Since then, grass and shrubs have been planted to stabilize the seeded area and competing weeds, such as Scotch broom, have been removed from more than 200 acres.
- **Elk relocation:** WDFW and Indian tribes have worked cooperatively to reduce the size of the Mount St. Helens elk herd by relocating 103 animals to the North Cascades. These elk transfers, which took place from 2003 through 2005, were undertaken in part to reduce stress on remaining elk near Mount St. Helens.
- **Hunting:** In 2004, WDFW re-opened hunting for the first time since the eruption, to reduce the number of elk competing for food in the area. Hunting permits were initially limited to disabled hunters in the area of the mudflow; more recently the Washington Fish and Wildlife Commission approved 110 cow-elk permits and 196 bull-elk permits for 2006 fall hunting seasons. These permits include an additional 30 elk permits- for hunters using modern firearms and muzzleloading rifles- that were approved for two game management units (GMUs) adjacent to the volcanic blast zone:
 - **GMU 524 (Margaret unit):** Modern firearms permits were increased from 25 to 30 in the Margaret B hunt. Muzzleloader permits were increased from 10 to 15 in the Margaret D hunt.
 - **GMU 556 (Toutle unit):** Modern firearms permits were increased from 35 to 50 in the Toutle B hunt. Muzzleloader permits were increased from 10 to 15 in the Toutle D hunt.

Further expansion of hunting may be considered in the future, but must be weighed in the context of fair-chase concerns in the relatively open mudflow area. Also, a range of visitors are drawn to the Mount St. Helens national volcanic monument as eco-tourists who enjoy the area elk as watchable wildlife, rather than game animals.

Although WDFW wildlife managers regularly survey elk in the Mount St. Helens area, and have identified guidance for supplemental winter-feeding, biologists generally avoid artificial feeding because it concentrates wild animals, spreads disease and reduces natural foraging behavior. Severe winters and resulting high mortalities cannot be reliably predicted in advance-by the time unusually high mortality rates are observed late in the season, those animals near starvation generally do not benefit from artificial feed because their stressed digestive systems cannot readily adjust to the distributed food.

In an effort to set a course for management of the Mount St. Helens elk herd in future years, WDFW is inviting public involvement in finalization of a herd management plan and an accompanying management plan for the Mount St. Helens Wildlife Area. Those draft management plans-which will include forage enhancement, criteria for winter elk-mortality monitoring, supplemental feeding and other management issues-are scheduled to be distributed to the public for review and comment in May 2006, and will be the subject of public meetings later in the year. The Department's goal is to have the completed plans in place by December 2006.

