

April 2017

Scotch Creek and Sinlahekin Wildlife Areas Management Plan



Washington
Department of
**FISH and
WILDLIFE**

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Cover Photos: Similkameen-Chopaka Unit of Scotch Creek WLA, monarch butterfly and white-tailed deer by Justin Haug



Scotch Creek & Sinlahekin Wildlife Areas

A handwritten signature in black ink, reading "J. Unsworth".

Jim Unsworth, Director, Washington Department of Fish and Wildlife

Scotch Creek and Sinlahekin Wildlife Areas Management Plan



April 2017

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List of Acronyms & Abbreviations

BLM	Bureau of Land Management
BPA	Bonneville Power Administration
DAHP	Washington State Department of Archaeology & Historic Preservation
DNR	Washington State Department of Natural Resources
EIA	Ecological Integrity Assessment
EIM	Ecological Integrity Monitoring
ESA	Endangered Species Act
IPM	Integrated Pest Management
NEWICC	Northeast Washington Interagency Communications Center
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
RCO	Washington State Recreation and Conservation Office
SEPA	State Environmental Policy Act
SERP	Sinlahekin Ecosystem Restoration Project
SGCN	Species of Greatest Conservation Need
SRFB	Salmon Recovery Funding Board
SWAP	State Wildlife Action Plan
TNC	The Nature Conservancy
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
WAC	Washington Administrative Code
WAAC	Wildlife Area Advisory Committee
WDFW	Washington State Department of Fish and Wildlife
WLA	Wildlife Area
WHCWG	Washington Wildlife Habitat Connectivity Working Group
WWRP	Washington Wildlife and Recreation Program



Fleabane and Silky Lupine on Carter Mountain Unit
Photo by Justin Haug

Wildlife Area Management Planning Overview

Introduction

Under state law, the Washington Department of Fish and Wildlife (WDFW) is charged with “preserving, protecting and perpetuating” the state’s fish and wildlife species, while also providing sustainable recreational opportunities that are compatible with fish and wildlife stewardship. As of 2017, WDFW owns or manages nearly one million acres in 33 wildlife areas across the state, whose diversity includes nearly all species and habitats present in the state. With the loss of natural habitat posing the single greatest threat to native fish and wildlife, these areas play a critical conservation role. The wildlife area management plan addresses all aspects of resource management, and aligns with statewide conservation goals.

The Scotch Creek and Sinlahekin Wildlife Areas Management Plan was developed by an interdisciplinary team of WDFW staff and with significant public involvement. This included input from the local stakeholder-based Scotch Creek and Sinlahekin Wildlife Area Advisory Committee (WAAC), input from Okanogan County and other public agencies, and input from other interested citizens gathered from two public meetings.

Wildlife Area Management Planning Framework

Management of these areas is guided by WDFW’s mission and strategic plan, as well as by state and federal laws. Each new plan is guided by the Wildlife Area Management Planning Framework (Framework), which summarizes the agency’s mission, laws, policies and approaches to management of fish and wildlife, as well as public use and recreation. The framework summarizes priorities and guidance developed in each of the agency’s programs – Fish, Wildlife, Habitat and Enforcement. Readers are encouraged to review the framework in advance, or as a companion document to this wildlife area plan (http://wdfw.wa.gov/lands/wildlife_areas/management_plans/). The framework provides context for the organization and content of wildlife area plans across the state. The framework is a living document, and is updated periodically to reflect new agency initiatives, guidance or directives.

Purpose

The purpose of this management plan is to guide management activities occurring on the Scotch Creek and Sinlahekin wildlife areas for the next 10 years. Management goals, objectives and performance measures are defined in Appendix A. These were developed to be consistent with WDFW’s mission, strategic plan and requirements associated with the funds used to purchase the wildlife areas. The plan is intended to provide a clear vision of how these lands are managed for a variety of audiences, including WDFW staff and the public.

Public Outreach and Stakeholder Involvement Process

The agency is committed to a transparent and inclusive public outreach process for all wildlife area management plans. Under the umbrella of the statewide goals listed below, a customized outreach strategy was developed for these areas, tailored to local and regional stakeholders, as well as local and out of town visitors and user groups. For this plan, the public process included three elements: 1) public and advisory committee meetings; 2) development and distribution of fact sheets, meeting announcements and news releases; and, 3) solicitation of public comments through phone, email and the WDFW website. A complete summary of the public outreach activities is included in Appendix I.

Vision

Instead of one overall vision, WDFW has a vision for each of the 14 units on the two wildlife areas, capturing unique and distinct features of the area. Each vision defines the expected outcomes for the unit, reflecting both unit-specific values and statewide goals for each geographic location.

Statewide Planning Goals

A complete list of goals, objectives, and performance measures specific to these wildlife areas can be found in Appendix A.

Statewide Wildlife Area Planning Vision:

Wildlife Areas showcase conservation, recreation, and restoration on public lands, and inspire and engage the citizens of Washington to care for our rich diversity of fish, wildlife, and habitat. These lands also support public values of open space, health and well-being, economic vitality and community character; are managed collaboratively with interested parties; and reflect each area’s unique contribution to the vitality of Washington State.

Statewide Planning Goals

- Goal 1** **Restore and protect the integrity of priority ecological systems and sites.** This goal originates from the WDFW Strategic Plan, Goal #1: Conserve and protect native fish and wildlife. Ecological integrity monitoring (Adaptive Management/Monitoring section) on priority sites will be developed as part of implementation for the wildlife area plan discussed on page 108, and is a requirement of several fund sources used to acquire the lands.
-
- Goal 2** **Sustain individual species through habitat and population management actions, where consistent with site purpose and funding.** This goal relates to WDFW Strategic Plan, Goal #1. Each individual wildlife area plan will provide a summary of species associated with the wildlife area and will focus on target species for habitat management actions.
-
- Goal 3** **Provide compatible fishing, hunting, and wildlife-related recreational opportunities.** This goal is consistent with the WDFW Strategic Plan, Goal #2. Each plan will provide a summary of recreation activities associated with the wildlife area, aiming toward balancing recreational activities with species and habitat protection where consistent with Goals 1 and 2 above.
-
- Goal 4** **Engage stakeholders in consistent, timely and transparent communication regarding wildlife area management activities.** This goal relates to Strategic Plan Goal #3: Promote a healthy economy, protect community character, maintain an overall high quality of life, and deliver high-quality customer service. As described under the public outreach section of this document, public input and involvement is a key component in the development of the management plan through advisory committee efforts and public meetings. After the plan is adopted, the management plan updates will be reviewed by the advisory group on a biannual basis.
-
- Goal 5** **Maintain productive and positive working relationships with local community neighbors, lessee partners and permittees.** As part of day-to-day business, wildlife area staff strives to maintain positive working relationships with grazing and agricultural lessees and the local community.
-
- Goal 6** **Hire, train, equip, and license, as necessary, wildlife area staff to meet the operation and management needs of wildlife areas.** This goal is consistent with Goal #4 of the Strategic Plan: build an effective and efficient organization by supporting the workforce, improving business processes, and investing in technology. Specific activities on wildlife areas include staff training and hiring qualified staff.
-
- Goal 7** **Maintain safe, highly functional, and cost-effective administration and operational facilities and equipment.** This goal is consistent with WDFW Strategic Plan Goal #4. Maintenance of facilities and equipment is a key activity on wildlife areas. Annual reporting is required by WDFW and agencies that provide operations and maintenance funding (e.g. U.S. Fish and Wildlife Service, Pittman Robertson).

Success Stories

Forest Restoration

Since the early 20th century, resource managers followed a strict fire suppression policy on public lands throughout the west. As a result, fire-dependent forest stands like those found on the Sinlahekin and Scotch Creek wildlife areas have become overstocked with 100 years or more of fuel accumulation (increased forest density and dead vegetation that rots slowly in the region's dry climate) which are highly combustible. As a result, these forests are at severe risk for catastrophic fire with dramatic impacts to species, habitats and the local community. Forest thinning and prescribed burning are two tools managers can use to address this forest health issue. The Sinlahekin was the first wildlife area for which WDFW developed a prescribed fire program and implemented techniques to reintroduce low intensity, frequent fire to a fire dependent landscape. The agency also implemented prescribed fire on Scotch Creek Wildlife Area. Two success stories are profiled here.

Sinlahekin Ecosystem Restoration Project

Between 2009 and 2016, WDFW received, WDFW received \$1.52 million from the Washington Recreation and Conservation Office (RCO) – Washington Wildlife and Recreation Program (WWRP) – to conduct restoration on 3,000 acres of fire-dependent habitat in the Sinlahekin Wildlife Area. As a result of the funding, WDFW was able to commercially harvest 500 acres, hand thin 150 acres, and prescribe burn 1,350 acres (see

photos below). This project has many financial supporters, including Washington State University, The Nature Conservancy, Fire Learning Network, Initiative for Rural Innovation & Stewardship, and private donors. Projects ancillary to the Sinlahekin Ecosystem Restoration Project (SERP) include: Sinlahekin and Sarsapkin Creek Alluvial Fan Historic Forest Reconstruction, Small Mammal Survey, WitnessingChange.Org, bighorn sheep study, and forest succession study. Project support included: the U. S. Forest Service (USFS), Bureau of Land Management (BLM), WA Butterfly Association, City of Oroville, and Okanogan County Commissioners. The third phase of the project is currently ongoing and scheduled to scheduled for completion in June 2018.

The Sinlahekin Ecosystem Restoration Project successes include:

- Ponderosa pine habitats have been transformed to a condition closer to their historic range of variability.
- Habitat has improved for species such as mule deer and bighorn sheep.
- Prescribed burns reduced the impact of the 2015 Okanogan Complex Fire, which burned onto the Sinlahekin Unit.
- First steps have been made to restore fire to a fire dependent ecosystem where it has been missing for over 100 years.



Sinlahekin Ecosystem Restoration Project, Sinlahekin Unit; left, commercial thinning; right, prescribed burns
Photos by Justin Haug

Thinning and Prescribed Burning on the Chesaw Wildlife Area Unit



Prescribed burning on the Chesaw Wildlife Area Unit
Photos by Justin Haug

Since 2013, using funds from the Rocky Mountain Elk Foundation and Forest Health Program (Washington State Legislature), Scotch Creek Wildlife Area and other WDFW staff have completed 275 acres of forest thinning and 390 acres of prescribed fire on the Chesaw Unit. The objective of this project was to improve big game habitat by thinning overstocked forest stands and reintroducing fire to stimulate browse growth and reincorporate fire effects. During the project, legacy trees, critical great gray owl nesting trees, and important cultural resources were protected.



Sinlahekin Diffuse Knapweed Control

Infestation of diffuse knapweed (*Centaurea diffusa*) on the Sinlahekin Wildlife Area has been significantly reduced since the late 1990s with periodic releases of various biological control agents. Native to the eastern Mediterranean, diffuse knapweed was introduced into the United States in the late 19th century, with the first documented occurrence in Bingen, Wash., in 1907 (Roche and Talbott 1986). The plant quickly spread. On the Sinlahekin Wildlife Area, knapweed dominated sagebrush-steppe and other habitats for decades. Biological control of diffuse knapweed began in North America in 1970 with the release of gall flies (*Urophora affinis*), and since then 12 other species have been released for the control of knapweed (Winston et al 2014). Seed-feeding *Larinus* beetles have proven to be the most effective control agent (Winston et al 2014). WDFW has been releasing *Larinus minutus* on the Sinlahekin since 1999 (see photos). Unfortunately large wildfires impacted beetle populations, and WDFW staff are trying to bolster populations. Other knapweed bio-agents previously or currently released are: *Bangasternus fausti*, *Cyphocleonus achates*, *Larinus obtusus*, *Sphenoptera jugoslavica*, and *Urophora quadrifasciata*. Over time, various biological control agents have reduced diffuse knapweed infestations to a level where mechanical and chemical controls are limited to roadsides, heavy use and disturbed areas.



***Larinus minutus* on diffuse knapweed**
Photos by Justin Haug



Sinlahekin 75th Anniversary Celebration

On June 7, 2014, WDFW celebrated the 75th anniversary of the Sinlahekin Wildlife Area. The event brought a variety of current and past agency staff from around the region, agency partners from federal and state agencies, and citizens from around the state, including family members who lived at what is now the Sinlahekin Headquarters before it was sold to the former Department of Game in 1939. The event kicked off with the dedication of the Dave Brittell Memorial Trail, followed by an entire summer-long series of talks and field trips highlighting the wildlife area's diversity. These events included talks about native bees, butterflies, birds, mammals, reptiles, and plants, as well as geological and cultural histories of the area. The event was wrapped up with the Mule Deer Dash, a fun run that took runners through a variety of Sinlahekin habitats. The celebration highlighted the importance of public lands and open spaces used and cherished by a variety of users.

Scotch Creek Wildlife Area - Sharp-tailed Grouse

WDFW purchased core properties that became the Scotch Creek wildlife area in 1991 with funding from the Washington Recreation and Conservation Office for use on critical habitats. The purpose of the acquisition was to preserve and enhance the declining population of Columbian sharp-tailed grouse, a state threatened species, and enhance their habitats. The Scotch Creek, Tunk Valley and Chesaw units hold three of the remaining seven small populations of the species in Washington. When WDFW purchased property to establish the Scotch Creek Unit, only a handful of the sharp-tailed grouse persisted. Successful habitat enhancements included shrub-steppe and riparian restoration, in addition to translocating birds from other states. In the spring of 2015, WDFW personnel counted the highest number of breeding sharp-tailed grouse on the property since its acquisition. Staff counted 58 sharp-tails on four active breeding areas (i.e., lek sites), resulting in a population estimate of 116 birds on the Scotch Creek Unit. Unfortunately, later that year, the largest wildfire in state history burned over all of the leks on Scotch Creek and Tunk Valley. Critical winter habitat for sharp-tails was damaged, but patches of water birch, the primary food source in the winter, survived the fire on both the Scotch Creek and Tunk Valley units. Breeding counts in the spring of 2016 on the Scotch Creek

Unit produced only 10 birds, which had moved to a small section of unburned habitat. The longer term impacts are still to be determined, but restoration efforts will continue in the hopes of rebuilding this population.



Sharp-tailed grouse, Scotch Creek Unit
Photo by Greg Thompson

Scotch Creek Wildlife Area – Shrub-steppe Restoration

Since 1991, more than 3,000 acres of domestic grasses on the Scotch Creek, Tunk Valley, and Chesaw units have been restored to a native shrub-steppe habitat. Shrub-steppe habitat is critical to recovery of Columbian sharp-tailed grouse populations. The birds use this habitat for nesting and brood rearing purposes. Restoration efforts have reduced the amount of noxious weeds and created a more diverse habitat, used by many species of wildlife. Sharp-tails are seen frequently using these fields.



Scotch Creek Shrub-steppe Restoration, Scotch Creek Unit
Photos by Jim Olson

Scotch Creek Riparian Restoration

Scotch Creek staff has improved 1.5 miles of riparian habitat along Scotch Creek to enhance winter habitat for sharp-tailed grouse. Farming activities from previous ownerships had removed this important habitat component. Riparian habitat provides important food and cover when snow depths cover preferred habitat on ridges and rolling hills. Water birch (one of the species planted during riparian restoration) buds and catkins are an important winter food.



**Scotch Creek Riparian Restoration,
Scotch Creek Unit**
Photos by Jim Olson



Coulee Creek Trail

WDFW received an RCO Trails grant in 2011 to improve the Coulee Creek Trail, a 7.5-mile historic trail through Coulee Creek drainage from Hess Lake (Scotch Creek Wildlife Area) to Fish Lake (Sinlahekin Wildlife Area). Several sections bordering Doheny Lake area were raised to allow user access in the spring when waters from the lake often flood the trail. Rock fill was hauled in to raise the trail along the foothills on the east side of the valley. One slide area was filled with crushed rock to make the surface usable to horse travel as well as pedestrian travel. This is a popular trail for hiking and equestrian use in early spring.

Elevated trail tread in swampy areas around Doheny Lake, Scotch Creek Unit
Photo by Jim Olson

Wildlife Areas Overview

This section describes each of the 14 units in the Scotch Creek and Sinlahekin wildlife areas, including property locations and sizes, resource management, species of interest, recreation and public use, and land ownership and management. More detailed information regarding Goals and Objectives, Forest Management, Noxious Weed Control and various other wildlife area management subjects can be found in the plan appendices starting on page 111.

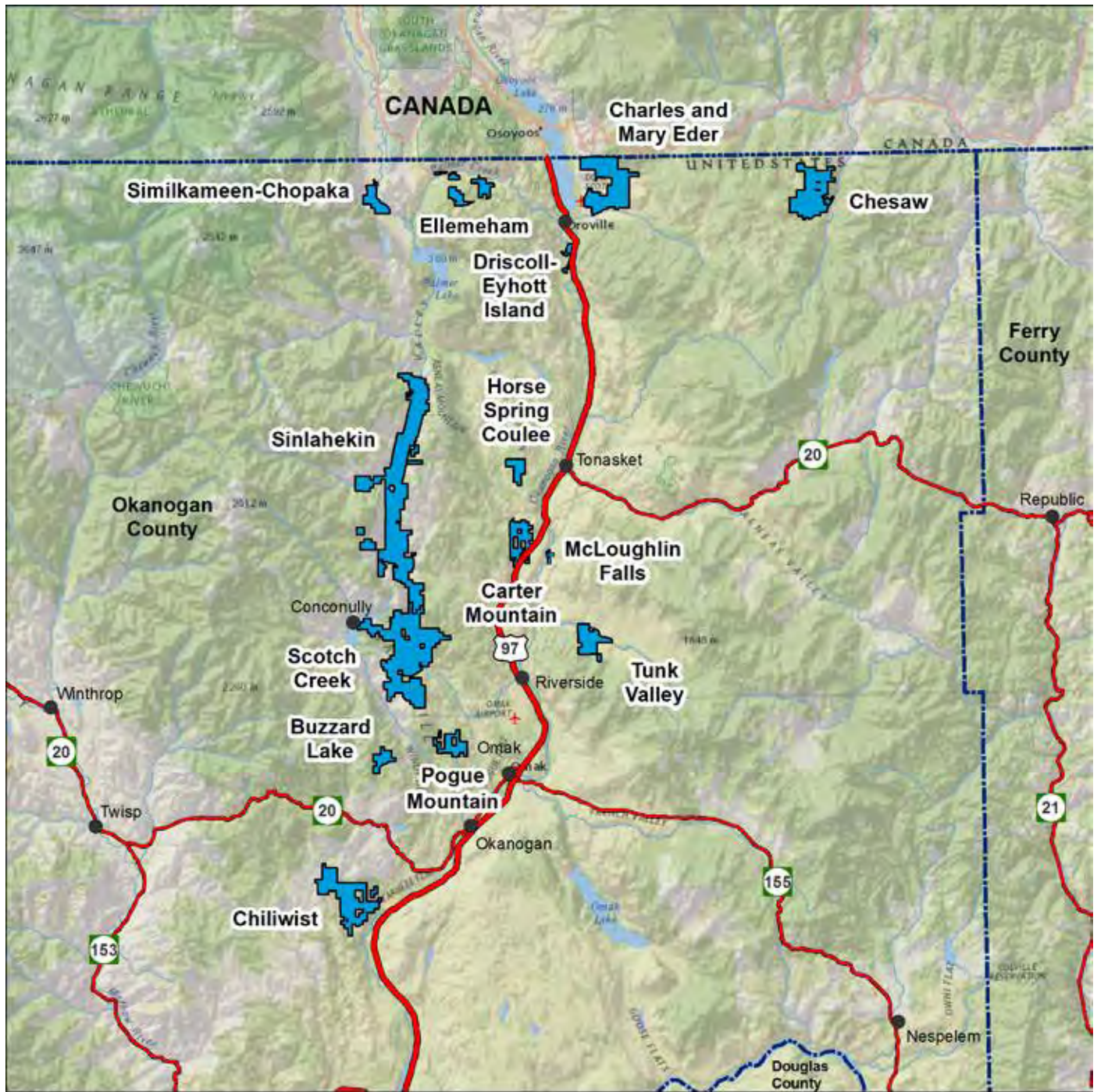
Property Location and Size

The Sinlahekin and Scotch Creek wildlife areas occupy the scenic Okanogan Valley, located in Okanogan County in north central Washington.




Sinlahekin Unit
Photo by Justin Haug

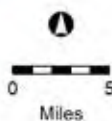
Map 1. Scotch Creek and Sinlahekin Wildlife Areas Vicinity Map



Scotch Creek and Sinlahekin Wildlife Areas

 Unit Area

 US Highway
 State Route

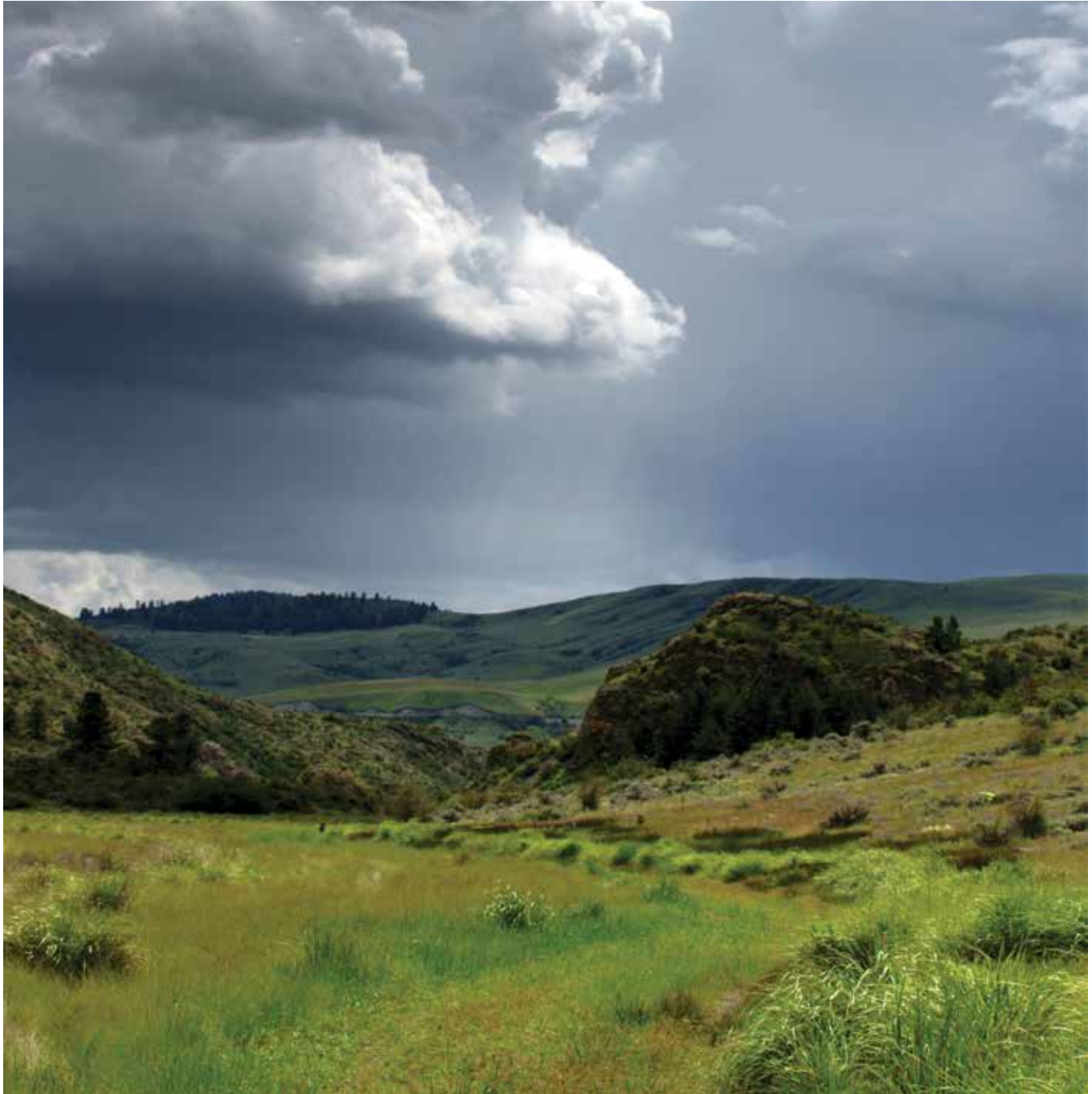


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Scotch Creek Wildlife Area

Scotch Creek Wildlife Area consists of 26,169 acres in seven units. These units include: Chesaw, Scotch Creek, Pogue Mountain, Tunk Valley, Similkameen-Chopaka, Charles and Mary Eder and Ellemeham. Recreation opportunities include hiking, horseback riding, hunting, mountain biking, fishing and wildlife viewing. The focal

species for management on this wildlife area include sharp-tailed grouse, elk, ruffed grouse, black bear, white-tailed deer, cougar, upland game birds and mule deer. Management activities include, but not limited to, habitat restoration, noxious weed control and infrastructure maintenance.



Coulee Creek trail, Scotch Creek Wildlife Area
Photo by Jim Olson

Chesaw Unit

Vision: To protect and enhance the ecological integrity of savanna and shrub-steppe habitats for the recovery of the state threatened Columbian sharp-tailed grouse and to enhance habitat areas critical to the wintering herds of mule deer, white-tailed deer, and the growing Rocky Mountain elk herd while maintaining the social and economic benefits of a working landscape. Provide a quality recreational experience for those who enjoy wildlife, and wild places.



Chesaw Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 4,351 acres
Acquisition Date	- 1991
Acquisition Funding	- Washington State RCO, WWRP
Location	- T40N, R30E parts of Sections 6, 7, 8, 9, 17, 18, 19, 20, 21, 29, 30; and T40N, R29E part of section 24
Elevation	- 3,200 - 4,200 feet
Recreational Opportunities	- Deer hunting, hiking, wildlife viewing, and other non-motorized activities. The increasing elk population is bolstering hunting opportunities.
Access	- Access the property from county roads east of Oroville, including Mary Ann Creek, Byers, and Bolster Roads. Main access parking is off of Byers Road.

The Chesaw Unit was purchased primarily for Columbian sharp-tailed grouse conservation. The unit is situated in the northeast corner of Okanogan County, roughly half of a mile south of the U.S.-Canada border, approximately 9.6 miles west of the Ferry County line, and 14.5 miles east of Oroville. The community of Chesaw lies just east of the unit. Logging, ranching and recreation are the primary land uses. To the south and west, privately-owned properties are primarily used for cattle grazing. The Okanogan-Wenatchee National Forest lies to the east of the unit. A large gold mine on Buckhorn Mountain, to the east, operated for approximately 15 years.

Relatively gentle topography and grassland dominate the unit at lower elevations while mixed conifer forest occupies the slopes above Strawberry Lake (see Map 2). Approximately 400 acres (formerly managed under the USDA Conservation Reserve Program - CRP) have been restored to native steppe bunchgrass to provide nesting and brood-rearing habitat for sharp-tailed grouse. There is one lek, or breeding site, within the unit.

Mary Ann Creek, a perennial stream interrupted by a series of beaver dams, flows southeasterly through and borders portions of the unit. Riparian vegetation flourishes on the floodplain and along the stream channel. This habitat supports water birch, which is critical to wintering sharp-tailed grouse and many migrating song birds in the

spring. Several springs are located on the Chesaw Unit. This unit also has several lakes and man-made ponds.

The Chesaw Unit hosts a variety of species:

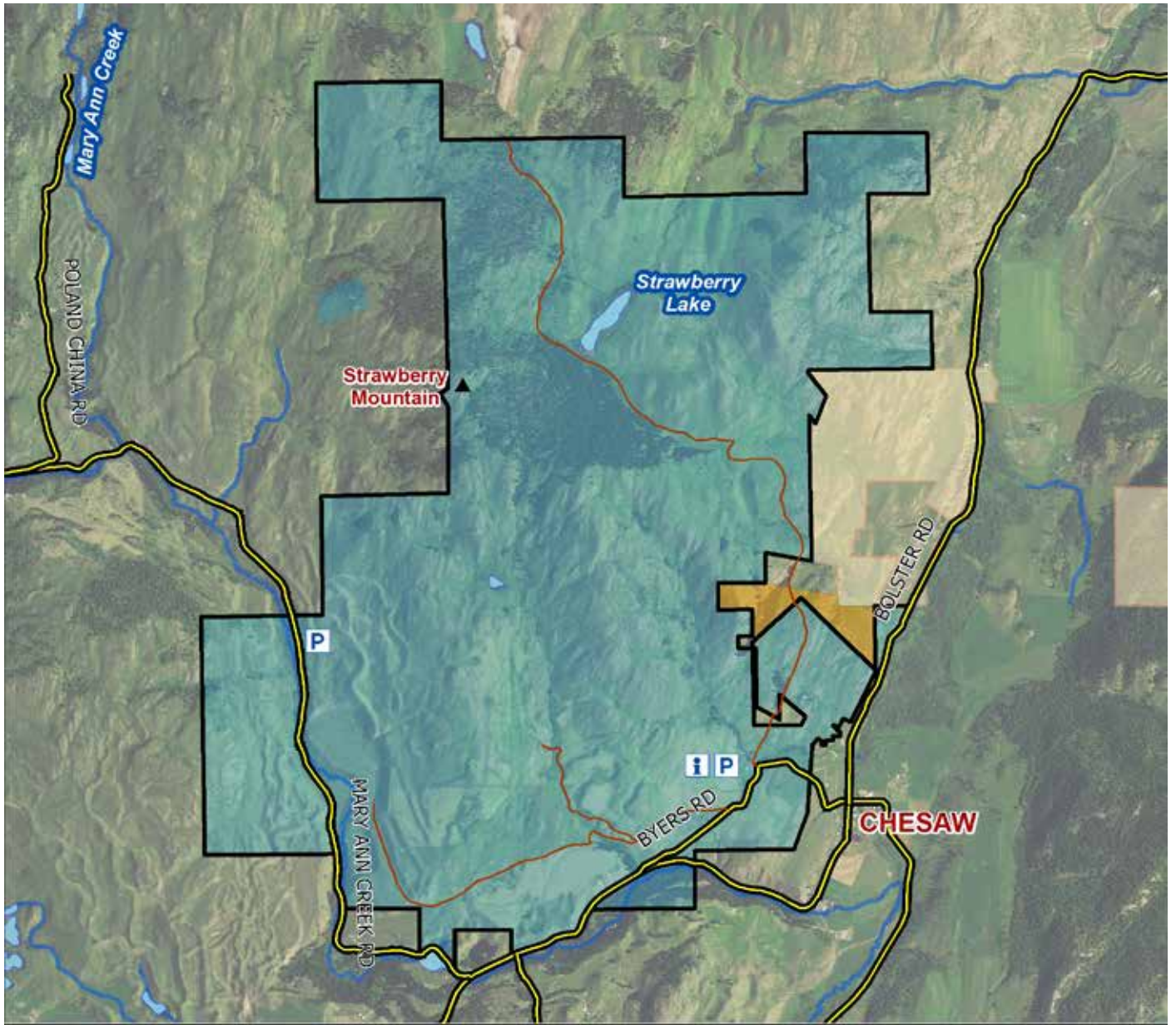
- Mule deer, Rocky Mountain elk, and white-tail deer are common.
- Various upland birds, such as ruffed grouse, dusky grouse and Hungarian partridge, occur on the unit.
- Bald eagles, golden eagles, prairie falcons; during the summer, red-tailed hawks, sharp-shinned hawks, Cooper's hawks and kestrels; during the winter, rough-legged hawks and an occasional northern goshawk, great grey owls, pygmy owls, western screech owls and great horned owls can be observed.
- An array of song birds, such as western meadowlarks, sparrow, and finch species, can be spotted.
- Priority species, such as Lewis's woodpecker, also can be found at Chesaw.

Deer and elk hunting are popular on the Chesaw Unit.





Great Gray Owl, Chesaw Unit
Photo by Justin Haug

Map 2. Chesaw Unit





Chesaw Unit

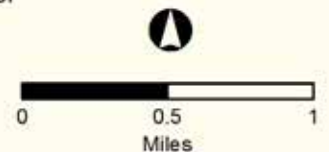
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  Parking Area
-  Educational Kiosk

-  County Road
-  Other Unpaved Road
-  Lake, Pond or Wide River
-  Perennial River or Stream



12/14/2016

Scotch Creek Unit

Vision: To protect and enhance the ecological integrity of riparian and shrub-steppe habitats beneficial to the recovery of Columbian sharp-tailed grouse and mule deer, while providing compatible commercial and economic benefits to the public. Ensure quality outdoor recreational opportunities.



Scotch Creek Wildlife Area
Photo by Jim Olson

GENERAL WILDLIFE AREA INFORMATION	
Size	- 9,604 acres
Acquisition Dates	- 1992 - 2013
Acquisition Funding	- Washington State RCO, WWRP
Location	- T35N, R25E S3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 26, 27, 28, 33, 34, and 35. T35N, R26E S7. T34N, R25E S2, 24.
Elevation	- 1,600 - 2,800 feet
Recreational Opportunities	- Deer hunting, hiking, horseback riding, and wildlife viewing. Opportunities to view sharp-tailed grouse in their winter habitat along Conconully Road.
Access	- The unit is accessed from parking areas on the Conconully Road, Happy Hill, Silver Hill, Woodward Road, and the Limebelt roads. Hess Lake parking area is the southern Coulee Creek Trailhead.

The **Scotch Creek Unit**, the largest unit in the Scotch Creek Wildlife Area, is located approximately 10 miles northwest of Omak and four miles southeast of Conconully. Purchased primarily for sharp-tailed grouse conservation and the restoration of critical habitat, the unit supports one of only seven sub-populations of sharp-tailed grouse remaining in Washington state. The largest portions of the unit are grassland or shrub-steppe habitat which provide critical breeding and brood-rearing habitat for the grouse.

Scotch Creek is a spring-fed stream originating approximately three miles west of the unit. The creek travels for approximately 10 miles before it turns into a marsh at the eastern boundary of the wildlife area. There are no inlets, outlets, or tributaries to this perennial stream. Several springs and three lakes are also located on the unit, but none of these support fish, whereas eastern brook trout are found in Scotch Creek.

The Scotch Creek Unit contains a variety of species:

- Mule deer are common throughout the unit and white-tailed are common near agricultural fields and riparian areas.
- Black bear, cougar and bobcats can be observed occasionally.
- Various upland game birds occur, such as ruffed grouse, dusky grouse, Hungarian and chukar partridge, and California quail.
- Bald eagles, golden eagles, prairie falcons, kestrels in summer; various hawks such as red-tailed hawks, and rough-legged hawks in winter; and owl species such as pygmy owl, great horned owl, and screech owl all can be spotted on the wildlife area unit.
- An array of song birds such as meadow larks, warbler, sparrow and finch species occur at Scotch Creek.
- Priority species, such as Lewis's woodpecker, also can be found.

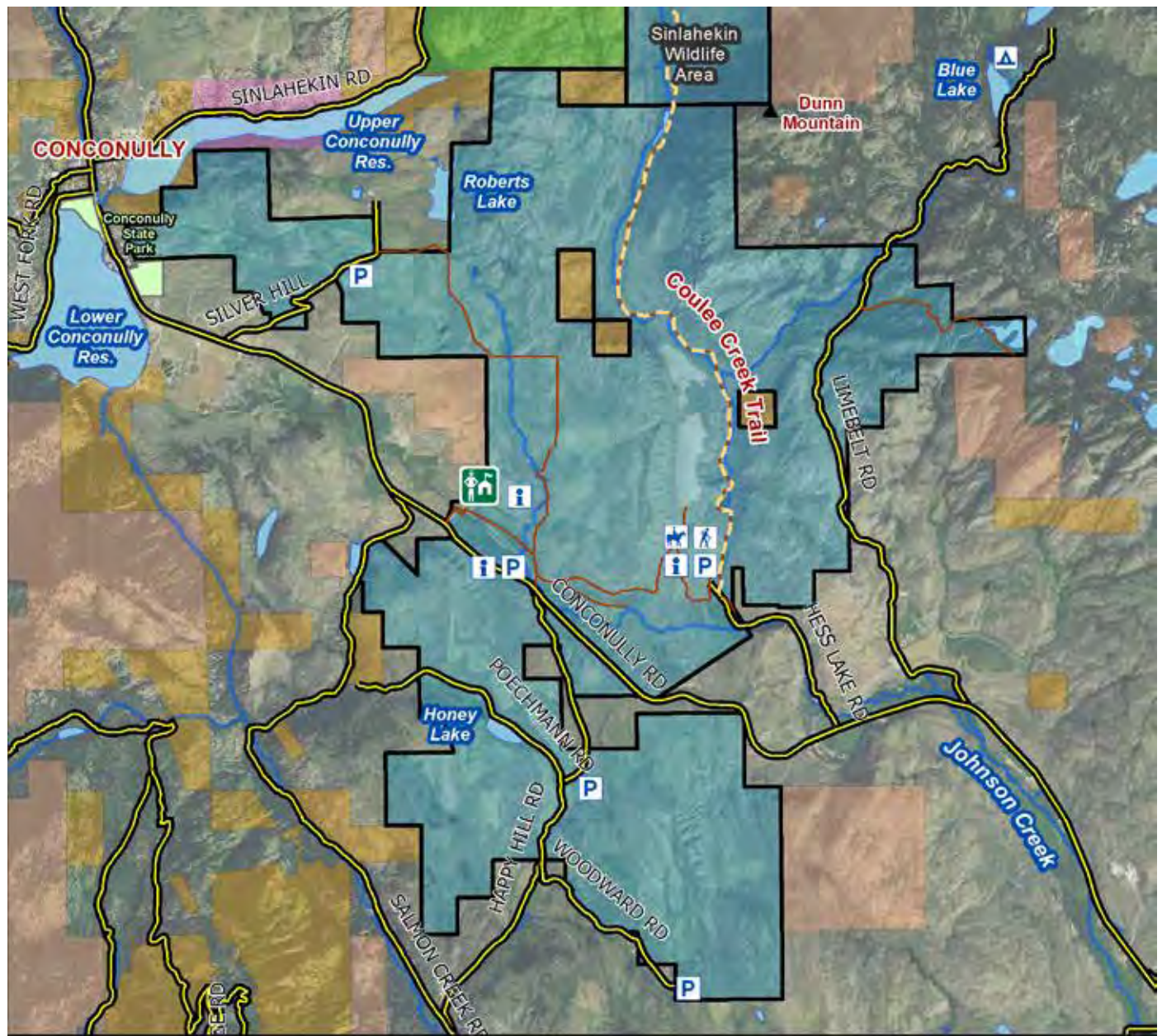
The Scotch Creek Unit is known locally as the French Place, which holds a colorful history dating back to pre-1900 when the area was first homesteaded. As a working cattle ranch, approximately 1,500 acres of the native grasslands were converted to dryland agricultural fields

while the ranch was in operation. These farmed fields were then converted to crested and intermediate wheatgrass stands for livestock grazing. Another significant change during this time was removal of deciduous trees along the riparian corridor and the drying up of wetland areas for alfalfa production. To date, nearly all of the agricultural fields have been restored to native shrub-steppe habitat, providing diversity and nesting cover for sharp-tailed grouse. In addition, numerous trees and shrubs have been planted in springs and wet draws to provide the critical winter habitat the grouse need to survive.



The Limebelt area (located in the eastern portion of the unit) is mountainous, with steep rock out-croppings and bitterbrush-covered slopes critical to wintering mule deer. There is one active grazing permit in this area; outside the current sharp-tailed grouse occupied range. The lease allows for early spring grazing every other year, which has less of an impact on the ecological integrity of the area. The objective of the lease is to target spring grasses and forbs with cattle, to reduce competition to bitterbrush and other deciduous shrubs. The annual growth of bitterbrush is a significant food source for mule deer during winter.

Most of the unit is bordered by private land managed for livestock and agricultural production. The exception is the northern boundary, which is bordered by the U. S. Forest Service (USFS) Okanogan-Wenatchee National Forest, and some Bureau of Land Management lands. Washington Department of Natural Resources (DNR) owns several parcels adjacent to the unit that are leased for livestock grazing.




Map 3. Scotch Creek Unit



Scotch Creek Unit

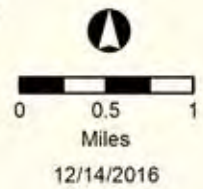
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR
-  USFS
-  USBOR

-  Office
-  Parking Area
-  Educational Kiosk
-  Campground
-  Hiking Trail
-  Horseback Riding

-  County Road
-  Other Unpaved Road
-  Designated Trail
-  Lake, Pond or Wide River
-  Perennial River or Stream



Pogue Mountain Unit

Vision: *To protect and enhance the ecological integrity and species diversity for wildlife resources, maintain healthy populations of game and non-game species, protect and restore native plant communities, and provide diverse opportunities for the public to encounter, utilize, and appreciate wildlife and wild areas.*



Pogue Mountain
Photo by Jim Olson

GENERAL WILDLIFE AREA INFORMATION	
Size	- 1,196 acres
Acquisition Date	- 1991
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Washington State RCO, WWRP
Location	- T34N, R26E parts of Sections 17, 18, 19, 20
Elevation	- 1,600 - 2,800 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, and other non-motorized activities.
Access	- From Green Lake Road on the west side of the unit, and the Green Lake Campground. There is no public access from Conconully Road.

The Pogue Mountain Unit, purchased to conserve mule deer winter range, is located four miles northwest of Omak and west of the Conconully Road. The unit is mountainous, with scattered timber and large areas of native shrub-steppe at lower elevations.

Several seasonal streams, seeps, and springs are found on the unit. Hunsinger Lake is located at the top of Pogue Mountain. This one-acre lake retains enough year-round water for fish to survive. Cutthroat trout were experimentally planted in the lake in 2014 and were known to be successful for the first year.

The Pogue Mountain Unit contains a variety of species:

- Mule deer and white-tailed deer are often seen throughout the unit.
- Black bear, cougar and bobcats can be observed occasionally.
- Various upland game birds occur, such as ruffed grouse, Hungarian partridge and California quail.
- Bald eagles, golden eagles, prairie falcons and various hawks can be spotted as can a variety of migratory and resident song birds.

Land surrounding the unit is a mix of public and private ownership. The Bureau of Land Management (BLM) owns properties to the south of the unit and 80 acres of in-holding within the unit, as well as a 40-acre parcel on the north boundary. All other lands bordering the unit are privately owned and are managed primarily for livestock grazing. The unit was used for cattle grazing and timber harvest as part of the previous owner's ranching operation.

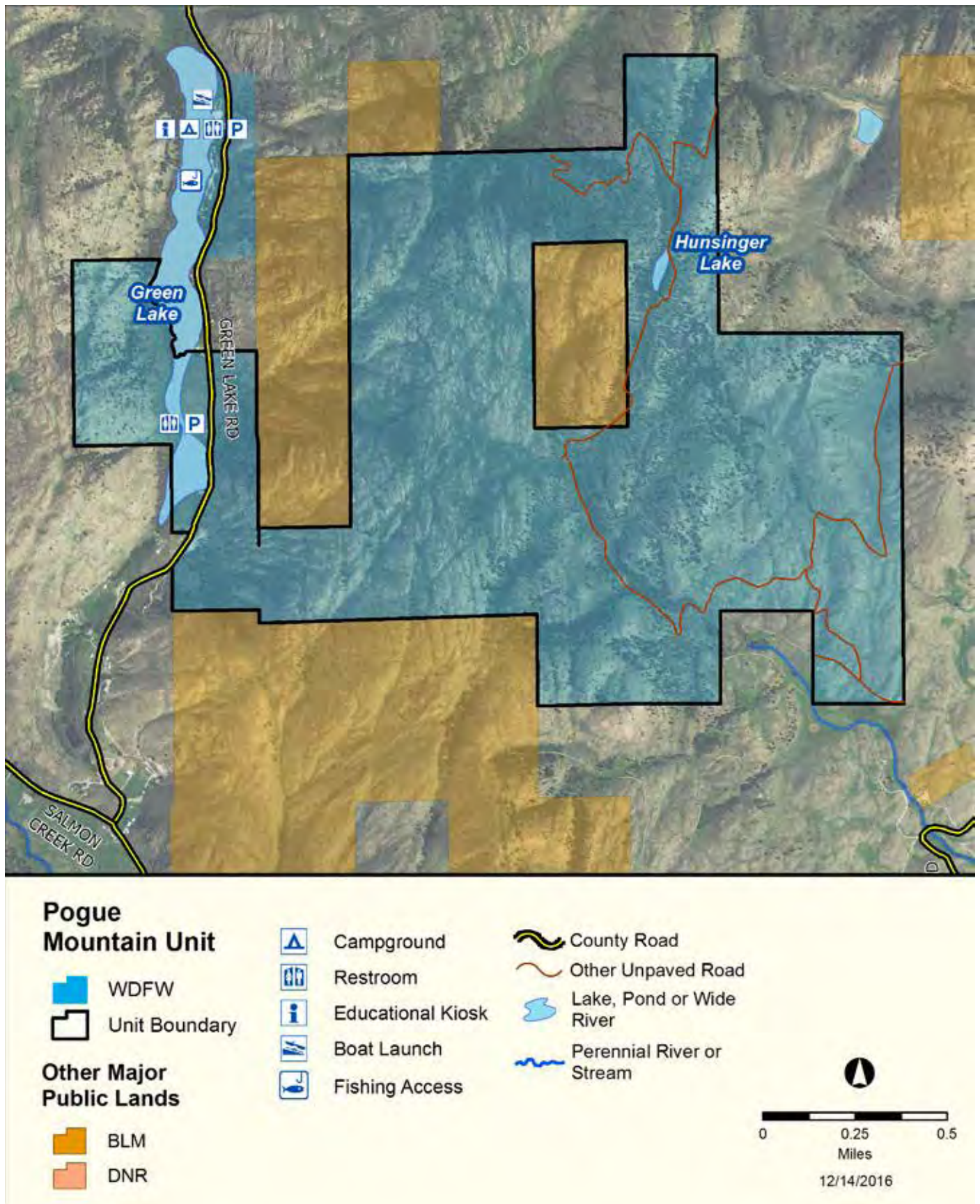
The northern and western portions of the unit burned severely in the 2008 Green Lake Fire, 2011 Salmon Fire, and the entire unit burned in the 2015 Okanogan Complex Fire. After the Salmon Fire, the remaining unburned timber was thinned and hazard trees along roads and trails were removed. The thinning helped some of the remaining green timber survive the Okanogan Complex Fire, but much of the shrub-steppe habitat was burned.

Public access to the site is via Green Lake Road and the Green Lake access site and campground (see Map 4). The hike from this side is rocky and steep and not recommended for horses. Those who brave the hike are rewarded with views of mountain tops, lakes, and the cities of Omak and Okanogan to the east. There is no public access to the site from Conconully Road.



Prairie Falcon
Photo by Justin Haug

Map 4. Pogue Mountain Unit



Tunk Valley Unit

Vision: *To protect and enhance the ecological integrity of riparian and shrub-steppe habitats beneficial to the recovery of the Columbian sharp-tailed grouse population and mule deer; and provide a quality and diverse outdoor recreational experience.*



Tunk Valley Unit
Photo by Jim Olson

GENERAL WILDLIFE AREA INFORMATION

Size	- 1,399 acres
Acquisition Date	- 1991, expanded in 2001
Acquisition Funding	- Washington State RCO, WWRP
Location	- T35N, R28E parts of Sections 7 & 18; T35N, R27E parts of Sections 11, 12, 13, 14 and 24
Elevation	- 1,800 - 3,400 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, and other non-motorized activities.
Access	- Seasonal road access to the upper elevations of this unit is open from June 1 – Dec. 15.

Located approximately 12 miles northeast of Omak in the Tunk Valley, the Tunk Valley Unit is situated east of the Okanogan River and north of the Colville Indian Reservation. The unit was purchased to protect native shrub-steppe and riparian habitat for Columbian sharp-tailed grouse conservation. Its gentle topography and generally north-facing aspect supports shrub-steppe habitat and a small stand of timber in the center of the property. Tunk Creek flows for about two miles through the unit and provides riparian habitat for a variety of species. It contains water birch, which is critical for wintering sharp-tailed grouse. As many as 64 sharp-tailed grouse have been observed along the creek during winter months.

The Tunk Valley Unit hosts a variety of species:

- Mule deer and white-tail deer are often seen throughout the unit.
- Woodpeckers and other cavity-nesting birds inhabit the small patches of conifers in the uplands and the riparian area along Tunk Creek.
- Various upland game birds occur, such as ruffed grouse, Hungarian partridge and California quail.
- Golden eagles, prairie falcons and various hawks can be spotted as can a variety of migratory and resident song birds.

- Brook trout and rainbow trout inhabit the creek.
- Western rattlesnakes, gopher snakes and common garter snakes are also common.

Historically, the unit was used for livestock grazing and agriculture. During that time, about 300 acres of native shrub-steppe were converted to agricultural production. In 2001, approximately 125 acres were restored utilizing Bonneville Power Administration (BPA) funds.

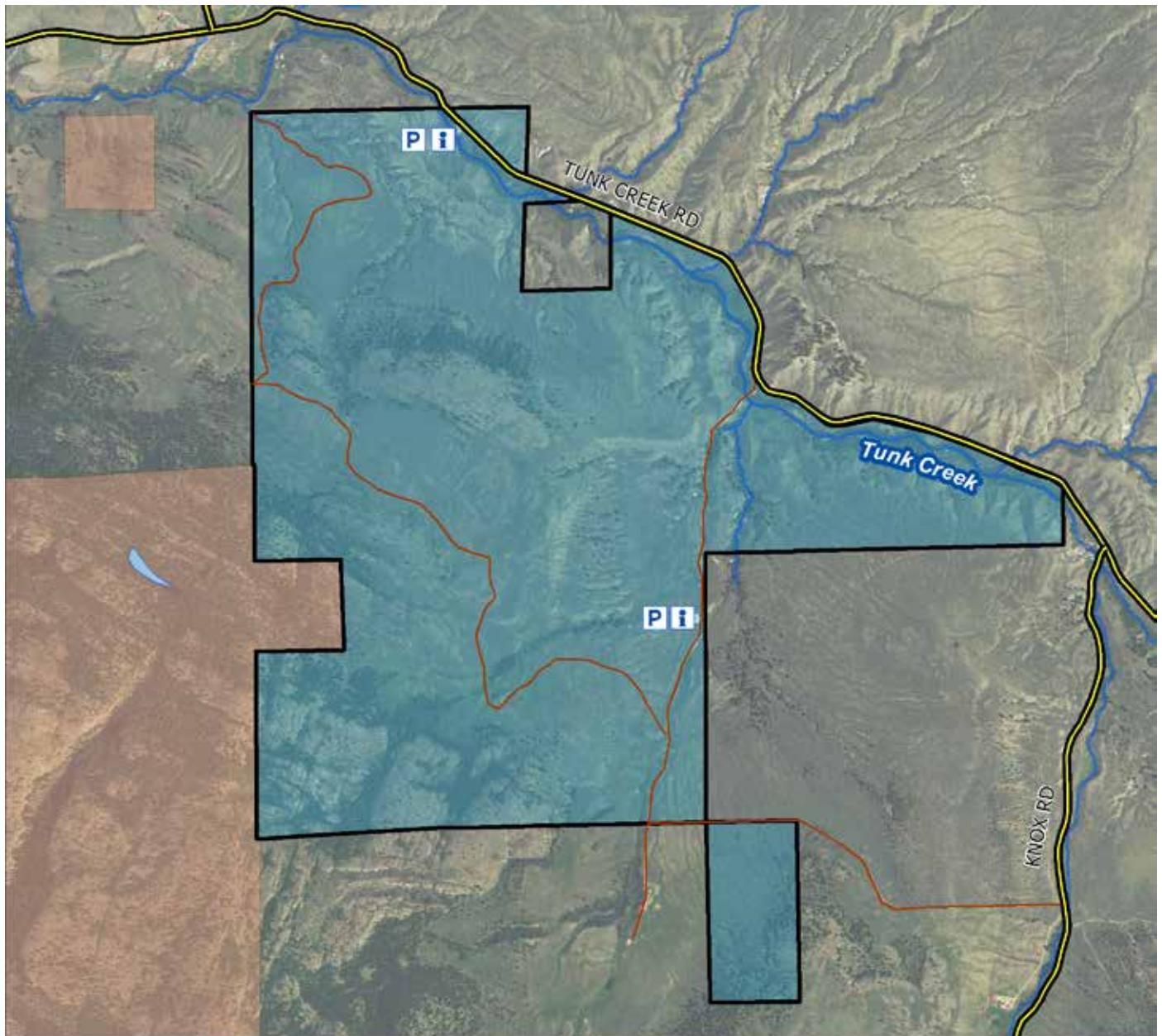
In 2015, the Okanogan Complex Fire completely burned the unit. Infrastructure damaged in the fire included 14 miles of boundary fence, two parking lot fences, and 2.5 miles of soil disturbance caused by bulldozers that were building a fire line.

There are two parking areas on the unit. The lower parking area is adjacent to the Tunk Valley Road (see Map 5). Further east on Tunk Valley Road near the west boundary is a steep, narrow, gravel road that exits the parking area to the south and leads to the upper parking area. This road is not suitable for vehicles with trailers. Four-wheel drive is recommended. The road is open from June 1 through Dec. 15.





Tunk Creek, Tunk Unit
Photo by Justin Haug

Map 5. Tunk Valley Unit





Tunk Valley Unit

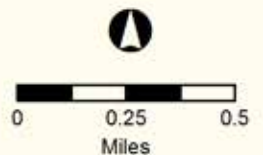
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  Parking Area
-  Educational Kiosk

-  County Road
-  Other Unpaved Road
-  Lake, Pond or Wide River
-  Perennial River or Stream



12/14/2016

Similkameen-Chopaka Unit

Vision: To protect and enhance the ecological integrity of riparian woodlands and shrub-steppe habitats critical to wintering herds of white-tailed and mule deer, while maintaining the social and economic benefits of open space and a working landscape. Continue to provide a quality outdoor recreational experience to all who visit this scenic wildlife area unit.



Similkameen - Chopaka Unit

Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 1,139 acres
Acquisition Date	- 2010-2012
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Bonneville Power Administration; Washington State RCO
Location	- T40N, R25E parts of Sections 8, 9, 11, 16, 17, 20, 21
Elevation	- 1,800 - 3,400 feet
Recreational Opportunities	- Hunting, hiking, and wildlife viewing. Other non-motorized enjoyment.
Access	- Old Chopaka Road, off of the Loomis – Oroville Road.

The Similkameen-Chopaka Unit is situated 18 miles west of Oroville along the Chopaka road. The Similkameen River forms the eastern boundary of the unit and is lined with cottonwood, aspen and alder trees. The unit is also bisected by Old Chopaka Road. Stands of conifers in the unit include ponderosa pine and Douglas fir. The unit was originally purchased for habitat connectivity and the protection of gray wolves, grizzly bear, and lynx.

This unit was established in December of 2010, when WDFW completed what was known as the “Cutchie” acquisition. This purchase included lands that became two separate wildlife area units: Similkameen-Chopaka and Ellemeham (will be addressed subsequently). These properties are managed separately because of their different habitat types and geographic separation.

The Similkameen River flows south into Okanogan County from Canada and often overflows its banks in the spring, flooding the cottonwood stands, and in some years the agriculture fields in the center of the unit. The majority of the Similkameen River is above a natural falls, a few miles upstream from its confluence with the Okanogan. Additionally, a hydro power dam was constructed immediately upstream from the falls in 1912.

The Similkameen-Chopaka Unit provides habitat for a variety of species:

- Known for white-tailed deer, but mule deer can also be found on the area.
- Bighorn sheep and some mountain goats can occasionally be seen.
- Various upland game birds, such as ruffed grouse, mourning dove, ring-necked pheasant and California quail, occur as do golden eagles, bald eagles, various hawks, and numerous owl species.
- Black bear and cougar occupy this unit.
- Each spring, the ponds and oxbows are used by trumpeter swans, Canada geese, dabblers, and diving ducks of all kinds.

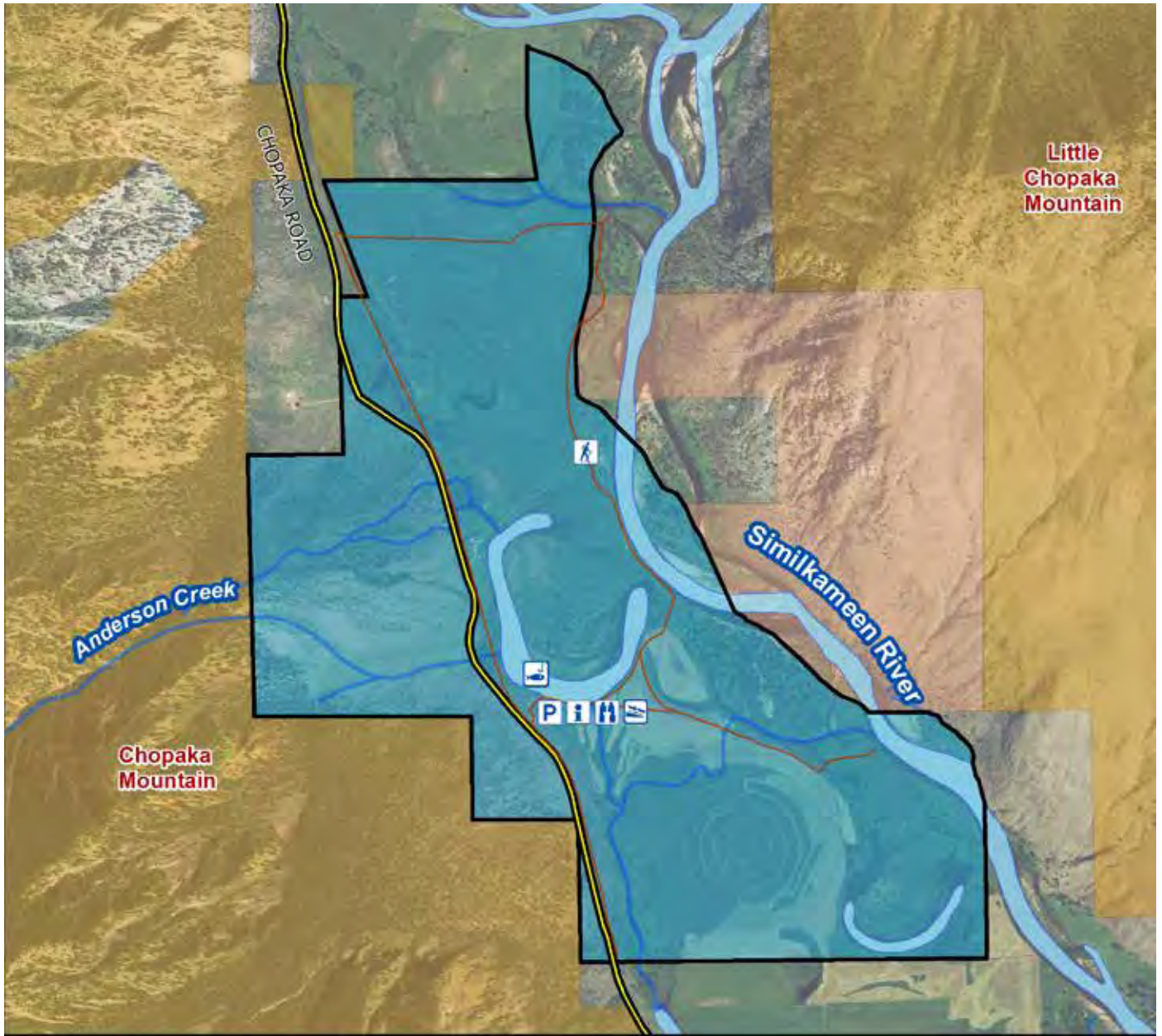
Lands to the north and south of the Similkameen - Chopaka Unit are privately owned and primarily used in hay production and cattle grazing. To the west are the steep slopes of Chopaka Mountain, in BLM ownership, rising to elevations of 8,000 feet at Hurley Peak. This provides a scenic backdrop to the lush valley bottom that is the Chopaka Unit.

The unit is situated at the bottom of the Similkameen Valley between the higher peaks of the Chopaka Mountains to the west and Little Chopaka Mountain to the east. Deciduous shrubs include hawthorn, willows, dogwood, rose and snowberry, and grasses dominated by introduced species (e.g. smooth brome). The center of the unit was historically farmed and is presently a grass/alfalfa hay field of approximately 305 acres. These fields are irrigated using center pivot systems and important water rights.



To the west and across the Chopaka Road is native shrub-steppe with sagebrush, rabbitbrush, and bitterbrush, with grasses including bluebunch wheatgrass, Idaho fescue, and wild rye. An invasive plant species, diffuse knapweed, has severely infested this area. In 2013, 750 bio-control agents (*Larinus minutus*) were released on this area to combat the knapweed problem. Stands of conifers at the base of Chopaka Mountain include ponderosa pine and Douglas fir.

Primary access to the unit is the Chopaka Road, which leads to several trail routes through meadows, cottonwood, and along the Similkameen River. The old railroad grade is maintained for public access where there is outstanding bird watching in dense riparian vegetation and ponds.

Map 6. Similkameen - Chopaka Unit







Similkameen-Chopaka Unit

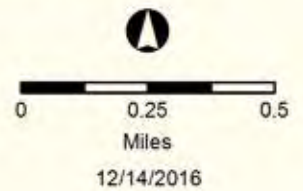
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  Parking Area
-  Educational Kiosk
-  Viewblind
-  Boat Launch
-  Fishing Access

-  County Road
-  Other Unpaved Road
-  Lake, Pond or Wide River
-  Perennial River or Stream



Charles and Mary Eder Unit

Vision: *To protect and enhance the ecological integrity of sagebrush-steppe habitats critical to wintering herds of white-tailed and mule deer; riparian habitats for migratory bird species and upper Columbia steelhead. Provide a high-quality outdoor recreation experience while preserving agricultural practices compatible with wildlife.*



Charles and Mary Eder Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 5,756 acres
Acquisition Date	- 2007 - 2008
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Bonneville Power Administration; Washington State RCO
Location	- T40N, R28E parts of Sections 20,19,18,08,07,06; T40N, R27E parts of Sections 26,24,23,15,14,13,12,11,10,3,2,1
Elevation	- 1,200 - 2,800 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, and other non-motorized activities.
Access	- From Eder Road, off of the Eastlake road, and off of the Chesaw road.

The Charles and Mary Eder (Eder) Unit is located three miles northeast of the town of Oroville. The unit shares its northern boundary with the International Canadian border, and provides habitat connectivity for gray wolves, grizzly bear, and lynx. Habitat within the unit is predominately shrub-steppe with riparian habitat along Nine-mile and Tonasket creeks. Low elevations and relatively mild winters attract large numbers of migratory deer, raptors, and other wildlife to the area.

The privately-owned Ninemile Ranch sub-division (20-acre parcels) borders the property on the east and south. Private lands to the west are primarily managed as fruit orchards. There is a 748-acre life estate in the center of the unit. The area includes five residences and numerous outbuildings, and is closed to public access until the end of the life estate.

The east half of the Eder Unit faces west and Ninemile Creek bisects the unit as it flows west toward Lake Osoyoos. Ninemile Creek serves as spawning and rearing habitat for Upper Columbia River steelhead, a species listed as federally threatened. Tonasket Creek follows the southern boundary of the unit, but natural barriers preclude downstream fish access to this part of the creek.

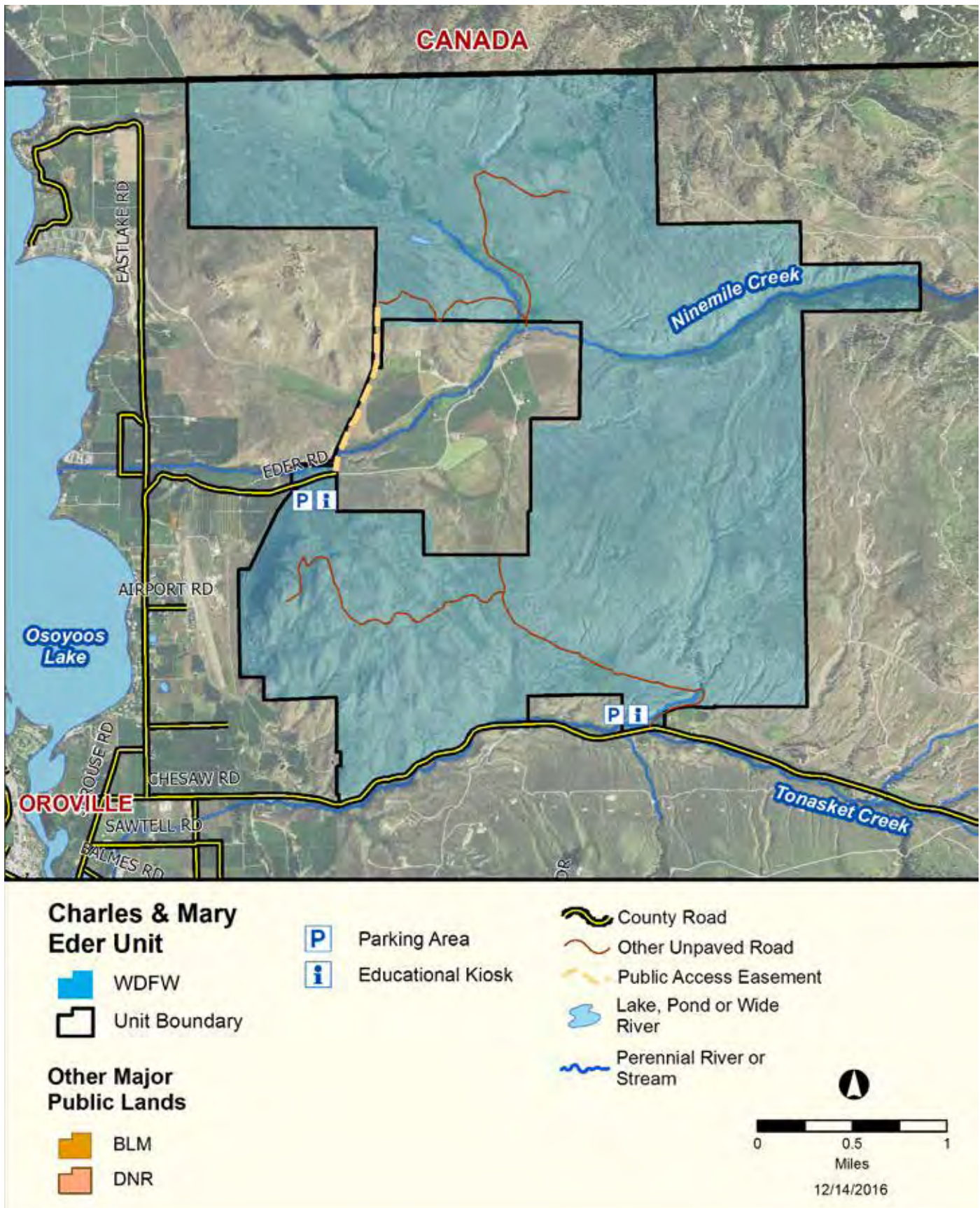
The Charles and Mary Eder Unit hosts a variety of species:

- The unit provides critical habitat for white-tailed and mule deer during the winter.
- Bighorn sheep, black bear, bobcat and cougar can occasionally be observed. In the 1950s, a grizzly bear was killed near Molson, about six miles to the east of the unit.
- Various upland game birds such as ruffed grouse use the riparian areas along Ninemile Creek and Tonasket Creek. Ring-necked pheasant, Hungarian partridge, California quail, chukar, and mourning dove can also be found. Historically, sharp-tailed grouse were present.

- A variety of shrub-steppe dependent species, including sage thrasher, long-billed curlew, Brewer's sparrow, lark sparrow and sage sparrow occur on the unit.
- Numerous migratory birds, such as western and mountain bluebirds, canyon wren, rock wren, bank swallow, tree swallow, rough-winged swallow, violet-green swallow, cliff swallow, and barn swallow, also can be spotted.
- Golden eagles, bald eagles, Swainson's hawk, red-tail hawk, and numerous owl species can be observed.
- Woodpeckers found on the unit include Lewis's, hairy, downy woodpeckers and red-naped sapsuckers.
- Small mammals, such as bats, Nuttall's cottontail rabbit, beaver and muskrat have been observed.
- Desert nightsnake (possibly), tiger salamander, spadefoot and western toad, and rubber boas are some of the reptiles and amphibians on this unit.
- Historically, bighorn sheep have been documented traveling through the unit between herds in British Columbia, Canada and Washington State.

The unit is known for white-tailed buck deer and mule deer and is managed for quality deer hunting. Six access permits are drawn each season per user group. No other deer hunting is allowed during this permit season.

Map 7. Charles and Mary Eder Unit



Ellemeham Unit

***Vision:** To protect and enhance the ecological integrity of Rocky Mountain aspen forest and woodlands and sagebrush-steppe habitats critical to wintering herds of mule deer, while maintaining the social and economic benefits of a working landscape. Provide quality outdoor recreational opportunities.*



Ellemeham Unit
Photo by Jim Olson

GENERAL WILDLIFE AREA INFORMATION

Size	- 1,462 acres
Acquisition Date	- 2010
Acquisition Funding	- Washington State RCO
Location	- T40N, R25E parts of Sections 8, 9, 16, 17, 20, 21
Elevation	- 1,200 - 3,000 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, and other non-motorized activities.
Access	- Off of the Ellemeham Mountain Road, halfway between Oroville and Wannacut Lake.

The Ellemeham Unit consists of 1,462 acres on Ellemeham Mountain, located 11 miles west of Oroville. The unit is predominately shrub-steppe interspersed with mature aspen groves. A fire in 1994 burned much of the mature aspen and stimulated new growth, resulting in trees that are now 20 to 25 feet tall. Ponderosa pine are scattered throughout the southwestern portion of the unit, associated with small ponds and intermittent streams. North-facing slopes support a high-quality bunchgrass/forb community dominated by bluebunch wheatgrass and interspersed with shrubby draws where serviceberry, wild rose and hawthorn grow. Some Russian knapweed and diffuse knapweed are present on the unit.

The Similkameen River flows southward into Okanogan County from Canada and subsequently eastward to join the Okanogan River. The Similkameen is the northern boundary of the Ellemeham Unit. Many fish species are found in the Similkameen River, including rainbow trout, brook trout, mountain whitefish, bridgelip sucker, largescale sucker, redbelt shiner, northern pikeminnow, peamouth chub, and torrent sculpin.

The Ellemeham Unit contains a variety of species:

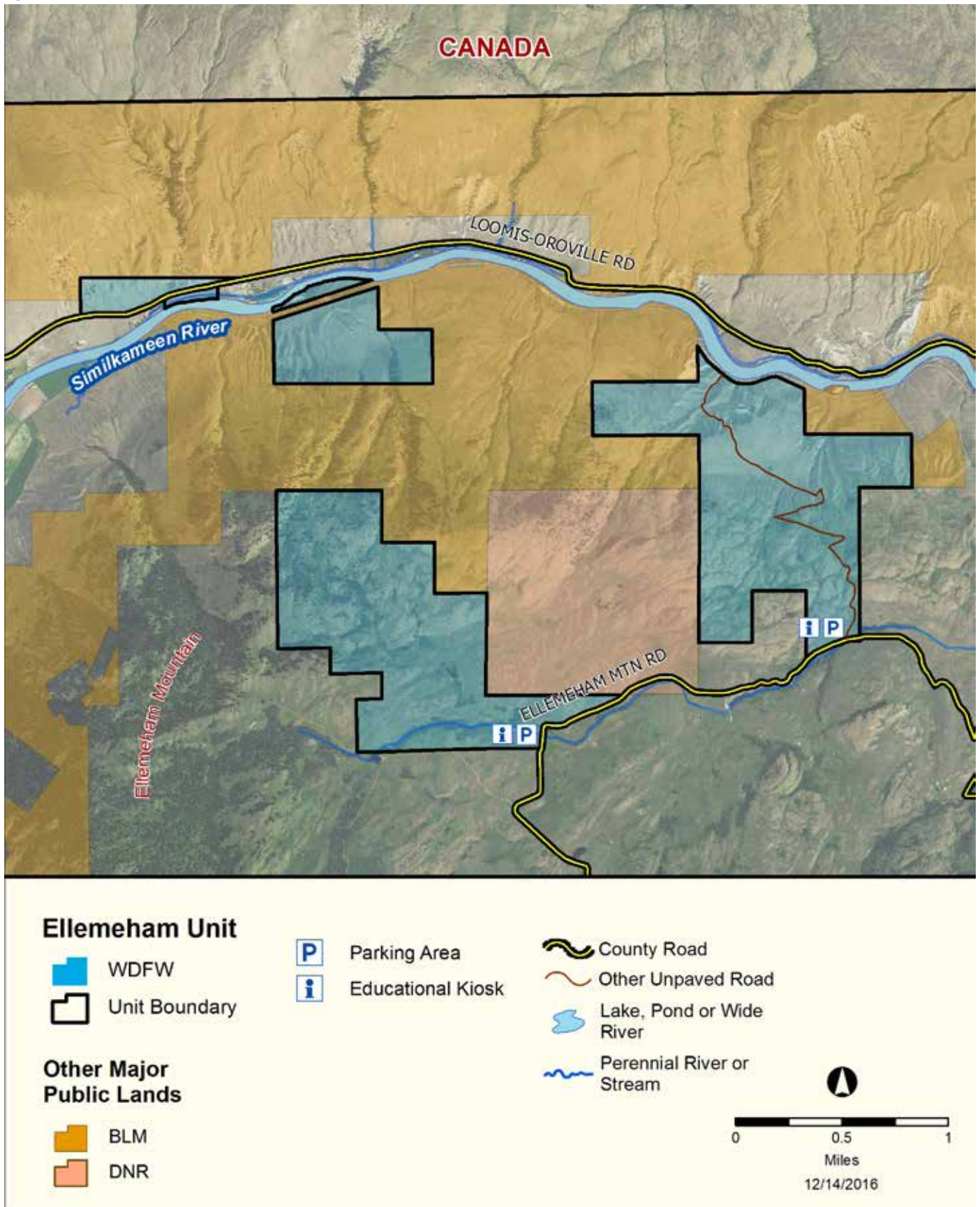
- Mule deer and white-tail deer are common on this unit.
- Black bear, bobcat and cougar can occasionally be seen.
- Various upland game birds such as ruffed grouse, Hungarian partridge, California quail, and chukar can be found here.
- A variety of shrub-steppe dependent species including sage thrasher, loggerhead shrike, Brewer's sparrow, lark sparrow, sage sparrow, and Swainson's hawk may occur in the unit.
- Numerous migratory birds, such as western and mountain bluebirds, canyon wren, rock wren, bank swallow, tree swallow, rough-winged swallow, violet-green swallow, cliff swallow, barn swallow, and chipping sparrow, as well as golden eagles, bald eagles, various raptors and numerous owl species can be observed.

- Woodpeckers found here include Lewis's, hairy, downy woodpeckers, piliated woodpecker and red-naped sapsucker.
- Small mammals such as various bat species, squirrels, mice and voles can be found.
- Western rattlesnakes, gopher snakes, and rubber boas are some of the reptiles on this unit.

The unit is surrounded by private property primarily used for cattle grazing. This area has small lots with recreational cabins. The unit is bordered by the Ellemeham Mountain Road (county) on the south and the Similkameen River on the north. Hiking and mule deer hunting are the primary recreational uses of the unit. Access is from Ellemeham Mountain Road, where two small parking areas with information boards are located (see Map 8).

Four parcels on Ellemeham Mountain are intermixed with other large blocks of public land, including land owned by BLM and DNR (see Map 8). The unit, along with land managed by the DNR and the BLM, forms a Coordinated Resource Management (CRM) area for livestock grazing that is currently leased to a single private party. Lease payments are utilized for management of the unit, primarily to implement weed control activities.

Map 8. Ellemeham Unit



Sinlahekin Wildlife Area



Sinlahekin Wildlife Area
Photo by Justin Haug

The Sinlahekin Wildlife Area is located in north central Washington in Okanogan County. The wildlife area consists of seven units totaling approximately 23,000 acres. The units include: Sinlahekin, Driscoll-Eyhott Islands, Buzzard Lake, Carter Mountain, McLoughlin Falls, Horse Spring Coulee and Chiliwist. Recreational opportunities include hunting, fishing, hiking, horseback riding, mountain biking, and butterfly and wildlife viewing. The focal species for management on this wildlife area include mule deer, white-tailed deer, bighorn sheep, ruffed grouse, dusky grouse, various upland game birds, songbirds, black bear, cougar, and pollinator species, such as native bees and butterflies.

Management activities include, but not limited to, habitat restoration, noxious weed control and infrastructure maintenance.

Sinlahekin Unit

Vision: *To protect and enhance fire-dependent ecosystems and species by implementing fuels reduction and prescribed burning projects while maintaining or restoring the ecological integrity of all native systems, preserving cultural heritage and providing a high-quality outdoor recreation experience.*



Sinlahekin Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 14,314 acres
Acquisition Date	- First acquisition 1939 (subsequent additions at later dates)
Acquisition Funding	- U.S. Fish and Wildlife Service, Pittman-Robertson, Section 6; Washington State RCO, WWRP
Location	- T36N R25E Sect. 10, 16, 22, & 35 Portions of 2, 3, 4, 9, 14, 15, 17, 21, 23, 26, 27, & 28 T37N R25E Portions of Sections 2, 3, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 33, & 34 T38N R25E Portions of Sections 13, 14, 15, 23, 24, 25, 26, 34, 35, & 36
Elevation	- 1,480 – 4,689 feet
Recreational Opportunities	- Hunting, fishing, camping, hiking, horseback riding, wildlife viewing, nature photography.
Access	- Numerous roads off Sinlahekin Road and Fish Lake Road.

Purchased in 1939 to protect mule deer winter range, the Sinlahekin Unit is the oldest WDFW wildlife area in the state. Located between Conconully and Loomis in northcentral Okanogan County, the unit consists of approximately 14,314 acres, which includes 3,300 acres owned by USFWS and DNR and managed by WDFW as part of the wildlife area. The unit lies within the Sinlahekin Valley, a deep, glaciated canyon with steep rock walls rising from a broad valley floor occupied by meandering Sinlahekin Creek. A variety of habitat types make up the wildlife area. Ponderosa pine woodland, shrub-steppe, and riparian areas make up the majority of the habitat. The unit is bordered by properties owned by DNR, United States Forest Service (USFS) and private individuals. Wildlife area staff work closely with bordering landowners to address common issues and management objectives.

The property is within both the Sinlahekin Creek and Coulee Creek watersheds. Sinlahekin Creek watershed includes all drainages and tributaries north, starting at Blue Lake and north to Sinlahekin Creek, Sarsapkin Creek, Cecile Creek, and several unnamed tributaries. Natural lakes, ponds, and manmade impoundments offer a variety of fishing and recreational opportunities. There are four impoundments in this system, which includes Forde Lake, Reflection Pond, Conners Lake, and Headquarters' driveway impoundment. Blue Lake, a historically natural lake, was enhanced in the late 1910s to early 1920s in an effort to use it as a storage reservoir by building a dam on the north end and diverting a portion of the flow from Sinlahekin Creek into Blue Lake. Blue Lake brings the highest draw of visitors to this watershed. With its quality trout fishing and picturesque setting, it's a very popular destination for visitors.

The Coulee Creek Watershed includes Spikeman Creek, Gibson Creek, Hicks Canyon (aka Sasse Pond drainages), Fish Lake and Coulee Creek Canyon. Within Coulee Creek there is an impoundment, Schalow Pond, and a natural lake, Doheny Lake, two miles south of Fish Lake. Fish Lake is this watershed's largest aquatic feature, bringing its own unique fishery and scenic views. Camping is plentiful around Fish Lake. Numerous developed and primitive campgrounds can be found on all shores.

Sinlahekin unit provides habitat for a diverse array of species, including:

- 187 species of birds;
- 88 species of butterflies;
- 45 mammal species;
- 13 reptile & amphibian species;
- 559 different vascular plants, eight of which are rare and one that is listed as a threatened species in the state.

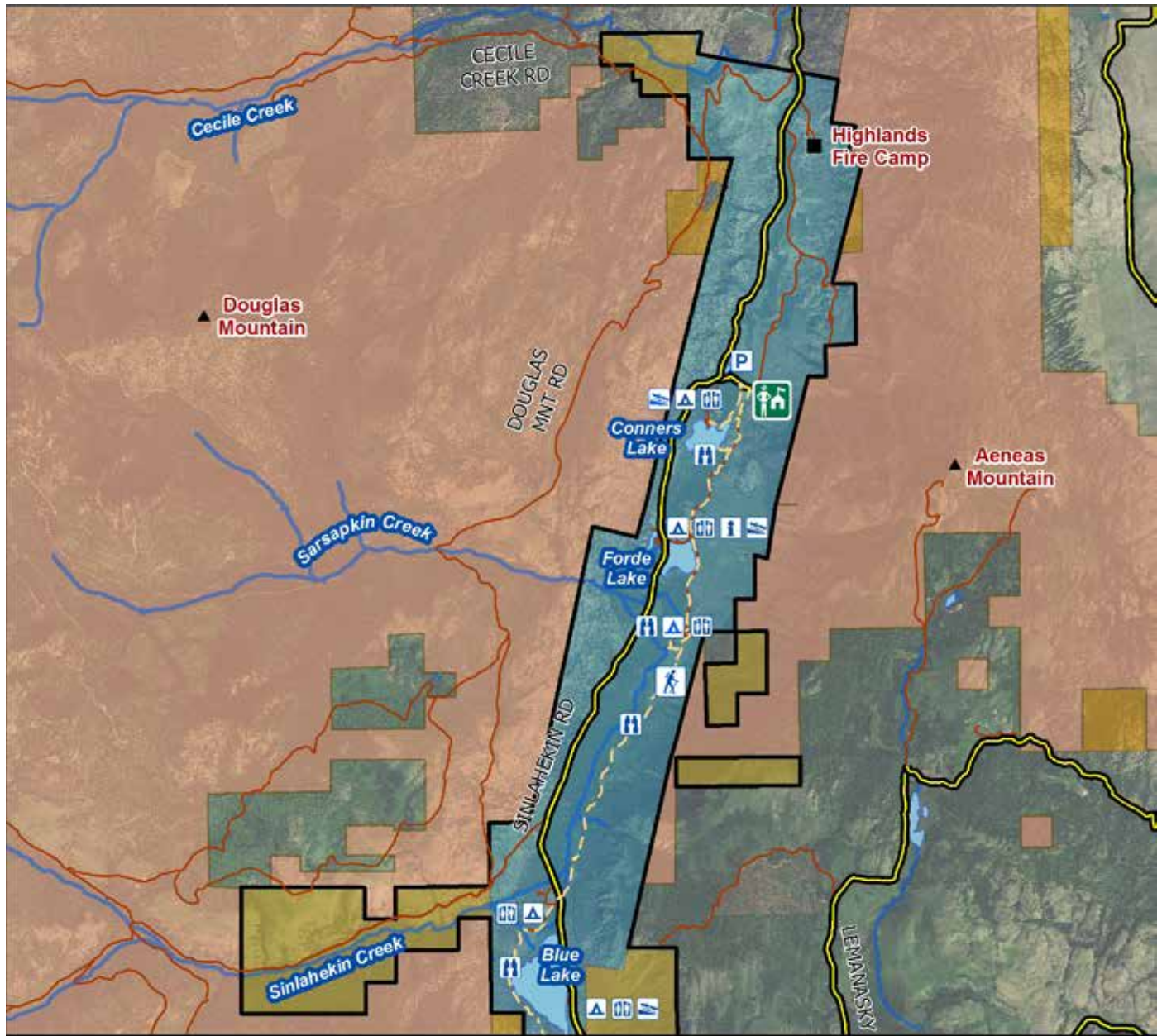
For comprehensive lists of plant and animal species, visit http://wdfw.wa.gov/lands/wildlife_areas/sinlahekin/Sinlahekin/.

Fifty acres of the unit are farmed for alfalfa or a mix of grass and alfalfa. There are four grazing permits scattered throughout the unit that are used to manipulate habitat and increase forage for mule deer and other wildlife.



In August of 2015, the Lime Belt Fire, part of the Okanogan Complex Fire, burned onto the Sinlahekin and burned approximately 7,000 acres (51 percent) of the wildlife area from the southern boundary in Doheny Basin to Sinlahekin Creek just north of Blue Lake. It was a mixed severity burn, with extreme fire behavior in some locations and slow creeping in others. However, recovery has been positive, with native grasses and forbs flourishing in most locations after the fire. Recent fuels reduction and prescribed burning prior to the wildfire aided in slowing the fire and in some cases stopping the fire completely. WDFW crews have been working to limit noxious weed infestations on these newly disturbed areas. They are also replenishing the bio-control agents released in years past to control infestations of diffuse knapweed and Dalmatian toadflax.

Recreational opportunities are diverse. Hunting and fishing are very popular activities most of the year. Mule deer, white-tail deer, black bear, and upland birds offer the majority of hunting opportunities. Anglers can fish for a great variety of species including rainbow trout, eastern brook trout, tiger trout, westslope cutthroat, and various warm-water fishes. Nearly 30 campsites, some developed and some primitive, offer users opportunities for extended stays. Hiking can be scattered and off-trail but there are also developed trails, such as the Dave Brittell Memorial Trail or the Coulee Creek Trail, which starts near Fish Lake and ends within the Scotch Creek Wildlife Area. The different landscapes within the unit offer unique opportunities to view and photograph a broad range of landscapes and wildlife.

Map 9. Sinlahekin Unit - North









Sinlahekin Unit (North)

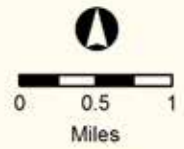
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

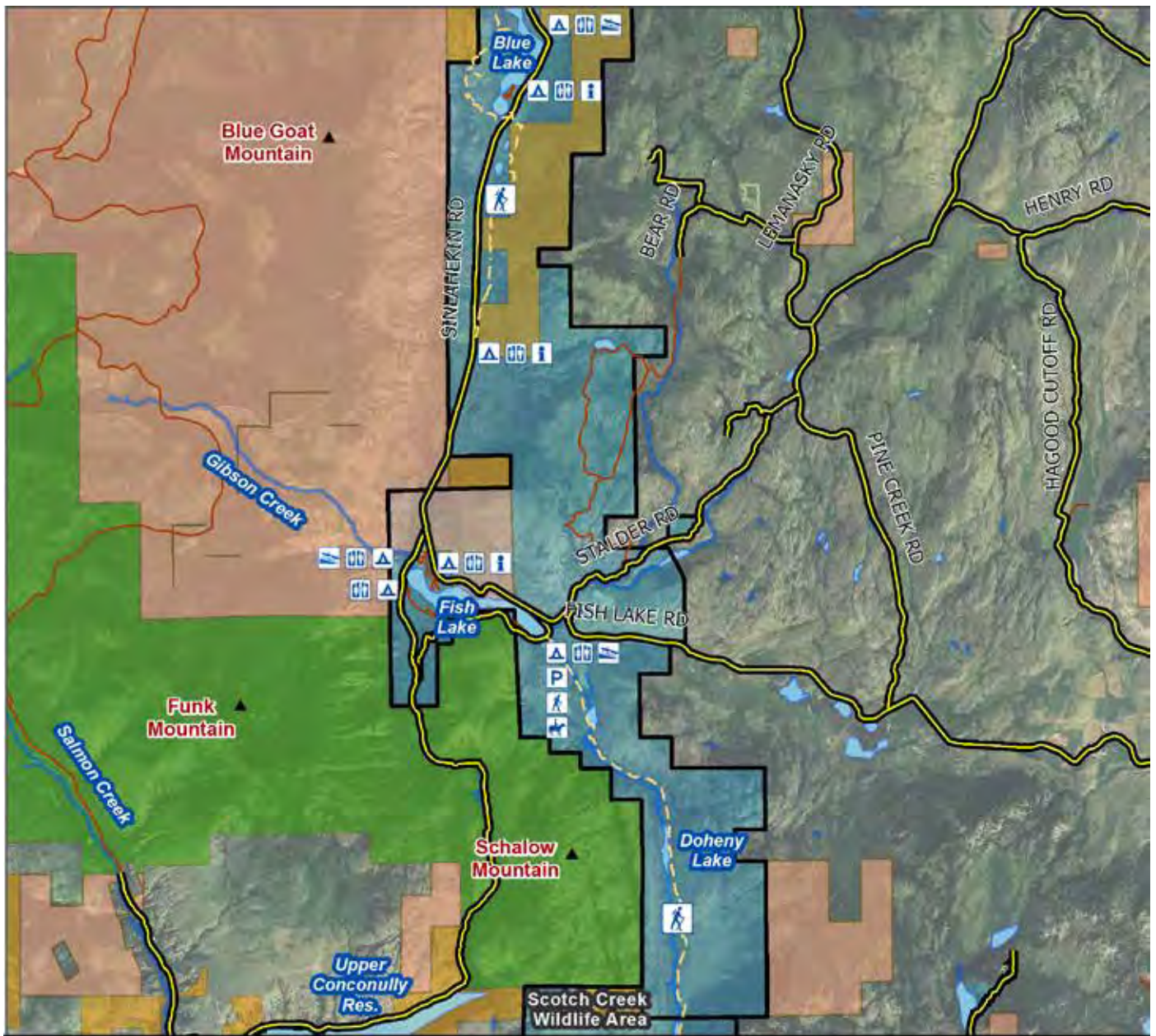
-  Office
-  Parking Area
-  Campground
-  Restroom
-  Boat Launch
-  Hiking Trail
-  Educational Kiosk

-  County Road
-  Other Unpaved Road
-  Designated Trail
-  Lake, Pond or Wide River
-  Perennial River or Stream





11/16/2016




Map 10. Sinlahekin Unit - South



Sinlahekin Unit (South)

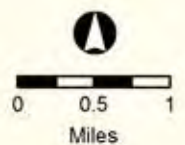
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR
-  USFS

-  Parking Area
-  Campground
-  Restroom
-  Boat Launch
-  Hiking Trail
-  Horseback Riding
-  Educational Kiosk

-  County Road
-  Other Unpaved Road
-  Designated Trail
-  Lake, Pond or Wide River
-  Perennial River or Stream



11/16/2016

Driscoll-Eyhott Island Unit

Vision: *To maintain and improve riparian habitat for the benefit of salmon and steelhead and continued management for quality recreation such as upland bird hunting and fishing opportunities while preserving agricultural practices and community character for future generations.*



Driscoll-Eyhott Island Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION

Size	- 325 acres
Acquisition Date	- 1974 + 2007
Acquisition Funding	- Washington State RCO, SRFB
Location	- T39N R27E Portions of Sections 3, 4, 9, &10 T40N R27E Portions of Sections 33 & 34
Elevation	- 925 – 935 feet
Recreational Opportunities	- Fishing, upland bird hunting, hiking, bird watching, and wildlife photography.
Access	- Parking area west of Hwy 97 across railroad tracks.

The Driscoll-Eyhott Island Unit consists of 325 acres of riparian, upland and wetland habitat located one mile south of Oroville, at the confluence of the Similkameen and Okanogan rivers. Driscoll Island was purchased in 1974 with funding from RCO specifically for the management of Canada geese. Eyhott Island, just south of Driscoll, was added in 2007 with grant funding from the Salmon Recovery Funding Board. Driscoll Island and Eyhott Island each have an agricultural lease. Both are for hay production, however the Driscoll Island lease includes grain crops around the periphery for upland birds. The unit has large stands of black cottonwoods and dense riparian vegetation consisting of hawthorne, red-osier dogwood, willow, snowberry, and native rose, providing important habitat to various species. The rare plant many-headed sedge (*Carex sychnocephala*) was also documented on the island.

The Driscoll-Eyhott Island Unit is bordered by the Similkameen River on the west and the Okanogan River on the east. The two converge on the southern end of Eyhott Island. To the north of Driscoll Island is an east-west channel that connects the two rivers. A smaller channel separates Driscoll from Eyhott Island. Depending on snowpack and spring runoff, both islands can get partially inundated by high water during the spring and early summer. The unit also contains a number of seasonal “overflow” channels and depressions. The rivers contain a variety of fish species: summer Chinook, sockeye, Upper Columbia steelhead (federally listed as a threatened species), Pacific lamprey and smallmouth bass. Other fish species include: whitefish, prickly sculpin, longnose dace, bridgelip sucker, peamouth chub, northern pikeminnow, and redbelly dace.

The Driscoll-Eyhott Island Unit contains a variety of species:

- Monarch butterflies may be observed during the summer and early fall.
- Mule deer and white-tailed deer inhabit the island year-round.
- Bald eagles, golden eagles, northern harrier, red-tailed hawks, kestrels, occasional sharp-shinned hawks, Cooper’s hawks and goshawks may be observed, as

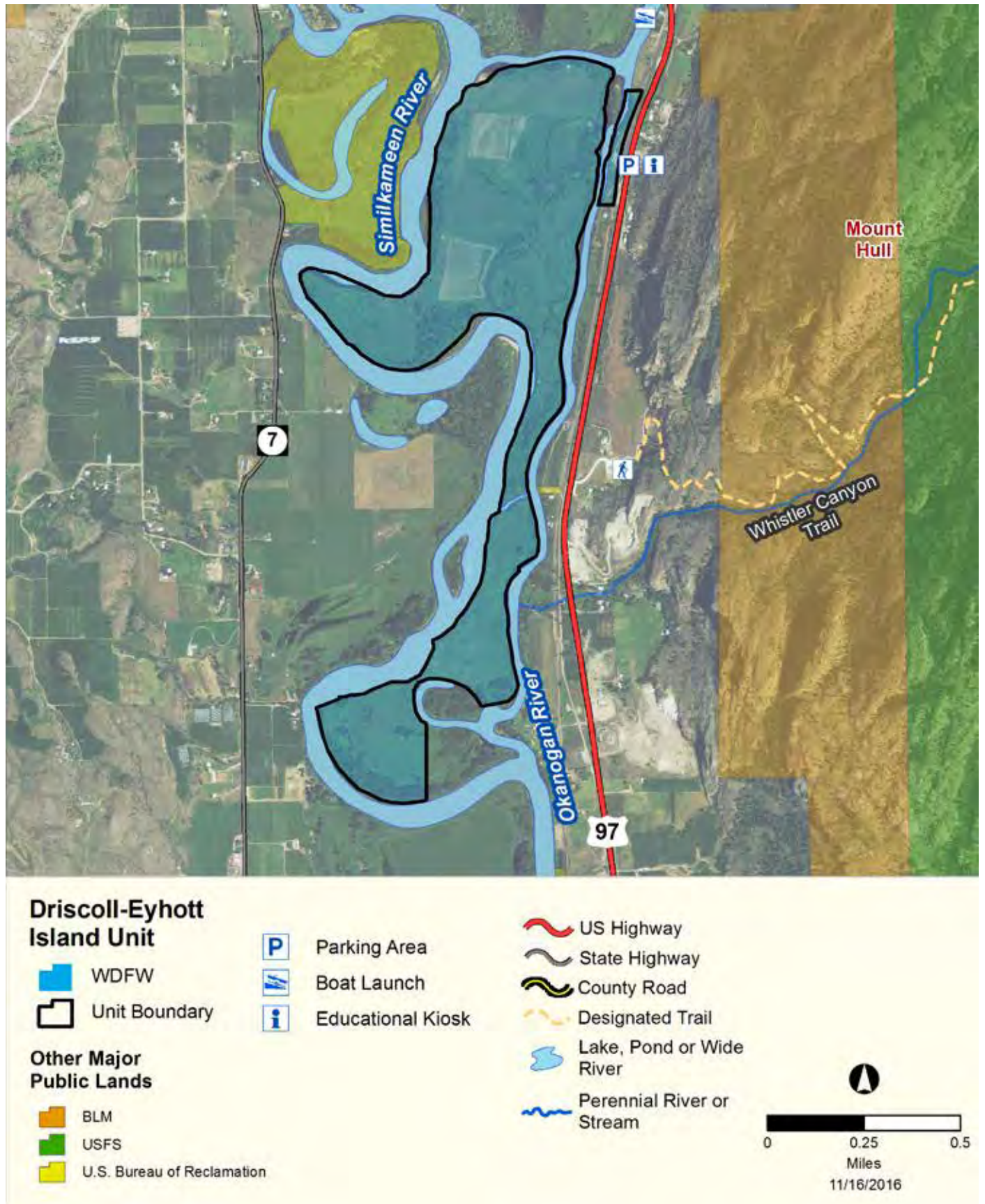
well as Canada geese. Also, great horned owls, saw whet owls, pygmy owls, and the occasional barn owl may be seen.

- A variety of songbirds may be seen on the unit.
- Summer Chinook, sockeye salmon and Upper Columbia steelhead, which are listed federally as a threatened species, use the adjacent rivers at various times.
- Upland bird species such as ring-necked pheasant, Hungarian partridge, and California quail inhabit the area, allowing for hunting opportunities.

The Driscoll-Eyhott Island Unit is popular with upland bird hunters seeking ring-necked pheasant (released annually nearby) and California quail. Upland bird feeders are filled each winter on the island to increase the survival of game birds. The area is also managed to improve salmon and steelhead species. Riparian improvement projects have been implemented to stabilize eroding river banks and increase shade along both rivers. Summer Chinook, sockeye salmon, and threatened Upper Columbia steelhead are important species adjacent to the unit.

Access to the island can be difficult for users since the only access is by wading or boating across the Okanogan River. High water during the spring and early summer make access only possible with a boat. During periods of low water, users can wade the river crossing north of the parking area. Vehicle access is limited to agency staff and the agricultural lessees. A footbridge is necessary to improve access to the island. Despite efforts for decades, funding thus far has been elusive. Efforts will be continued to seek funding to construct a bridge.

Map 11. Driscoll - Eyhott Island Unit



Buzzard Lake Unit

Vision: To provide an enjoyable recreational experience by providing functional habitats to hunt, fish, and provide watchable wildlife for future generations while improving the ecological integrity of numerous unique ecosystems.



Buzzard Lake Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 840 acres
Acquisition Date	- 2008
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Washington State RCO, WWRP
Location	- T34N R25E Portions of Sections 16, 17, 20, 21, 28, & 29
Elevation	- 3,380 – 4,310 feet
Recreational Opportunities	- Fishing, hunting, camping, hiking, horseback riding, wildlife viewing/photography.
Access	- Via Buzzard Lake Road, Windy Hill Road or Arlington Ridge Road.

The Buzzard Lake Unit consists of approximately 840 acres located 12 miles west of the city of Okanogan. The property was purchased in 2008 for the protection of grizzly bear, gray wolf, lynx and wolverine; and critical mule deer habitat. In addition, this unit provides protection of open space, such as the lake and riparian habitats nearby. Steep hillsides surround the valley bottom lined with aspen. Buzzard Lake is situated on the edge of a large meadow. The property is bordered by DNR property on the west side and private property on the north, south and east. The dominant habitat in this area is mixed coniferous forest consisting of Douglas fir, ponderosa pine, western larch and lodgepole pine. Patches of aspen are widely scattered throughout the unit, as well as disperse shrub-steppe habitat on drier sites and south-facing slopes.

As its name suggests, the Buzzard Lake Unit is named for the 12-acre Buzzard Lake, which lies at the bottom of a narrow valley between Neville Ridge and Wright Mountain. The lake is fed by small intermittent tributaries to the north of the lake. Little Loup Loup Creek flows from the south end of Buzzard Lake. Various smaller, seasonal creeks run toward the lake from the west and north and usually dry up before mid-summer. There are also a few wetlands or marshes within the unit which provide habitat and cover to a variety of species.

The Buzzard Lake Unit contains a variety of different species:

- Moose are commonly seen near the lake and surrounding wetlands.
- Mule deer inhabit the area during a significant portion of the year.
- Black bears are regularly seen in the late spring through the fall.
- Numerous butterflies can be viewed in the meadow north of the lake.
- Rudy, redhead, goldeneye, and ring-neck ducks can be seen on the lake.

In 2015, the Okanogan Complex Fire burned through the entire Buzzard Lake Unit. It was a mixed severity burn, where some areas were scorched to mineral soil and other areas were lightly burned. In general, recovery has been

quick and the re-vegetation of the landscape has been vigorous. Crews have been spraying noxious weeds to limit the expanse of new infestations into the newly disturbed ground and boundary fences have been surveyed for reconstruction.

Approximately 600 of the acres are grazed annually within a larger permitted area that includes surrounding DNR and BLM permits. The lake, surrounding meadow, and nearby wetlands are excluded from this permit and have recovered significantly since WDFW acquired the property.

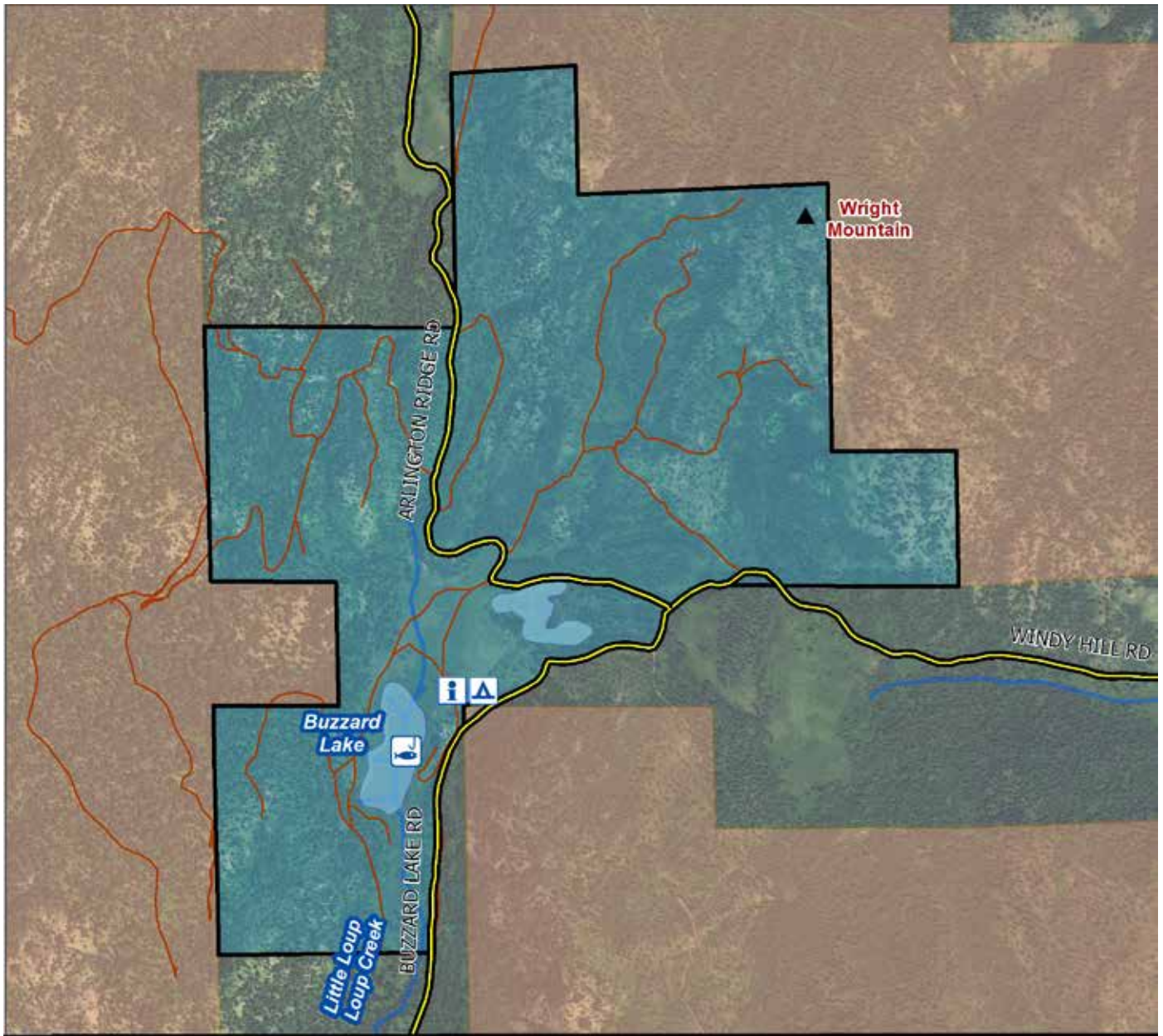
Anglers can retain large trout at Buzzard Lake, making this a very popular fishing option and drawing a significant number of visitors each year. Camping, hunting and hiking are also popular activities. Access to the property can be made from Buzzard Lake Road, Windy Hill Road, or Arlington Ridge Road to the south. The most common access to the property is from Buzzard Lake Road, which leads north from Highway 20 just west of the Leader Lake Campground turnout.

Various improvements have been made since acquisition. With aid from Aquatic Lands Enhancement Account (ALEA) funds, Okanogan Fly-fishing Club, and Friends of Buzzard Lake, designated camping was provided near Buzzard Lake. Fencing, signage, and fire rings were constructed to improve usability and stop dispersed camping into the sensitive meadow and wetlands north of the camping area. Future plans are to add a vault toilet and improved boat access.





Black bear
Photo by Justin Haug

Map 12. Buzzard Lake Unit





Buzzard Lake Unit

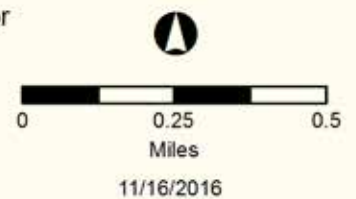
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  Campground
-  Fishing Access
-  Educational Kiosk

-  County Road
-  Other Unpaved Road
-  Lake, Pond or Wide River
-  Perennial River or Stream



Carter Mountain Unit

Vision: To recover critical mule deer winter range by improving the ecological integrity of sagebrush-steppe habitats while maintaining access to hunters, hikers and other wildlife-oriented user groups.



Carter Mountain Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 1,971 acres
Acquisition Date	- 2008 - 2012
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Washington State RCO, WWRP
Location	- T36N R26E Portions of Sections 1, 2, 11, 12, 13, 14, 23, & 24 T36N R27E Portions of Sections 6, 7, & 18 T37N R26E Portion of Section 35
Elevation	- 990 – 2,020 feet
Recreational Opportunities	- Hunting, hiking, horseback riding, wildlife viewing, and bird watching.
Access	- Just off Hwy 97 and adjacent to North Pine Creek Road.

The Carter Mountain Unit includes approximately 2,000 acres located seven miles south of Tonasket. An additional 240 acres of land owned by BLM are located within the unit's boundaries. The property was purchased in phases from from 2008 through 2012 for the protection of rare carnivores (grizzly bear, lynx, gray wolves) and mule deer wintering habitat. The unit is surrounded by private property except for a portion on the northern boundary which is DNR land. The terrain varies from broad valleys to rugged, rocky hillsides. Habitat types include shrub-steppe, riparian, and small pockets of ponderosa pine savanna and dry-mixed conifer forest.

There are two unnamed creeks that flow through the Carter Mountain Unit. Both creeks flow from west to east through the unit and disappear underground before reaching the eastern boundary. The creeks maintain robust riparian vegetation in places that provide shelter for a number of bird and mammal species. No fish species have been identified within these systems. This unit also has a few seasonal ponds near the northwest corner that provide watering sources for wildlife.

The Carter Mountain Unit contains a variety of different species:

- Mule deer can be viewed year round and are common within this unit.

- Ruffed grouse and various songbirds can be seen along riparian areas.
- Wildflowers are plentiful during the spring and early summer.
- Cougar and black bears are known to be present.
- Golden eagles, bald eagles, and various raptors inhabit the unit as well.

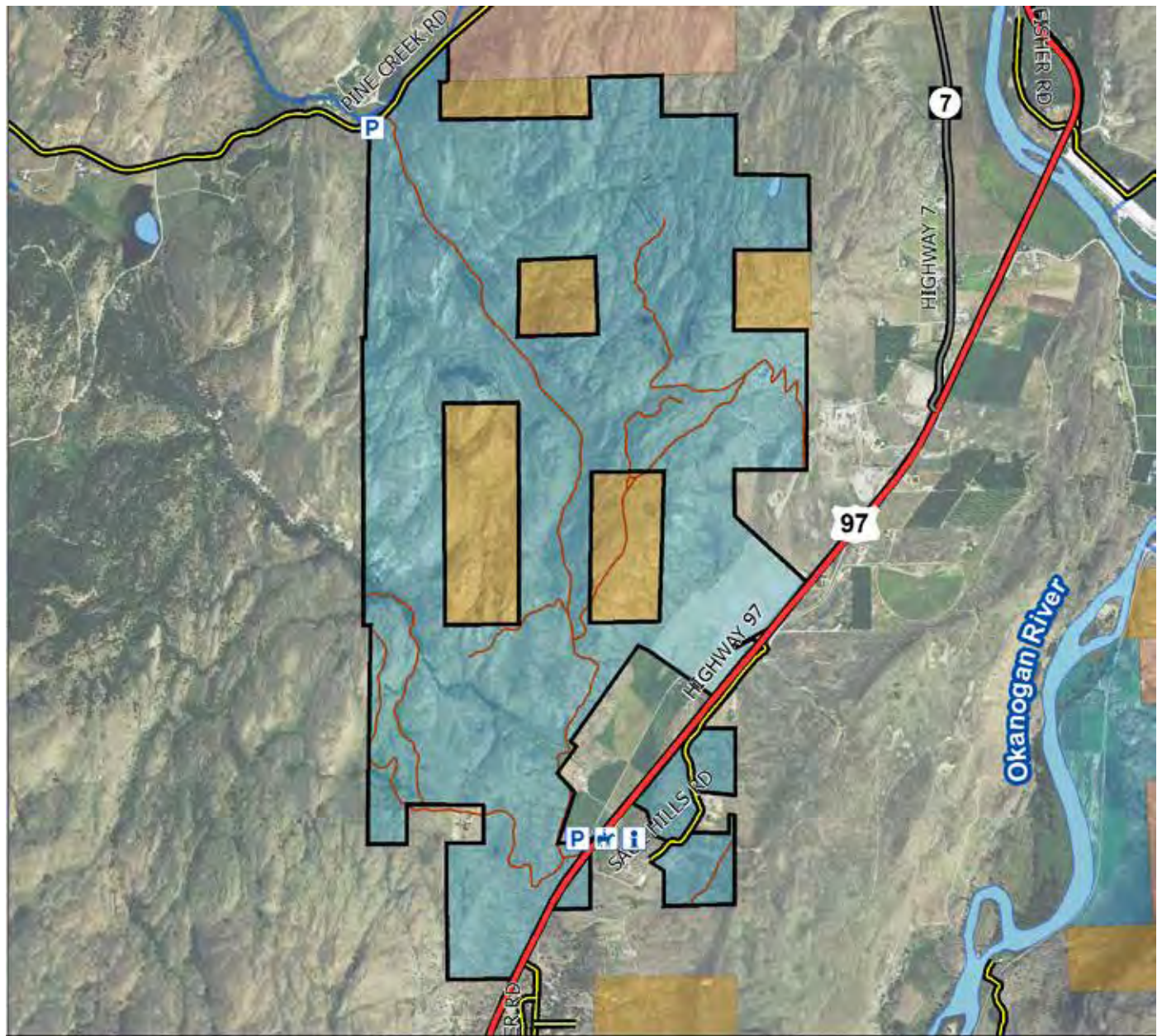
A grazing permit has been in effect since the properties' acquisition to improve forage for wintering mule deer populations. An agricultural lease exists on the unit, but the water right has been sold off the property, leaving limited agricultural opportunities.

Mule deer hunting draws a large number of hunters in the fall. Horseback riding is another popular activity. Riders use old two-track roads for trails as well as cattle trails that crisscross through the unit. Access to the unit can be made from just off Highway 97, where there is a developed parking area and a smaller parking area adjacent to North Pine Creek Road. The Highway 97 access was built with funding from the Okanogan Chapter of the Backcountry Horsemen and the Okanogan Trails Chapter of the Mule Deer Foundation.





Carter Mountain Unit
Photo by Justin Haug

Map 13. Carter Mountain Unit






Carter Mountain Unit

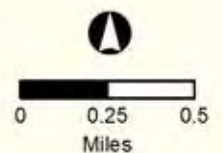
-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  Parking Area
-  Educational Kiosk
-  Horseback Riding

-  US Highway
-  State Highway
-  County Road
-  Other Unpaved Roads
-  Lake, Pond or Wide River
-  Perennial River or Stream



11/16/2016

McLoughlin Falls Unit

***Vision:** To protect and enhance the ecological integrity of riparian and sagebrush-steppe habitats beneficial to listed salmon species and mule deer respectively, while maintaining the social and economic benefits of a working landscape.*



McLoughlin Falls Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION

Size	- 165.5 acres
Acquisition Date	- 2012
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Washington State RCO, SRFB
Location	- T36N R27E Portions of Sections 16 & 21
Elevation	- 860 - 1,600 feet
Recreational Opportunities	- Hunting, fishing, hiking and wildlife viewing.
Access	- Access via the Okanogan river only.

Located six miles south of Tonasket, the McLoughlin Falls Unit was established for the protection of wide-ranging carnivores; protection and enhancement of riparian and big game habitat. Riparian woodlands can be found along the shores of the Okanogan River, which flows along the western boundary of the unit. Sagebrush shrub-steppe and pine woodland cover much of the unit uplands and benefit ungulates, such as mule deer. Both habitats are considered priority by WDFW. The unit is managed to preserve and restore these habitats, protect species diversity and native plant communities, and provide recreational and commercial opportunities.

The area is bordered by DNR property to the east and BLM property to the north and south. The wildlife area is also bordered by private property to the south and the Okanogan River borders to the west. WDFW and the Colville Tribe have a mutual interest in land protection in this segment of the Okanogan River, as it's considered a crucial north-south and east-west corridor with habitats essential for landscape connectivity for fish and wildlife. Projects and initiatives within this area between various organizations are ongoing and seek to conserve and improve habitats within these corridors.

The McLoughlin Falls Unit is entirely within the Okanogan Valley, and the Okanogan River meanders north to south. The terrain gets significantly more rugged here, with vertical rock walls to the east and varying expanses of floodplain surrounding the wildlife area unit. Aspects found on the unit are mostly westerly or southerly, containing significant areas of flat agricultural lands. These slopes range from level ground to vertical rock cliffs.

The foremost aquatic feature of the McLoughlin Falls Unit is the Okanogan River, which borders the unit to the west for approximately one mile. McLoughlin Falls itself tumbles through the canyon a half mile south of the unit. The river contains areas of thick riparian vegetation on the north end, providing shade to salmonid and other river fish species and shelter for birds and mammals. The unit also has a seasonally wet, former channel where the western painted turtle can be found sunning occasionally. There is also a perennial wetland east of the railroad tracks (which run down the middle of the unit) where a number of dabbling ducks, shorebirds, and songbirds can be found throughout the spring, summer and fall.

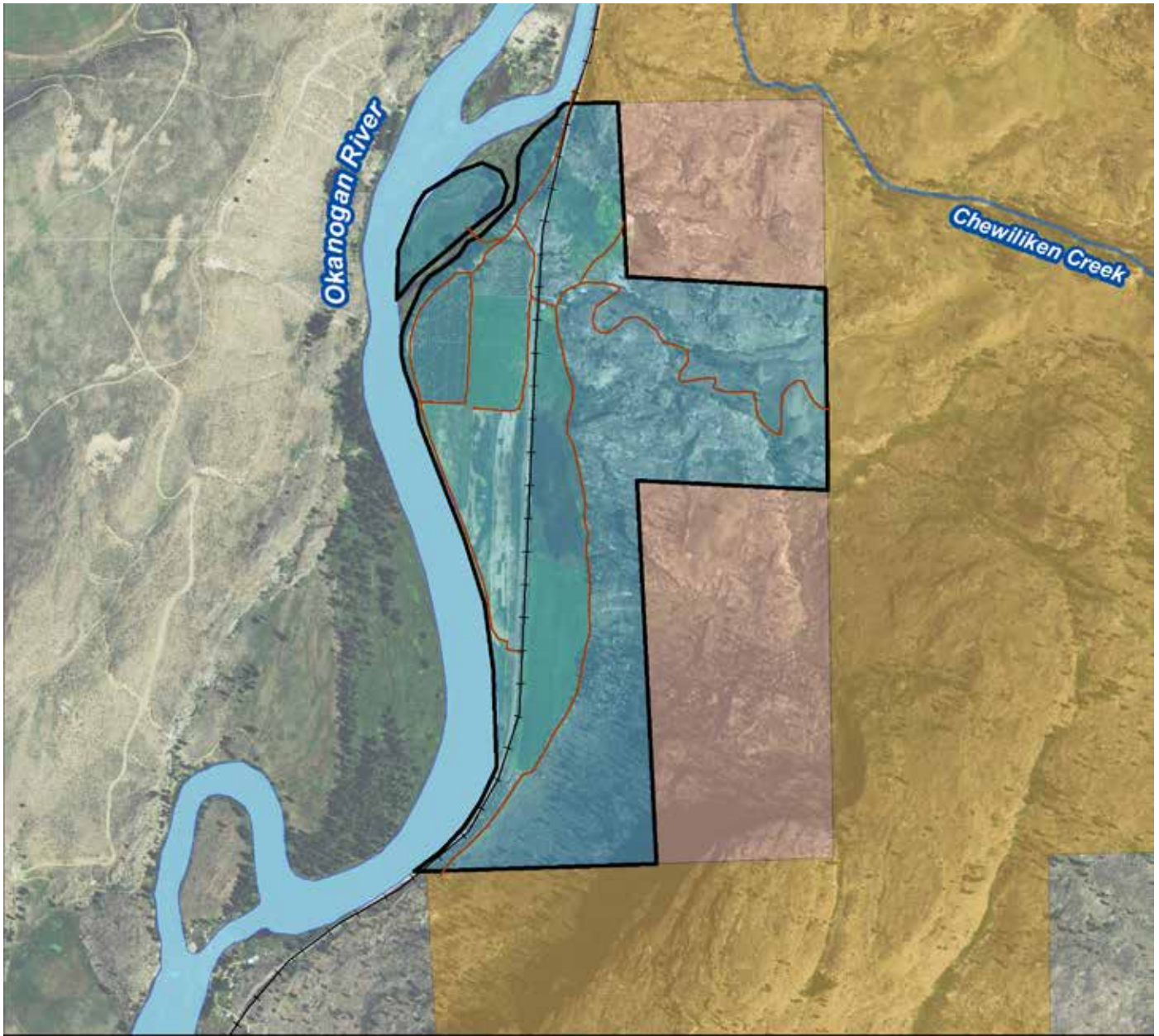
The McLoughlin Falls Unit hosts a diverse mix of fish and wildlife species:

- Observed mammals on the wildlife area include: mule deer, white-tailed deer, black bear, coyote, yellow-bellied marmots, and beaver. Bighorn sheep have been observed on and near the unit (traveling between herd).
- Observed birds include: bald eagles, Coopers hawk, merlin, Lewis's woodpecker, California quail, ruffed grouse, and various song birds which use the area as a north-south corridor during migration.
- Western rattlesnakes, gopher snakes, and common garter snakes have been observed. Western painted turtles can be observed in the wetlands adjacent to the river.
- Various butterflies, bees, and other insect species have been observed on the wildlife area.
- The Okanogan River holds a number of species including: Chinook and sockeye salmon, steelhead, rainbow trout, smallmouth bass, and pacific lamprey.



In August 2015, the Tunk block of the Okanogan Complex Fire burned a significant portion of the McLoughlin Unit. Much of the area burned a decade ago, so impacts to the various habitats were minor. Habitat recovery has been quick and native bunchgrasses and forbs have flourished after the fire. However, the fire destroyed the hay barn and various fences on the unit. Funding may come from Federal Emergency Management Agency to replace those damaged structures.

Recreational use on the wildlife area is minimal due to limited access. Public access is from the Okanogan River. There is no vehicular public access to the unit. Commercial use consists of one agricultural lease for hay and another for a pear orchard managed by the previous owner. Fees collected from these leases are utilized for management of the unit, including invasive species control.

Map 14. McLoughlin Falls Unit



McLoughlin Falls Unit

-  WDFW
-  Unit Boundary

Other Major Public Lands

-  BLM
-  DNR

-  County Road
-  Other Unpaved Road
-  Railroad
-  Lake, Pond or River
-  Perennial River or Stream



11/16/2016

Horse Spring Coulee Unit

Vision: To maintain and recover the ecological integrity of native sagebrush steppe, grassland, and shrubland ecosystems for the benefit of flora and fauna species relying on them, as well as those user groups who value a unique outdoor experience.



Horse Spring Coulee Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 850 acres
Acquisition Date	- 2008
Acquisition Funding	- U.S. Fish and Wildlife Service, Section 6; Washington State RCO, WWRP
Location	- T37N R26E Portions of Sections 11, 12, 13, 14, 23, & 24
Elevation	- 1,390 - 2,050 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, and nature photography.
Access	- No formal access is currently available

The Horse Spring Coulee Unit is an 850-acre unit located 3.5 miles west of Tonasket. The property was purchased in 2008 primarily for the protection of shrub-steppe and mule deer winter range. The habitats are mostly sagebrush-steppe and dry grassland found on rolling, south-facing hillsides or scattered between rock outcroppings. Narrow, rocky draws run north to south through the middle of the unit and eroded sand hills can be found in the northeast corner of the property, which is the unit's highest point at 2,200 feet.

Water is in short supply on the Horse Spring Coulee Unit. A few seasonal ponds persist for a couple months if winter and spring provide enough moisture. These exceptionally wet years can maintain a small stream for a few weeks. It starts in the north part of unit and runs south toward the coulee.

Species regularly seen on the Horse Spring Coulee Unit are:

- Mammals such as mule deer, white-tailed deer, and coyotes.
- Numerous birds: mountain bluebirds, western meadowlarks, and various raptors.
- Wildflowers during the spring and early summer.
- Upland game birds, such as Hungarian partridge and California quail.

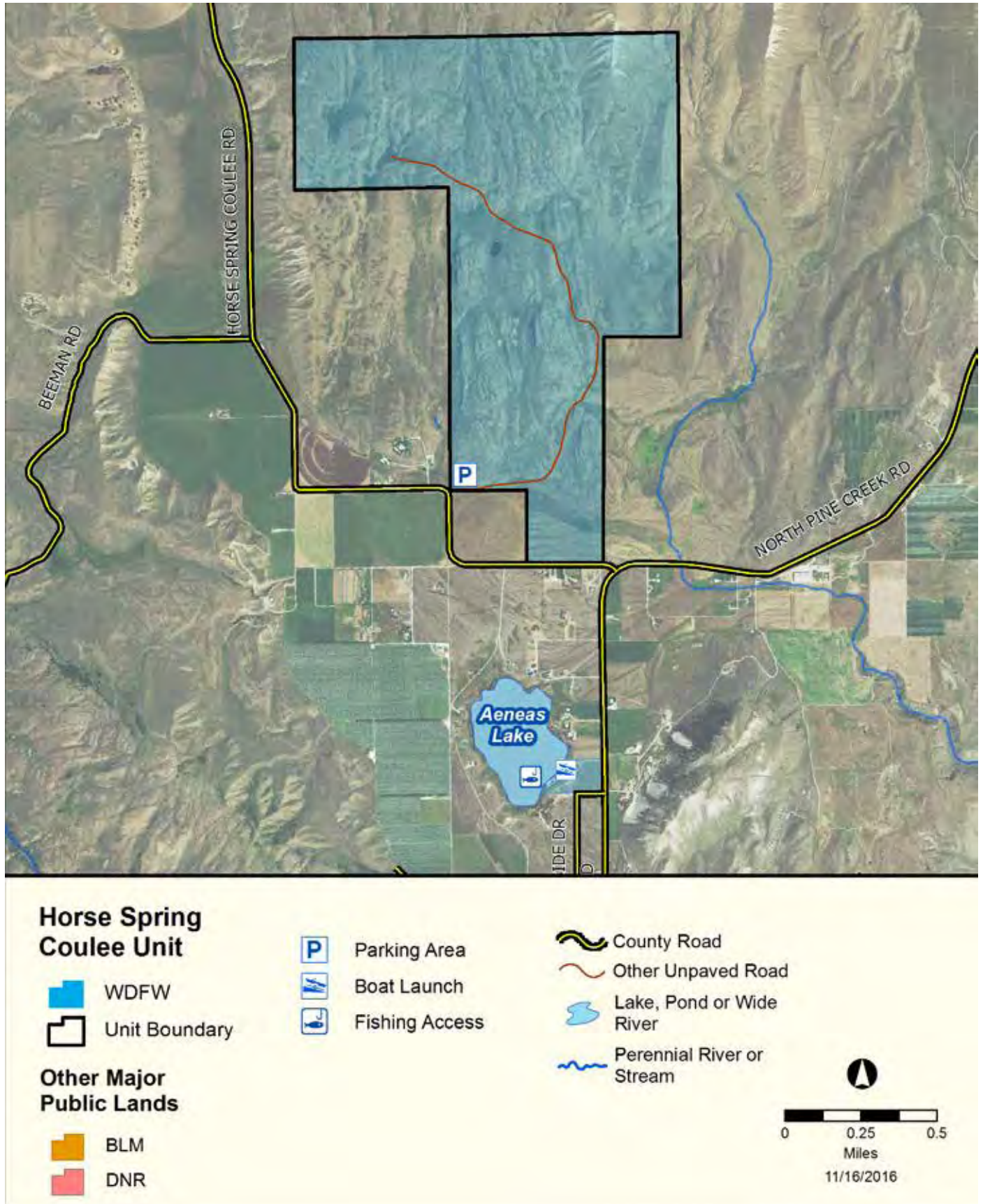
The area was historically grazed and temporary grazing has recently been initiated to assist WDFW permittees, who were significantly impacted by the Okanogan Complex Fire of 2015.

The unit has no developed access points. Users can access the site from Horse Spring Coulee Road and traverse the unit. Hiking, horseback riding and hunting are the most popular activities. There are also great opportunities for landscape photography with sweeping views of the coulee and surrounding countryside from higher elevations of the unit.



Western Meadowlark
Photo by Justin Haug

Map 15. Horse Spring Coulee Unit



Chiliwist Unit

Vision: To maintain or enhance mule deer winter range by reducing invasive plants and restoring shrub-steppe habitat function and provide wildlife oriented recreational opportunities while maintaining working lands.



Chiliwist Unit
Photo by Justin Haug

GENERAL WILDLIFE AREA INFORMATION	
Size	- 4,890 acres
Acquisition Date	- 1977
Acquisition Funding	- Washington State RCO
Location	- T32N R24E Sect. 1 and Portions of Sections 2, 3, 12, 13, & 24 T32N R25E Portions of Sections 5, 6, 8, & 18 T33N R24E Sect. 35 and Portions of Sections 26, 27, 34 & 36 T33N R25E Portion of Section 31
Elevation	- 950 - 3,100 feet
Recreational Opportunities	- Hunting, hiking, wildlife viewing, nature photography, and camping.
Access	- Adjacent to Chiliwist Road.

The Chiliwist Unit encompasses roughly 4,890 acres, located approximately one mile west of the town of Malott. BLM owns an additional 760 acres within the wildlife unit's boundaries. The property was purchased in 1977 primarily for protecting critical mule deer wintering habitat. Habitat types include sagebrush and shrub-steppe, wetland, riparian, and ponderosa pine woodlands. An agricultural lease and grazing permit are used to improve mule deer forage.

Chiliwist creek, a perennial stream flows from west to east through the unit into the Okanogan River. An impassable falls located on the Chiliwist grade prevents fish from upstream movement.

The Chiliwist Unit supports a variety of different species:

- Mammals such as mule deer, white-tailed deer, black bear, cougar and coyotes.
- Numerous songbirds, raptors, and game birds such as ruffed grouse and quail.
- Wildflowers on the hillsides in spring and summer.
- Snakes such as western rattlesnakes, gopher snakes, and garter snakes.

In July 2014, the Carlton Complex Fire burned through the entire Chiliwist Unit. Recovery has been swift and positive. Aspen stands shot up new growth soon after the fire and native bunchgrasses and forbs have reacted very positively as a result of the burn. The unit's storage facilities were destroyed and have since been rebuilt using funds granted by Federal Emergency Management Agency. Fencing has also been reconstructed with this funding and will be completed in the fall of 2016.

Many different user groups utilize the Chiliwist Unit. The area is popular with mule deer and white-tailed deer hunters in the fall. The area is a release site for ring-necked pheasant and many other upland game birds can be hunted, including Hungarian partridge, chukar, ruffed grouse and dusky grouse. Horseback riders enjoy the area on occasion, riding on existing two-track roads or trails that have been traditional routes for riders. The unit overlooks the Okanogan River and valley below, making photographic opportunities numerous on the higher elevations. Historically eastern brook trout were released

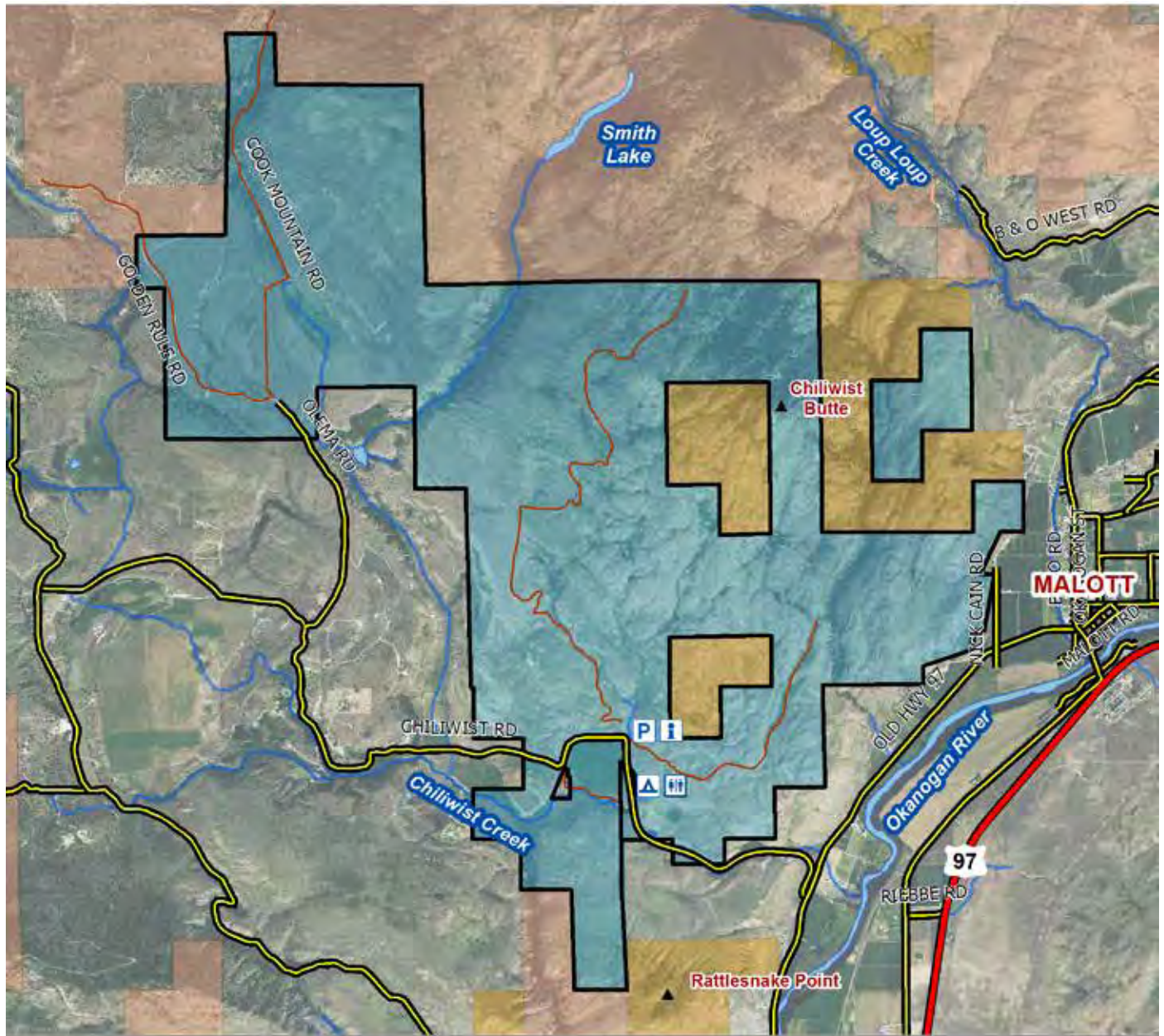
in upper reaches of Chiliwist Creek. They provide fishing opportunities where there is access to open water. Most of the creek crosses private property so fishers must pay attention to posted signs.

The unit is accessed via the Chiliwist Road by way of Old Highway 97 south of Malott. Two designated access points can be found of Chiliwist Road. The first has a vault toilet and is the only designated camping location in the Chiliwist Unit. The second access point is the most popular parking area and sits at the base of Chiliwist Butte Road – a WDFW-managed road that winds its way up to the top of the wildlife area unit. Both parking areas are large enough for horse trailers and campers. The unit can also be accessed via Cook Mountain Road and Golden Rule Road via Olema Road.





Chiliwist Unit
Photo by Justin Haug

Map 16. Chiliwist Unit







Chiliwist Unit

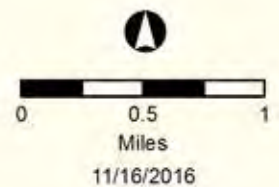
-  WDFW
-  Unit Boundary

Other Major Public Land

-  BLM
-  DNR

-  Restroom
-  Parking Area
-  Campground
-  Educational Kiosk

-  US Highway
-  County Road
-  Other Unpaved Road
-  Lake, Pond or Wide River
-  Perennial River or Stream



Geology and Soils

Geology in the Okanogan Valley is complex – developed from marine invasions, volcanic deposits, and glaciations. Four geologic provinces are found in the area. The Cascade Range, to the west, was created by ancient seabed uplift. Both the Okanogan highlands to the east and the Columbia basalt plateau to the south were created by volcanic activity. Finally, the oldest is a ridge of ancient seabed rocks that was folded and then subsequently eroded. Bedrock underlying the Okanogan River basin is comprised mainly of granitic and andesitic rock, and metamorphosed sedimentary rock.

During the Pleistocene, the Cordilleran ice sheet extended across the crest of the Cascade Range, connecting the Puget lobe on the west side of the mountains with the Okanogan lobe to the east (Easterbrook 1977). Topography and geologic mapping suggest a glacier moved northward down the Sinlahekin valley, discharging to the east through several low passes. This glacier experienced several stages of advance and retreat, depositing glacial drift and forming distinctive glacial features in the Sinlahekin valley (DNR 2003). Nearly every feature found in the Scotch Creek and Sinlahekin wildlife areas today was created by 3 million years of mile-thick ice during what is known as the Ice Age (Post 2006).

Soils in the region primarily reflect weathering of intrusive or metamorphic parent material and deposition of volcanic ash, glacial drift, or alluvium (WADNR 2003). Ash deposits are thought to originate from eruptions of Glacier Peak, Mount Mazama, and Mount St. Helens that occurred since glaciation ended, approximately 10,000 to 12,000 years ago, in the area (USFS 1995). Soil thickness varies depending on land surface gradient and geologic unit type (WADNR 2003).

Large areas remain covered with rocks and other sediments deposited by these glaciers or by rivers and lakes that formed when the glaciers began to melt. While most soils are coarsely textured and fast draining, volcanic ash and fine-textured sediments have contributed to less permeable soils in some areas. Units such as Driscoll-Eyhott Island, Similkameen-Chopaka, and McLoughlin Falls are Quaternary alluvium – fine-grained materials, such as silt and sandy loam, deposited by flowing water.

These soils provide conditions for growing a variety of agricultural crops. Most management units have a significant amount of Pleistocene continental glacial drift – materials transported by the Cordilleran Ice Sheet during the 3 million years of glaciation ending approximately 12,000 years ago. These soils are commonly well-drained and consist of sandy, silty, loamy or gravelly materials, individually or in combination (i.e. sandy-loam, gravelly ashy loam, etc.). Scotch Creek, Sinlahekin, Eder, and Tunk have expansive soils of this type. There are also many areas where soils are shallow or nonexistent, and metamorphic rock outcrops dominate. These areas are common throughout the Okanogan. Management units such as Chesaw, Tunk Valley, Chiliwist, and Buzzard Lake have numerous areas where these rocks are prevalent. More information on the geology of Okanogan County can be found at <http://www.dnr.wa.gov/geologyportal>.

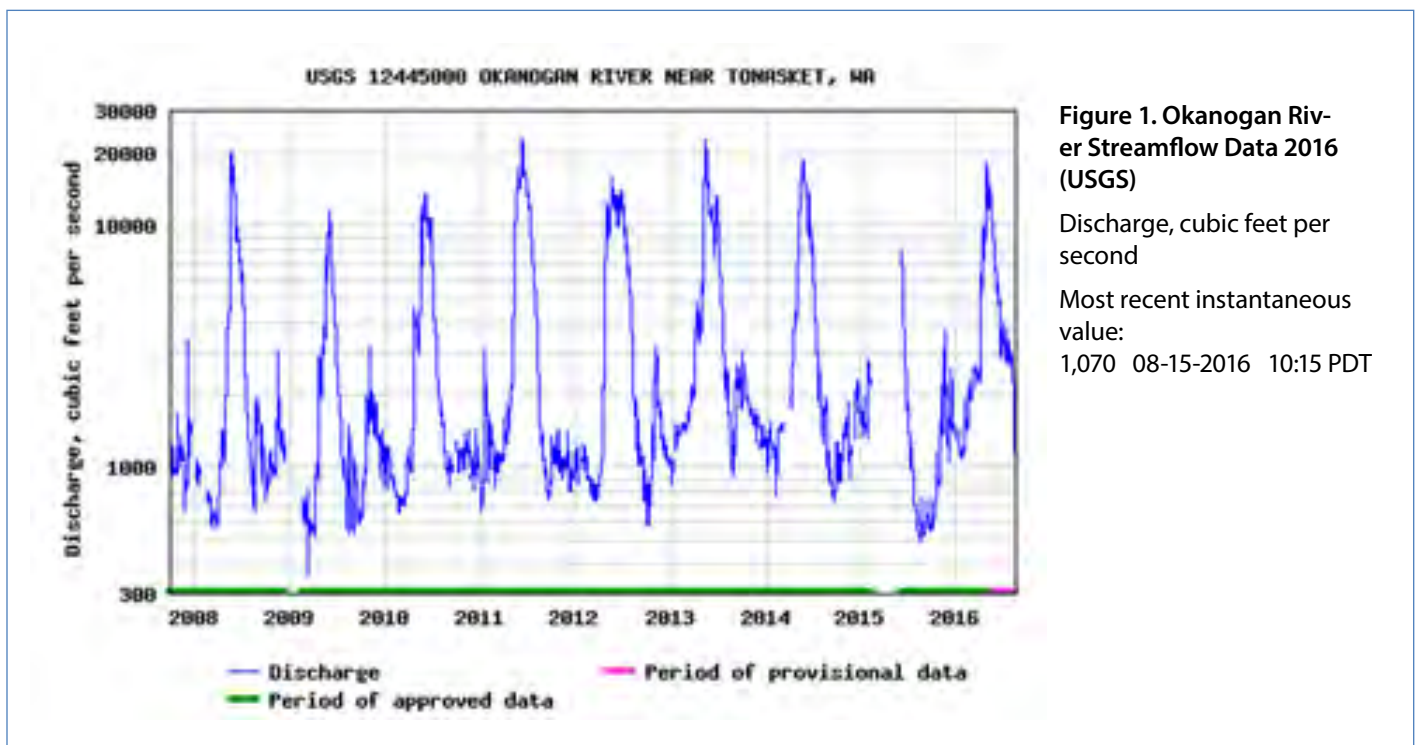
Hydrology and Watersheds

The units of the Scotch Creek and Sinlahekin wildlife areas fall within the boundary of the Okanogan Watershed Resource Inventory Area (WRIA) 49. The only exception is the Chesaw Unit, which is within the Kettle WRIA 60. These units delineate the state's major watersheds, which are defined as areas draining into a river, lake or other waterbody. More information on WRIAs can be found on the Washington Department of Ecology website at: <http://www.ecy.wa.gov/water/wria/49.html>.

Two principal rivers, the Okanogan and the Methow, drain Okanogan County. These rivers flow into the Columbia River and finally into the Pacific Ocean. Originating in British Columbia, the Okanogan River flows south into Okanogan County through Osoyoos Lake. It is a slow-flowing, meandering river draining the eastern part of the county. The Methow River is a clear, fast-flowing stream that drains the area to the west of the wildlife areas. The Similkameen River, the principal tributary of the Okanogan, has two tributaries (the Pasayten and Ashnola rivers) that drain an area of about 300 square miles in northwestern Okanogan County and flow north into British Columbia before returning to Washington.

Because much of Okanogan County is arid, water is an extremely important resource. Both the economy and the ecosystem are dependent on water. Agriculture, an important component of the local economy, depends on irrigation. Beginning in the late 1890s, hay and other agricultural commodities became increasingly more valuable and irrigation infrastructure blossomed. In 1897, the Conconully Lake Reservoir Company was formed and developed a rudimentary distribution system at the outlet of Conconully Lake (previously Salmon Lake) to store water for use during low-flow periods (Walters, 1974). Water management and distribution continue to be at the forefront of resource management issues in the county.

The hydrology of the Okanogan River Watershed is characterized by high springtime runoff due to spring rains and melting snowpack, with low summer and early fall flows due to nearly absent precipitation and diminishing snowpack (Okanogan Conservation District 2010). Stream flow data from the U.S. Geological Survey (Figure 1) shows the seasonal variation of stream flows for the Okanogan River near Tonasket.



Resource Management

State and federal laws (including the federal Endangered Species Act or ESA) and funding requirements (from property acquisition and/or funds used for ongoing operations and maintenance) are the primary drivers of management activities on WDFW's wildlife areas. Other guidance comes from statewide plans for species and/or habitats, and other scientific approaches by internal and external parties (e.g. The Washington State National Heritage Program's Ecological Integrity Assessments). Management actions may also be influenced by collaborative work undertaken with other conservation organizations, including tribal governments, land trusts and other land management organizations, academic research programs, and even the specific interests of volunteers if they fit within WDFW's mission, budget, and wildlife area goals.

Species Management

Consistent with WDFW's mission, the agency manages species on wildlife areas for two primary purposes: 1) conservation and protection to manage sustainable populations; and 2) to provide recreational and commercial opportunities.

The Wildlife Area Management Planning Framework describes how species are classified – including species listed at the state or federal level as threatened or endangered and other designations such as Species of Greatest Conservation Need (SGCN). SGCN species are summarized in the State Wildlife Action Plan. It also incorporates goals from WDFW's Game Management Plan, which includes protecting, sustaining, and managing hunted wildlife; providing stable, regulated recreational hunting to all citizens, protecting and enhancing wildlife habitat, and minimizing adverse impacts to residents, other wildlife, and the environment. The wildlife area plan integrates these plans and priorities, and, in the goal and objectives section (Appendix A), defines specific actions to achieve them.

State and federally listed, threatened, and/or endangered species, as well as Priority Habitat and Species, known as PHS, and SGCN species found on Scotch Creek and Sinlahekin wildlife areas are identified in Table 1. The Scotch Creek and Sinlahekin wildlife areas support a

wide array of documented species of amphibians and reptiles. This includes 39 species listed as state or federal candidate, threatened or endangered. Bull trout, steelhead, and grizzly bear are all listed as federally threatened species. Gray wolf is listed as federally endangered west of Highway 97 from the British Columbia border south to Monse, Highway 17 from Monse south to Mesa. Fisher is listed as a federal candidate. Another 13 species are listed as federal species of concern. Nine species are state listed.

All 14 units combined provide habitat for 40 SGCN and 60 PHS species. SGCN includes species not yet federally or state listed but that are of conservation concern and may need additional research or management attention. PHS are defined as habitats and species determined by WDFW to be priorities for conservation and management. Okanogan County's Priority Habitat list is available in Appendix E. Documented species occurrence lists can also be found in Appendix E.

For comprehensive lists of plant and animal species on the Sinlahekin Wildlife Area, visit: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/. Many of these species are also found on the Scotch Creek Wildlife Area (http://wdfw.wa.gov/lands/wildlife_areas/management_plans/scotch_creek/), but inclusive species lists are not yet available.

Table 1. Species present in Scotch Creek and Sinlahekin Wildlife Areas that are state or federally listed, are included in WDFW PHS or SGCN lists, their federal and state status, their PHS criteria and Priority Areas designations, and Units where they may occur

Common Name	Scientific Name	Federal State Status SGCN	PHS Criteria	PHS Priority Area	Wildlife Area Unit
AMPHIBIANS					
Western toad	<i>Anaxyrus boreas</i>	FSC, SC, SGCN	1	Any occurrence	All
Columbia spotted frog	<i>Rana luteiventris</i>	SC	1	Any occurrence	All
Tiger salamander	<i>Ambystoma tigrinum</i>	SGCN	--	--	All
REPTILES					
Sagebrush lizard	<i>Sceloporus graciosus</i>	FSC, SC, SGCN	1	Any occurrence	Chiliwist
Desert nightsnake	<i>Hypsiglena chlorophaea</i>	SGCN	--	--	--
BIRDS					
Common loon	<i>Gavia immer</i>	SS, SGCN	1, 2	Breeding sites, migratory stopover, regular concentrations	Sinlahekin, Similkameen-Chopaka
Western grebe	<i>Aechmophorus occidentalis</i>	SC	1, 2	Breeding areas, regular concentrations, migratory stopover, regular concentrations (winter)	No nesting/migration
Red-necked grebe	<i>Podiceps grisegena</i>	SGCN	--	--	Sinlahekin
Black-crowned night heron	<i>Nycticorax nycticorax</i>		2	Breeding areas	Sinlahekin, Driscoll-Eyhott
Cavity nesting ducks, Wood duck, Barrow's goldeneye, Common goldeneye, Bufflehead, Hooded merganser			3	Breeding areas	All
Harlequin duck	<i>Histrionicus histrionicus</i>	SGCN	2, 3	Breeding areas	Sinlahekin
Trumpeter swan	<i>Cygnus buccinator</i>		2, 3	Regular concentrations	Similkameen-Chopaka, Sinlahekin, Driscoll-Eyhott
Waterfowl concentrations			2, 3	Significant breeding areas, regular winter concentrations	Most
Bald eagle	<i>Haliaeetus leucocephalus</i>	FSC, SS, SGCN	1	Breeding areas, communal roost, regular concentrations	All
Golden eagle	<i>Aquila chrysaetos</i>	SC, SGCN	1	Breeding areas, foraging areas	All
Northern goshawk	<i>Accipiter gentilis</i>	FSC, SC	1	Breeding areas, including alternative nest sites, post-fledging foraging areas	Sinlahekin, Chesaw, Similkameen-Chopaka, Buzzard Lake, Chiliwist & Chesaw
Peregrine falcon	<i>Falco peregrinus</i>	SS, FSC	1	Breeding areas, regular occurrences	Sinlahekin, Similkameen-Chopaka, McLoughlin
Dusky grouse	<i>Dendragapus obscurus</i>		3	Breeding areas, regular concentrations	All

Common Name	Scientific Name	Federal State Status SGCN	PHS Criteria	PHS Priority Area	Wildlife Area Unit
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus</i>	FSC, ST, SGCN	1, 3	Breeding areas, leks, regular concentrations, critical wintering areas (riparian zones)	Chesaw, Scotch Creek, Tunk Valley, Chiliwist, Sinlahekin, Eder
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	FC, SC, SGCN	1	Any occurrence	Sinlahekin, Similkameen-Chopaka, Driscoll Island
Pileated woodpecker	<i>Hylatomus pileatus</i>	SC	1	Breeding areas	Breeding areas/all but Horse Spring Coulee
Great grey owl	<i>Strix nebulosa</i>	SGCN	--	--	Chesaw
Burrowing owl	<i>Athene cunicularia</i>	FSC, SC	1	Breeding areas, foraging areas, regular concentrations	Horse Spring Coulee, historic occurrences
Flammulated owl	<i>Psilosops flammeolus</i>	SC, SGCN	1	Breeding sites, regular occurrences	Possible in all ponderosa pine-dominated forests
Vaux's swift	<i>Chaetura vauxi</i>	SC	1	Breeding areas, communal roosts	Similkameen-Chopaka, Sinlahekin, McLoughlin Falls
Black-backed woodpecker	<i>Picoides arcticus</i>	SC	1	Breeding areas, regular concentrations	Forested, burned units
Lewis's woodpecker	<i>Melanerpes lewis</i>	SC, SGCN	1	Breeding areas	All but Horse Spring Coulee
White-headed woodpecker	<i>Picoides albolarvatus</i>	SC, SGCN	1	Breeding sites, regular occurrences	Possible in all ponderosa pine-dominated forests
Loggerhead shrike	<i>Lanius ludovicianus</i>	SC, SGCN	1	Regular concentrations, regular occurrences in breeding areas	Sinlahekin, Horse Spring Coulee, Carter Mountain, McLoughlin Falls, Tunk (historic), Eder, Chiliwist and Ellemeham
Sage sparrow	<i>Artemisospiza nevadensis</i>	SC	1	Breeding areas, regular occurrences in suitable habitat during breeding season	Sinlahekin, Horse Spring Coulee, Carter Mountain, McLoughlin Falls, Tunk (historic), Eder, Chiliwist and Ellemeham
Sage thrasher	<i>Oreoscoptes montanus</i>	SC, SGCN	1	Breeding areas, regular occurrences in suitable habitat during breeding season	Sinlahekin, Horse Spring Coulee, Carter Mountain, McLoughlin Falls, Tunk (historic)
FISH					
Pacific lamprey	<i>Entosphenus tridentatus</i>	FSC, SGCN	3	Any occurrence	Driscoll Island, McLoughlin Falls
Lake chub	<i>Couesius plumbeus</i>	SC, SGCN	1	Any occurrence	Driscoll Island, McLoughlin Falls
Leopard dace	<i>Rhinichthys falcatus</i>	SC, SGCN	1	Any occurrence	Okanogan River, Similkameen River, Sinlahekin Creek

Common Name	Scientific Name	Federal State Status SGCN	PHS Criteria	PHS Priority Area	Wildlife Area Unit
Umatilla dace	<i>Rhinichthys umatilla</i>	SC, SGCN	1	Any occurrence	Okanogan River, Similkameen River, Sinlahekin Creek
Bull trout	<i>Salvelinus confluentu</i>	FT SC, SGCN	1, 2, 3	Any occurrence	Historic
Kokanee	<i>Oncorhynchus nerka</i>		3	Any occurrence	Sinlahekin
Chinook	<i>Oncorhynchus tshawytscha</i>		1, 2, 3		McLoughlin Falls, Driscoll-Eyhott Island, Ellemeham
Pygmy whitefish	<i>Prosopium coulterii</i>	FSC, SS, SGCN	1, 2	Any occurrence	Driscoll, McLoughlin
Rainbow trout, Steelhead ¹ , Inland redband trout	<i>Oncorhynchus mykiss</i>	FT ¹ SC ¹ , SGCN	1, 3	Any occurrence	Eder, Driscoll, McLoughlin Falls, Sinlahekin, Similkameen-Chopaka
Sockeye salmon	<i>Oncorhynchus nerka</i>		1, 2, 3	Any occurrence	Driscoll, McLoughlin Falls, Eder
Westslope cutthroat	<i>Oncorhynchus clarki lewisi</i>	SGCN	3	Any occurrence	Sinlahekin
MAMMALS					
Preble's shrew	<i>Sorex preblei</i>	FSC, SC, SGCN	1		
Hoary bat	<i>Lasiurus cinereus</i>	SGCN	--	--	All forested units
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	FSC, SC, SGCN	1, 2	Any occurrence	Most
Silver-haired bat	<i>Lasionycteris noctivagans</i>	SGCN	--	--	All forested units
Roosting concentrations: Big-brown bat, Myotis bats, Pallid bats	<i>Eptesicus fuscus</i> , <i>Myotis spp.</i>		2	Regular concentrations in naturally occurring breeding areas and other communal roosts	All
White-tailed jackrabbit	<i>Lepus townsendii</i>	SC, SGCN	1, 3	Regular concentrations	Horse Spring Coulee, Tunk – Historic
Western gray squirrel	<i>Sciurus griseus</i>	FSC, ST, SGCN	1	Any occurrence	Pogue Mountain, Chiliwist, Sinlahekin, Scotch Creek
Fisher	<i>Martes pennanti</i>	FC, SE, SGCN	1	Any occurrence	If recovered in North Cascades, could occur here. Historic
Gray wolf	<i>Canis lupus</i>	FE, SE, SGCN	1	Any occurrence	All - Historic (confirmed 2016)
Grizzly bear	<i>Ursus arctos horribilus</i>	FT, SE, SGCN	1	Any occurrence	Sinlahekin - Historic
California bighorn sheep	<i>Ovis canadensis canadensis</i>	SGCN	3	Breeding areas, regular concentrations	Sinlahekin, Similkameen-Chopaka, Eder, and McLoughlin Falls
Moose	<i>Alces alces</i>		3	Regular concentrations	All
Mountain goat	<i>Oreamnos americanus</i>		3	Breeding areas, regular concentrations	Sinlahekin (historic), Similkameen-Chopaka
Northwest white-tailed deer	<i>Odocoileus virginianus ochrourus</i>		3	Migration corridors, regular concentrations in winter	All

Common Name	Scientific Name	Federal State Status SGCN	PHS Criteria	PHS Priority Area	Wildlife Area Unit
Rocky Mountain elk	<i>Cervus elaphus nelsoni</i>		3	Calving areas, migration corridors, Regular concentrations in winter	Chesaw
Rocky Mountain mule deer	<i>Odocoileus hemionus hemionus</i>		3	Breeding areas, migration corridors, regular concentrations in winter	All
INVERTEBRATES					
Giant Columbia river limpet	<i>Fisherola nuttalli</i>	SC	1, 2	Any occurrence	McLoughlin Falls, Driscoll Island
Great Columbia river spire snail	<i>Fluminicola columbiana</i>	FSC, SC	1, 2	Any occurrence	McLoughlin Falls, Driscoll Island
California floater	<i>Anodonta californiensis</i>	FSC, SC, SGCN	1, 2	Any occurrence	McLoughlin Falls, Driscoll Island, Sinlahekin, Similkameen-Chopaka
Juniper hairstreak	<i>Callophrys gryneus</i>	SC, SGCN	1	Any occurrence	Sinlahekin
Silver-bordered fritillary	<i>Bolaria selene myrina</i>	SC, SGCN	1	Any occurrence	Sinlahekin, Scotch Creek, Chiliwist
Monarch butterfly	<i>Danaus plexippus</i>	SGCN	--	--	All
Western ridged mussel	<i>Gonidea angulata</i>	SGCN	--	--	Driscoll, McLoughlin Falls

Abbreviations: State endangered (SE), State threatened (ST), State Sensitive (SS), State Candidate for listing (SC), Federal endangered (FE), Federal candidate (FC), Federal species of concern (FSC); SGCN.

The following section describes the species managed by WDFW on the Scotch Creek and Sinlahekin wildlife areas.

Game Species

Numerous game species occur on the Scotch Creek and Sinlahekin wildlife areas. The priority species for these areas include white-tailed deer, Rocky Mountain elk, Rocky Mountain mule deer, Rocky Mountain bighorn sheep, and upland game birds (ring-necked pheasant, chukar, California quail, ruffed grouse, and mourning dove). A descriptive summary about each species and general management information are included below.

Game species on the wildlife areas are generally managed in accordance with the species-specific management plans. For more information, view the WDFW Game Management Plan, available online at <http://wdfw.wa.gov/conservation/game/> and see the goals and objectives of this plan (Appendix A).

Management activities in the new plan include enhancing shrub-steppe habitat for mule deer, evaluating road closures to protect mule deer populations and maintaining agriculture production to benefit big game species. For specific information on hunting, see <http://wdfw.wa.gov/hunting/regulations/> on the WDFW website. The Game Management Units (GMUs) for these wildlife areas are:

- GMU 204: Chesaw, Charles & Mary Eder, Tunk Valley, McLoughlin Falls;
- GMU 209: Similkameen-Chopaka, Ellemeham, Driscoll-Eyhott Island;
- GMU 215: Sinlahekin, Horse Spring Coulee, Carter Mountain;
- GMU 233: Buzzard Lake, Scotch Creek, Pogue Mountain;
- GMU 239: Chiliwist.

On these wildlife areas, a mix of management activities promotes habitat health for a wide range of species including the game species discussed below. These activities include forest restoration, grazing to promote “leader” growth for deer and elk, fencing to control cattle, public use and weed control.

Northwest white-tailed deer

(Odocoileus virginianus ochrourus)

Northwest white-tailed deer are a sub-species found in the northern Rocky Mountain region. Sometimes referred to

as Rocky Mountain white-tailed deer, northwest white-tailed deer are found in the Okanogan valley where they utilize riparian areas adjacent to farmland. They may also be found at higher elevations in habitat typically associated with mule deer. They are distinguishable by the characteristic white underside of their tails. Their coat is gray-brown in the fall and winter and reddish brown in the summer. Bucks may weigh as much as 275 pounds but average around 100 pounds; does are usually significantly smaller. Antlers on bucks branch from a single main stem and are shed in late winter.

Specific management actions for white-tailed deer are defined in the http://wdfw.wa.gov/conservation/white-tailed_deer/. The major goals of the white-tailed deer management plan are to: (1) Maintain and sustain white-tailed deer populations using sound, objective science to inform decision-making; (2) Provide stable, regulated recreational deer hunting opportunity to all citizens; and (3) Manage white-tailed deer populations within the limits of suitable habitat.

White-tailed deer can be found on all of the units in the Scotch Creek and Sinlahekin wildlife areas. Their populations have increased over recent years to the point where the population overlaps with mule deer in many areas. Large, mature white-tailed bucks are very elusive, making them challenging targets for hunters and allowing for more liberal hunting seasons.

Rocky Mountain Elk

(Cervus elaphus nelsoni)

Elk are one of the largest species of the deer family and are one of the largest land mammals in North America. They live in forests and the areas surrounding the edges of forests. In summer, they graze on grasses and flowering plants and transition to browsing shrubs and trees in the fall and winter. Their coats range in color from reddish-tan in the summer to light brown in the winter and they have a characteristic buff-colored rump. Elk have large, spreading antlers and in the winter they have a dark brown, shaggy mane that hangs from the neck to the chest.

There are two sub-species of elk found in Washington: Roosevelt elk, and Rocky Mountain elk. Rocky Mountain elk are generally found east of the Cascade Mountains and are slightly lighter in color than Roosevelt elk. Some



White-tailed deer
Photo by Justin Haug

say they are also slightly smaller, with males weighing up to 700 pounds. While Rocky Mountain elk have the largest antlers, they are typically more slender, have longer tines, and are less palmated than Roosevelt elk. Rocky Mountain elk are classified as game animals (under WAC 232-12-007) and are managed on these wildlife areas for hunting. More information on elk can be found on the WDFW website at <http://wdfw.wa.gov/living/elk.html>.

Elk on these wildlife areas are managed under the <http://wdfw.wa.gov/publications/01350/>. The Selkirk Herd Plan has four primary goals: (1) To preserve, protect, perpetuate, manage, and enhance elk and their habitats to ensure healthy, productive populations and ecosystem integrity; (2) To manage this elk herd for a sustained hunting yield; and (3) To manage elk for a variety of recreational, educational, and aesthetic purposes including hunting, scientific study, cultural and ceremonial uses by Native Americans, biodiversity, wildlife viewing, and photography, (4) To manage elk and elk habitat to minimize human conflicts and agricultural damage.

WDFW recently included GMU 204 into the Selkirk

herd management plan. This changed the regulations from any elk to bull only with the intent to increase the herd size in that unit. This includes the Chesaw Unit, where recent habitat management actions have improved conditions for elk and their numbers are increasing.

Rocky Mountain Mule Deer (*Odocoileus hemionus hemionus*)

Named for their large, mule-like ears, mule deer are generally found west of the Mississippi, specifically in the Rocky Mountain region. Mule deer antlers fork as they grow, rather than branching from a single main stem. Unlike white-tailed deer, mule deer have a prominent black tip on their tail. Males average approximately 200 pounds but can weigh as much as 500 pounds. They are primarily browsers, but will also eat grass, shrubs, fruit and nuts. Coyotes, cougars, and gray wolves are the primary predators of mule deer. Other predators may prey on young or weak mule deer, but more often feed on deer that died from other causes.

Detailed information on mule deer and their management can be found in the <http://wdfw.wa.gov/conservation/>

[mule_deer/](#). The over-arching goals of the mule deer plan are: 1) Preserve, protect, perpetuate, and manage deer and their habitat to ensure healthy, productive populations; 2) Manage deer for a variety of recreational, educational, and aesthetic purposes including hunting, scientific study, cultural, subsistence, and ceremonial uses by Native Americans, wildlife viewing, and photography; and 3) Manage statewide deer populations for a sustainable annual harvest.

Mule deer, an icon of the west, are common in Okanogan County, which is home to the largest migratory herd in the state. Mule deer from higher elevations in the Pasayten Wilderness migrate to these wildlife areas when heavy snowfall occurs. The Sinlahekin Wildlife Area was originally established primarily for mule deer habitat. Mule deer hunting is very popular.

California Bighorn Sheep

(Ovis canadensis canadensi)

Bighorn sheep range from southern Canada to Mexico. Named for their large, curled horns, male sheep, or rams, can weigh over 300 pounds. Females are significantly smaller and have smaller, less curved horns. Coyotes, bobcats, lynx, and golden eagles prey on lambs, while bears, wolves, and cougars may prey on adult sheep. They live in steep, rugged terrain at higher elevations during the summer months and slightly lower during the winter to graze on grasses and browse shrubs.

Eighteen California bighorn sheep were captured in 1957 near Williams Lake, B.C. and translocated to the Sinlahekin Wildlife Area in an effort to reintroduce them to Washington. The effort was successful, resulting



Bighorn sheep
Photo by Justin Haug

in the re-establishment of a California bighorn sheep population. Currently, bighorn sheep range from the south end of the Sinlahekin Wildlife Area north to Palmer Lake. They have also been documented traveling through the McLoughlin and Eder units.

The statewide goals for bighorn sheep are: (1) Preserve, protect, perpetuate, and manage bighorn sheep and their habitats to ensure healthy, productive populations. (2) Manage bighorn sheep for a variety of recreational, educational, and aesthetic purposes, including hunting, scientific study, cultural and ceremonial uses by Native Americans, wildlife viewing, and photography. (3) Manage statewide bighorn sheep populations for a sustained yield.

Recently a Master's thesis by Tiffany Lee Baker (Baker, 2015) titled "Habitat Selection and Spatial Responses of Bighorn Sheep to Forest Canopy in North Central Washington," provided insight into the habitat needs of these animals. "[B]ighorn sheep selected areas with lower tree canopy cover, even when controlling for topography and potential foraging habitat, and canopy cover was the only habitat variable that significantly predicted habitat selection by bighorn sheep in population-level models across all demographic groups and seasons." The thesis will help inform future restoration projects across the wildlife areas (http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/).

Mountain Goat

Oreamnos americanus)

Mountain goats have woolly, double coats, beards, long black horns and short tails. Males, known as billies, can weigh up to 300 pounds while females, known as nannies, weigh significantly less. They live at high elevations on steep, rocky slopes and travel on feet well adapted to these conditions. Their hooves are cloven with dewclaws on the tips and pads in the center that help keep them from slipping.

Mountain goats are grazers and they eat a variety of plants, including grasses, herbs, sedges, ferns, mosses, and lichens. Rice (2012) estimated that approximately 2,815 mountain goats inhabited Washington state as of 2007; that number has probably increased somewhat in recent



Black bear

Photo by Justin Haug

years (Rich Harris, pers comm). The statewide goals for mountain goats are: (1) Perpetuate and manage mountain goats and their habitats to ensure healthy, productive populations and long-term genetic connectivity; (2) Manage mountain goats for a variety of recreational, educational, and aesthetic purposes, including hunting, scientific study, cultural and ceremonial uses by Native Americans, wildlife viewing, and photography; (3) Enhance statewide mountain goat populations and manage goats for a sustained yield; and (4) Where conflicts with recreationists have been documented and ongoing, minimize habituation and conditioning of mountain goats to humans, thus reducing the threat to both humans and mountain goats.

Mountain goats do not currently occur on any of the units in these wildlife areas. They are, however, often seen on the rocky crags of Chopaka Mountain, which lies directly west of the Similkameen Unit, and they may have occurred in other areas of the wildlife areas historically. Hunting mountain goats is by permit only and permits are not issued on any of the GMUs on these wildlife areas.

American Black Bear

Ursus americanus)

American black bears are the smallest and most widespread bears in North America. Black bears are

medium-sized omnivores with a highly variable diet. They prefer forested habitats and areas with dense vegetation but will utilize more open habitat when searching for food. Adult males can weigh up to 1,000 pounds but most commonly weigh between 200 and 500 pounds. Females weigh about one-third less than males.

The statewide goals for black bear are: (1) Preserve, protect, perpetuate, and manage black bear and their habitats to ensure healthy, productive populations; (2) Minimize human-bear conflicts while at the same time maintaining a sustainable and viable bear population; (3) Manage black bear for a variety of recreational, educational, and aesthetic purposes, including hunting, scientific study, cultural and ceremonial uses by Native Americans, wildlife viewing, and photography; (4) Manage statewide black bear populations for a sustained yield; and (5) Improve our understanding of predator-prey relationships.

Black bear are common but elusive on and around the wildlife areas. While they are elusive, black bears are an attraction that visitors can occasionally see when camping, hiking, or driving through the area. They could be encountered on any of the units as they forage for food and travel across the landscape. Black bear hunting is a popular activity in the county.

Cougar

(Puma concolor)

Cougars are “obligate” carnivores, meaning their diet must be completely made up of meat in order for them to survive. They hunt ungulates such as deer and elk, and other smaller species including the occasional insect. Preferring areas with dense cover, they hunt by stalking and ambushing their prey. They are solitary animals, and only the females and their kittens live in groups. Kittens stay with their mothers for an average of 16 months before dispersing and establishing their own range. WDFW estimated there were around 3,600 cougars living in Washington in 2015.

The 2015-2021 Game Management Plan outlines the statewide goals for cougar: (1) Preserve, protect, perpetuate, and manage cougar and their habitats to ensure healthy, productive populations; (2) Minimize

human/cougar conflict; (3) Manage cougar for a variety of recreational, educational, and aesthetic purposes, including hunting, scientific study, cultural and ceremonial uses by Native Americans, wildlife viewing, and photography; (4) Manage statewide cougar populations for a sustained yield; and (5) Improve our understanding of predator-prey relationships.

Cougars could occur on any of the wildlife area units, as they follow deer and other prey seasonally as these animals migrate. While they are elusive, the potential to encounter them is always there. Hunting cougars is a popular activity on most units of these wildlife areas.



Cougar
Photo by Justin Haug

Upland Game Birds

Upland game birds found on the wildlife areas include Hungarian partridge, chukar, ring-necked pheasant, California quail, dusky grouse, spruce grouse and ruffed grouse. The pheasants and partridge species are the offspring of released birds, but releases only occur presently on the Chiliwist Unit and adjacent to the Driscoll-Eyhott Island Unit. The Sinlahekin Wildlife Area is a popular destination for upland bird hunters. All units of the Scotch Creek and Sinlahekin wildlife areas have one or multiple upland game bird species that inhabit a variety of different habitats. For more information on specific game birds and hunting opportunities, visit the http://wdfw.wa.gov/hunting/upland_birds/.

Diversity Species

The Scotch Creek and Sinlahekin wildlife areas support a variety of diversity species (species that are not hunted). Diversity species include SGCN, PHS and federally and state listed species. Included in this group are Columbian sharp-tailed grouse and western gray squirrel, state listed threatened species actively managed here. The following section summarizes recovery actions for these focal species.



Hungarian partridge
Photo by Justin Haug

Columbian Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)

These medium-sized birds live in open grasslands and shrub-steppe habitat. They are named for their “sharp” tails. Two feathers at the center of their tail are longer than the rest, making them appear sharp. Their feathers are mottled dark and light brown against white and males have a yellow patch over their eyes and a violet patch on their necks. Females are slightly smaller than males. During mating season, males display to attract females in open areas called “leks” or breeding sites.

Columbian sharp-tailed grouse have undergone a dramatic decline throughout Washington State. The Washington Fish and Wildlife Commission listed this species as threatened in 1998 and they have been petitioned for federal listing twice (federal species of concern). Small, isolated populations in Washington are present only in Okanogan, Douglas, and Lincoln counties. There are seven sub-populations that are not sustainable at current population levels. Loss of the grassland habitat the grouse depend on is the biggest threat to their survival.

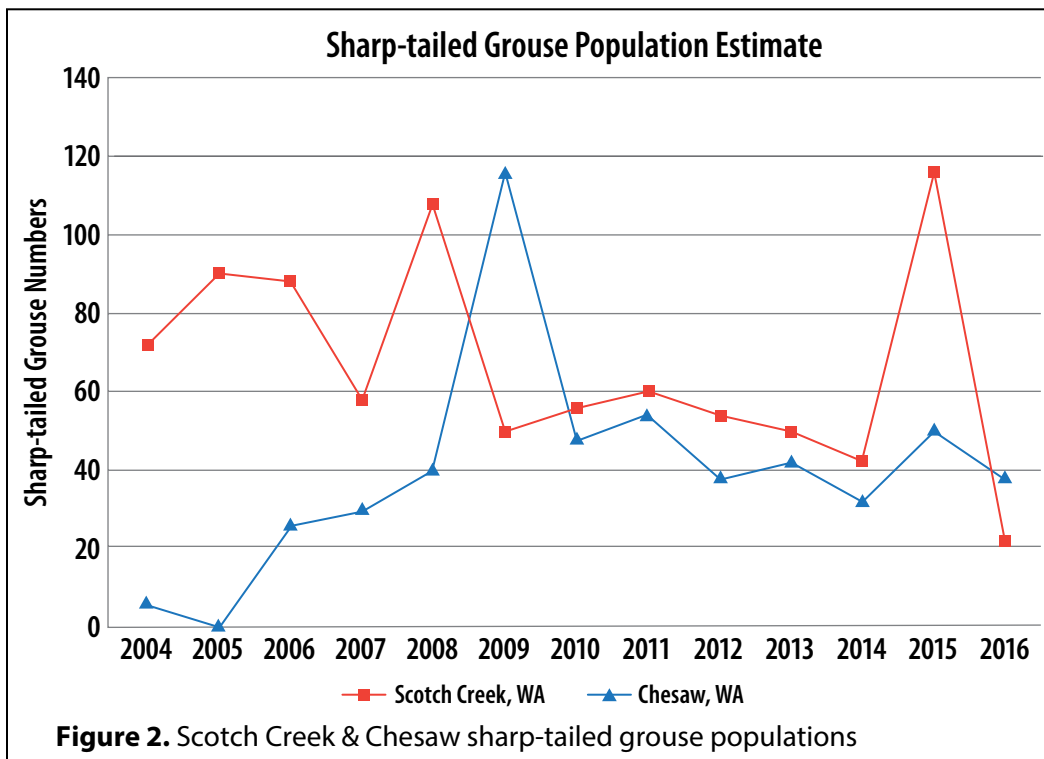
All of the units of the Scotch Creek and Sinlahekin wildlife areas are within Sharp-tailed Grouse Recovery Units outlined in the state recovery plan, but vary in current and historic occupancy, and amount of steppe



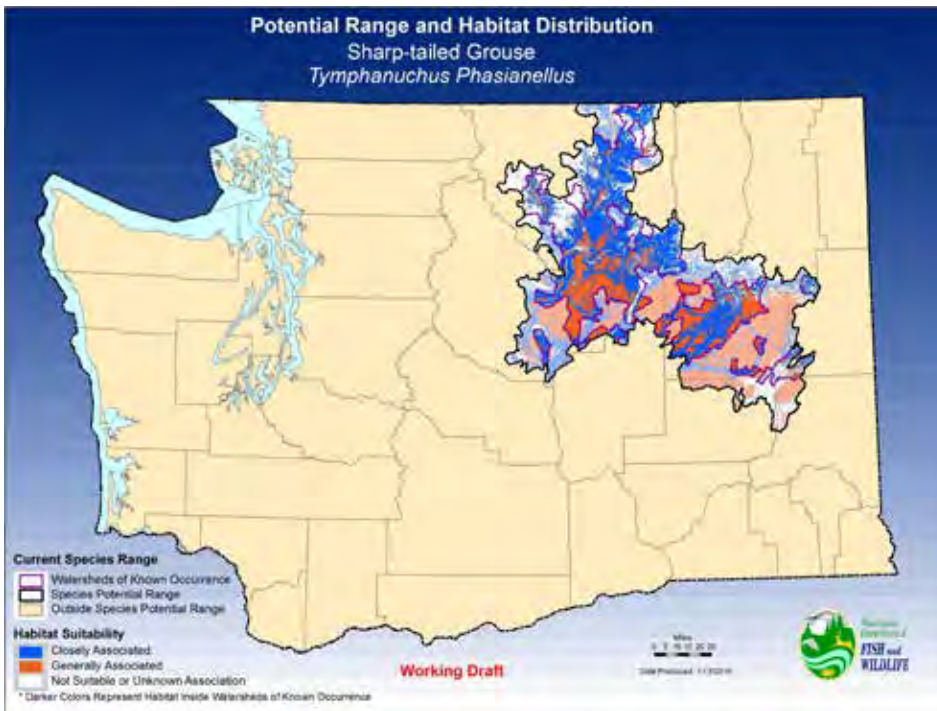
Columbian Sharp-tailed grouse
Photo by Greg Thompson

habitat (Stinson and Schroeder 2012). The Scotch Creek, Chesaw, and Tunk Valley units host small populations, but the occupied areas need to expand and connectivity needs improvement if sharptails are to persist. The Chiliwist, Eder, Sinlahekin, and Pogue Mountain units all have historical records of sharptails, and a population went extinct in the Horse Springs Coulee area since 2000. The Chiliwist and Eder units in particular may have future potential to support populations and the Chiliwist is important for connectivity with Douglas County populations, and all of these units have value for supporting connectivity.

All the steppe and riparian habitats on the units with potential to support sharptails will be needed for recovery. Habitat enhancements specifically designed for sharp-tailed grouse have been underway on the Scotch Creek, Chesaw, and Tunk Valley units since 1991. Over 1,500 acres have been restored to quality shrub-steppe, critical habitat for nesting and brood-rearing for grouse. Habitat enhancements are ongoing at approximately 100 acres per



Map 17. Potential Range and Habitat Distribution of the Columbian Sharp-tailed Grouse* State Wildlife Action Plan



*These maps are referred to as “potential” habitat distribution maps because they depict range as areas with documented occurrences, as well as areas with suspected or possible occupancy based on the availability of suitable habitat and the proximity of that suitable habitat to occupied areas.

year. In addition, riparian habitats have been restored on these units, and the areas are critical wintering habitat for sharp-tailed grouse.

WDFW personnel translocated sharp-tailed grouse in the late 1990s from southeast Idaho to the Scotch Creek Unit. A total of 66 birds were released on the wildlife area over three years. Weed control is ongoing and helps to maintain and enhance habitat. All of these actions helped increase grouse populations for the next several years. In the early 2000s, numbers fluctuated in response to cold, wet weather in the spring for several years. In the spring of 2015, wildlife area staff counted the highest number of birds (110) to date. That summer, the Okanogan Complex Fire burned over much of the species’ habitat, displacing the birds. In the spring of 2016, only 10 birds were counted. However, where riparian habitat recovers, the long-term effect of the fires may be positive for sharp-tails by reducing shrub cover where it had become dominant. Figure 2 illustrates sharp-tailed grouse population trends.

Western gray squirrel (*Sciurus griseus*)

Western gray squirrel populations have declined substantially in Washington since the late 1800s and are now limited in distribution to three separate areas: the Klickitat region, North Cascades and southern Puget Trough. Genetic analysis suggested that populations of western gray squirrels in the North Cascades total 500 to 1,000 individuals (Stuart 2012). Western gray squirrels listed as a threatened species in Washington.

The greatest threats to the western gray squirrel are habitat loss, disease and collisions with vehicles. In the North Cascades, western gray squirrels occur mostly in mixed conifer-deciduous forests comprised mainly of Douglas fir and ponderosa pine with smaller amounts of species such as lodgepole pine, black cottonwood, bigleaf maple and aspen and other species (Stuart 2012). Habitat connectivity is essential for the western gray squirrel, allowing squirrels to move between patches, avoid predators, access mates, and juvenile dispersal (movement

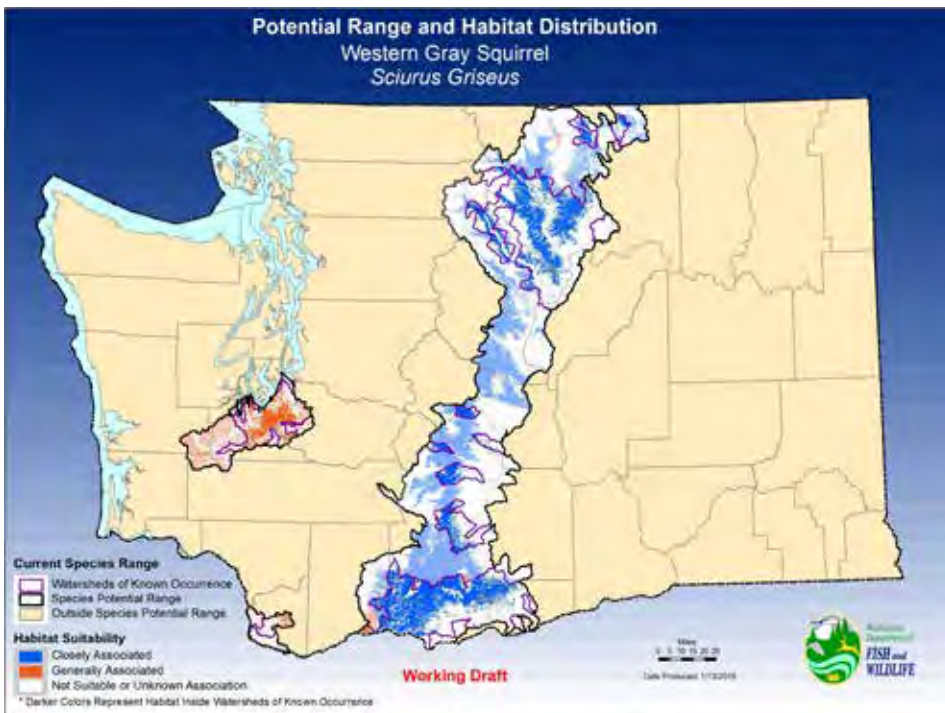
from birth sites to breeding sites) (Linders et al 2010). Riparian areas may serve as important travel corridors for squirrels; especially in areas where dry uplands support limited tree cover (Wiles 2015). Ongoing habitat enhancement of oak communities has also likely benefitted this population. Regular burns of lower intensity can help restore forests to more natural conditions, thus providing many benefits for western gray squirrels (Wiles 2015).

WDFW staff members have conducted surveys to determine the presence of the western gray squirrels within portions of the Scotch Creek and Sinlahekin wildlife areas from 2008 through 2010. Areas surveyed include the Mineral Hill (now DNR-managed), Pogue Mountain, Happy Hill and Chiliwist units, and the southern portion of the Sinlahekin Wildlife Area. Positive detections occurred on the Chiliwist Unit and the Pogue Mountain Unit. Confirmed sightings of western gray squirrels have also been documented on the Sinlahekin Wildlife Area (Heinlen pers comm).



Western gray squirrel
Photo by WDFW staff

Map 18. Potential Range and Habitat Distribution of the Western Gray Squirrel. State Wildlife Action Plan



These maps are referred to as “potential” habitat distribution maps because they depict range as areas with documented occurrences, as well as areas with suspected or possible occupancy based on the availability of suitable habitat and the proximity of that suitable habitat to occupied areas.

Grizzly Bear *(Ursus arctos)*

Grizzly bears are large omnivores that forage over extensive home ranges that span forested and open terrain from the valley bottoms to alpine environments. Grizzlies underwent a dramatic decline in both numbers and distribution in North America in the late 1800s and early 1900s. Currently they only occupy roughly 2 percent of their historical range south of the 48th parallel. In Washington a small number of bears exist in the Selkirk Mountains in the northeast corner of the state, and a few scattered individuals may still persist in the North Cascades Ecosystem where the last documentation of an individual on the U.S. side of the border occurred in 1996. Grizzly bear has not been confirmed on any units of the Scotch Creek or Sinlahekin Wildlife Areas in many decades. The National Park Service and U.S. Fish and Wildlife Service have recently released the Grizzly Bear Restoration Plan/ Draft Environmental Impact Statement in the North Cascades Ecosystem, Washington. The main unit of the Sinlahekin Wildlife Area is within the North Cascades Grizzly Bear Ecosystem boundary. Depending on the outcome of the EIS process, the likelihood of a grizzly bear using one or more wildlife area units could increase slowly over time.

Lynx

(Lynx Canadensis)

Lynx are medium-sized, feline carnivores that inhabit boreal and upper elevation montane forests at northern latitudes in North America. Their range dips down into Washington in the Kettle and Selkirk Ranges, and the northeast portion of the North Cascades. Lynx are dependent on the robust populations of snowshoe hares found in these areas. These mid-sized cats have light bodies and large, heavily furred feet that make them the most efficient predator of snowshoe hares during the cold, snowy winters characteristic of the areas they inhabit. The progression of climate change is expected to shrink lynx range in Washington as winter temperatures rise, resulting in reduced snow depth and a wetter and denser snow pack. Currently lynx have been re-listed to endangered status by the WDFW Commission primarily due to temporary

loss of habitat and reduced lynx numbers following recent large wildfires. Anticipated effects of climate change were also considered. At the federal level, lynx are listed as threatened by the USFWS and designated critical habitat for the species occurs in Washington. None of the critical habitat falls on WDFW property as the wildlife areas are located in drier, lower elevation habitats less suitable for lynx. As a result, lynx are not expected to reside permanently on the wildlife areas; however dispersing animals frequently travel hundreds of miles and it is expected that individuals will occasionally move through some units. As such, the wildlife areas can function as important linkages between larger blocks of higher elevation lynx habitat on USFS and DNR lands.

Wolverine *(Gulo, gulo)*

The wolverine is the largest land-based member of the mustelid (weasel) family and has a circumpolar distribution in the boreal forest and tundra environments of the northern hemisphere. In Washington, they are found at upper elevations in the Cascades and the mountains of the northeast part of the state. Wolverines are constantly on the move both hunting and scavenging throughout their immense (500+ sq. mi) home ranges. Their summer diet is dominated by rodents, birds and other small animals, and augmented by opportunistic scavenging. Scavenging becomes more important in winter and wolverines will seek out large carcasses such as an ungulate carcass buried in an avalanche. They will also prey on live ungulates, particularly those weakened and/or hampered by deep snow, as well as utilize food they cached in cold refugia in the fall.

Like the lynx, wolverines have light bodies and large feet. These features combined with their sharp semi-retractable claws and dense winter coats make them supremely adapted to extreme cold, and deep snow environments. In fact, wolverine habitat across the continent is tightly correlated with areas that retain a significant snowpack well into spring (mid-May). In Washington this limits them to our higher elevation landscapes. As a result, wolverines are not expected to reside permanently on the wildlife areas; however, dispersing animals frequently

travel hundreds of miles and it is expected that individuals will occasionally move through some units. As such, the wildlife areas can function as important linkages between larger blocks of high elevation wolverine habitat on U. S. Forest Service and National Park Service lands.

Wolf

(Canis lupus)

Wolves are medium sized carnivores and the largest members of the canid family. They have a circumpolar distribution over much of the northern hemisphere, making them the most widespread mammalian carnivores on land in the world. Wolves prey primarily on wild ungulates, supplemented with opportunistic predation of smaller mammals and birds. They are a social and territorial species that generally live in packs; however younger animals typically disperse after their first or second year to find mates and establish new territories. Dispersing animals frequently travel hundreds of miles.

Historically wolves ranged throughout Washington, but were believed to have been extirpated from the state in the early 20th century. By the end of the same century, wolves began to naturally recolonize Washington with dispersing individuals arriving from the north and east moving from Canada and the Northern Rocky Mountain States respectively. The first verified wolf pack in Washington since the 1930s was confirmed in the Methow Valley in 2008, and since then the estimated state population has expanded to around 100 animals in 19 packs as of mid-2016. To date, wolves have been documented on several of the Scotch Creek and Sinlahekin Wildlife Area units and can be expected to utilize all of the units to varying degrees in the years ahead.

Currently wolves are classified as a state endangered species throughout Washington and are listed as federally endangered in the western two thirds of the state. Specific wolf management goals and activities that apply both on and off the Wildlife Areas are detailed in the Washington Wolf Conservation and Management Plan published in 2011. Briefly, the plan

goals are: 1) Restore a self-sustaining, well-distributed wolf population in Washington, 2) Minimize wolf-livestock conflict while supporting wolf recovery, 3) Develop public understanding of wolf conservation and promote coexistence with the species, 4) Maintain robust ungulate populations that support wolves, other predators and hunter harvest opportunities. Similarly, specific wildlife area goals and objectives that benefit ungulates and habitat connectivity will also benefit wolves.

Monarch Butterfly

(Danaus plexippus)

Monarch butterfly populations in Washington have significantly decreased in recent years. The number of monarchs west of the Rockies has declined by more than 50 percent since 1997 (Monroe et al. 2015). The species has lost more than 165 million acres of habitat, including about a third of their summer breeding grounds, and populations have declined by 90 percent in the past two decades (Center for Biological Diversity et al. 2014). The monarch butterfly is a designated species of greatest conservation need. (SGCN)

The Monarch butterfly is dependent on the milkweed host plant species, on which they lay their eggs, larvae emerge, and species develop. Milkweed patches are scattered throughout the Sinlahekin and Scotch Creek wildlife areas, but can be found within most units – often associated within transitional areas between wetland and upland habitat types. Patches can also be found along roads, trails, and disturbed sites such as agricultural fields.

Monarch butterflies have been documented on the Sinlahekin, Driscoll-Eyhott Island and Similkameen-Chopaka units where milkweed patches are common. Retention and expansion of these milkweed patches are high priorities for WDFW. Wildlife area management will work with Olympia staff to implement Monarch management recommendations and survey for milkweed and monarch distribution. These actions will improve habitat not only for monarchs, but also for all pollinator species that inhabit WDFW lands.

Fish Species

The Okanogan River sub-basin supports **steelhead** (*Oncorhynchus mykiss*) as well as two species of **salmon** – Chinook (*O. tshawytscha*) and sockeye (*O. nerka*).

The following stocks are found in the Okanogan sub-basin: summer Chinook, spring Chinook, sockeye, and steelhead. Steelhead (*O. mykiss*) are part of the Upper Columbia River steelhead Distinct Population Segment, which have been listed as threatened under the Endangered Species Act (ESA). Spring Chinook were extirpated and reintroduced from hatchery stocks at Winthrop National Fish Hatchery. See Maps 19 and 20 for distribution of salmonids in relationship to the wildlife areas.

Pacific lamprey (*Lamprey tridentate*) is another anadromous, or sea-going, species of interest in the Okanogan sub-basin. Although historically found in the watershed, efforts are underway to collect information on the present distribution and status.

Bull trout (*Salvelinus confluentus*) is a trout-like member of the char family historically present in the Okanogan sub-basin. They exhibit many different life history strategies including year round residency and adfluvial migrations to upstream spawning sites from over-wintering locations in the lower Okanogan and Columbia rivers. Adfluvial is a life history strategy in which adult fish spawn and juveniles subsequently rear in streams but migrate to lakes for feeding as adults. Bull trout are listed as threatened status under the ESA and have been observed only infrequently in recent time. One of the major limitations on anadromous and adfluvial fish production is the presence of a number of natural and artificial barriers in the watershed. Significant natural barriers include falls on Loup Loup, Omak, Johnson, Bonaparte, and Tonasket creeks. Artificial dams inhibit anadromous access to historic spawning habitat on Salmon Creek (Conconully Reservoir) and Similkameen River (Enloe Dam). The Coyote falls just below Enloe dam have been thought to be a passage barrier to some anadromous fish. There is little historical evidence of large salmon runs above the falls based on Okanogan PUD review. More recently, there is video evidence of sockeye salmon above the falls (but below the dam). Summer Chinook have been seen above the falls (but below the dam) on numerous

occasions. Based on steelhead jumping limits, it is likely that steelhead could clear the falls during specific flow conditions. Lamprey are suspected to be able to pass the falls easily (Fortier pers comm.).

Resident fish in the Okanogan Sub-basin include **redband trout** (*O. mykiss*), **westslope cutthroat trout** (*O. clarki lewisi*), **kokanee** (*Oncorhynchus nerka*), **burbot** (*Lota lota*), and **whitefish** (*Prosopium williamsoni*). **Brook trout** (*Salvelinus fontinalis*) were introduced into the Okanogan sub-basin early in the 20th century and may continue to be detrimental to native cutthroat, bull and redband trout. **Sterile tiger trout** (*Salmo trutta* x *Salvelinus fontinalis*) and **triploid eastern brook trout**, along with brown trout (*Salmo trutta*), are stocked in Okanogan lakes without the potential for emigration to other waters. Non-native warmwater game species are found in selected lakes and include species such as **largemouth bass** (*Micropterus salmoides*), **smallmouth bass** (*Micropterus dolomieu*), **black crappie** (*Pomoxis nigromaculatus*), **bluegill** (*Lepomis macrochirus*), **channel catfish** (*Ictalurus punctatus*), and **yellow perch** (*Perca flavescens*). A variety of resident non-game species are naturally found in the Okanogan watershed, including **cottindae** (sculpins), **cyprinidae**, and **catostomidae** (suckers). See Table 2 for the summary of non-salmonids on the Scotch Creek and Sinlahekin wildlife areas. See Map 20 for kokanee, westslope cutthroat, and pygmy whitefish distribution.

Kokanee naturally spawn in Sinlahekin Creek from Palmer Lake, providing one of the most popular fisheries in central Washington.

Table 2. Summary of non-salmonid presence on the WLAs

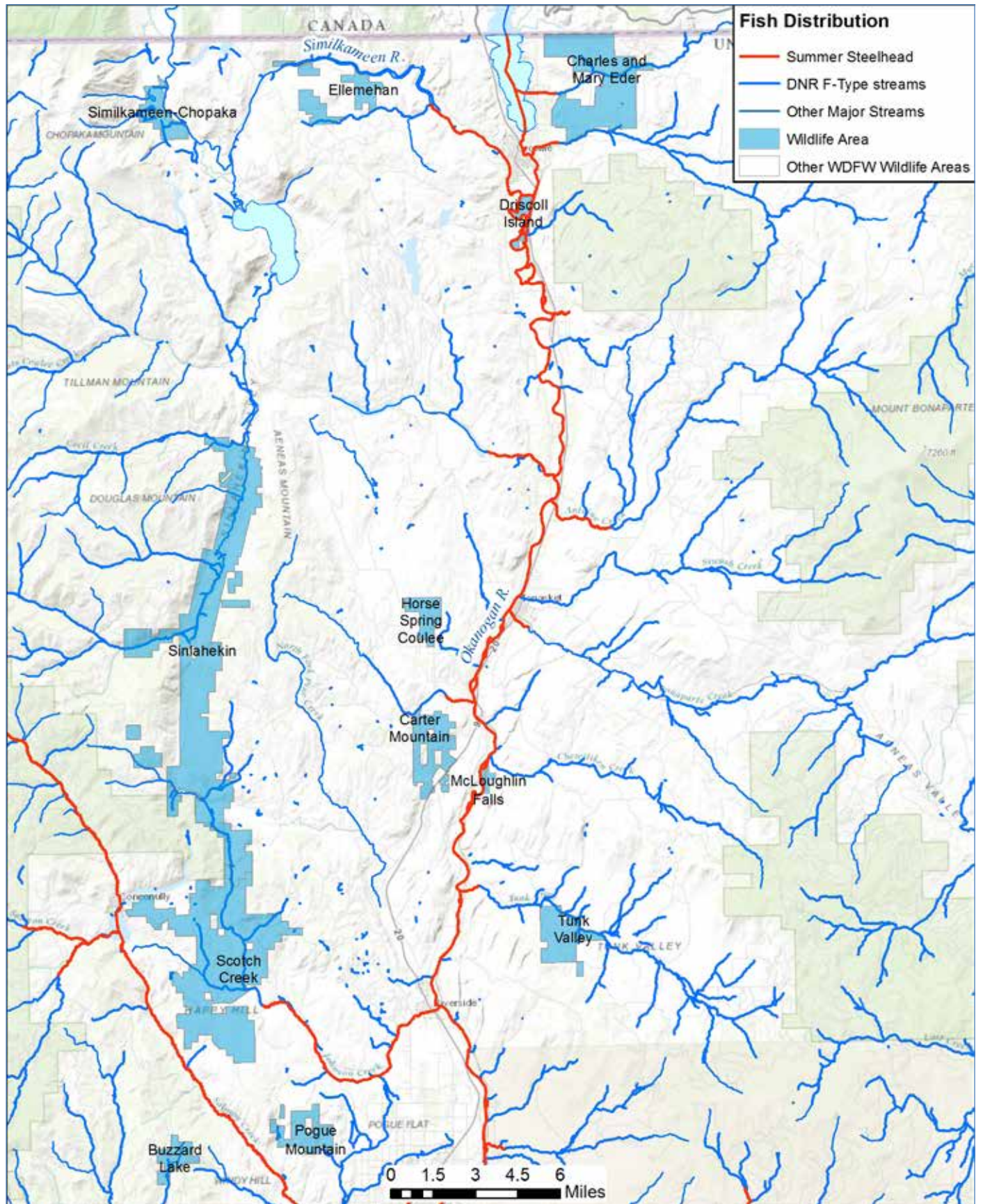
Stream systems with major non-salmonid fisheries

Columbia River
Okanogan River
Similkameen River
Salmon Creek below Conconully Reservoir

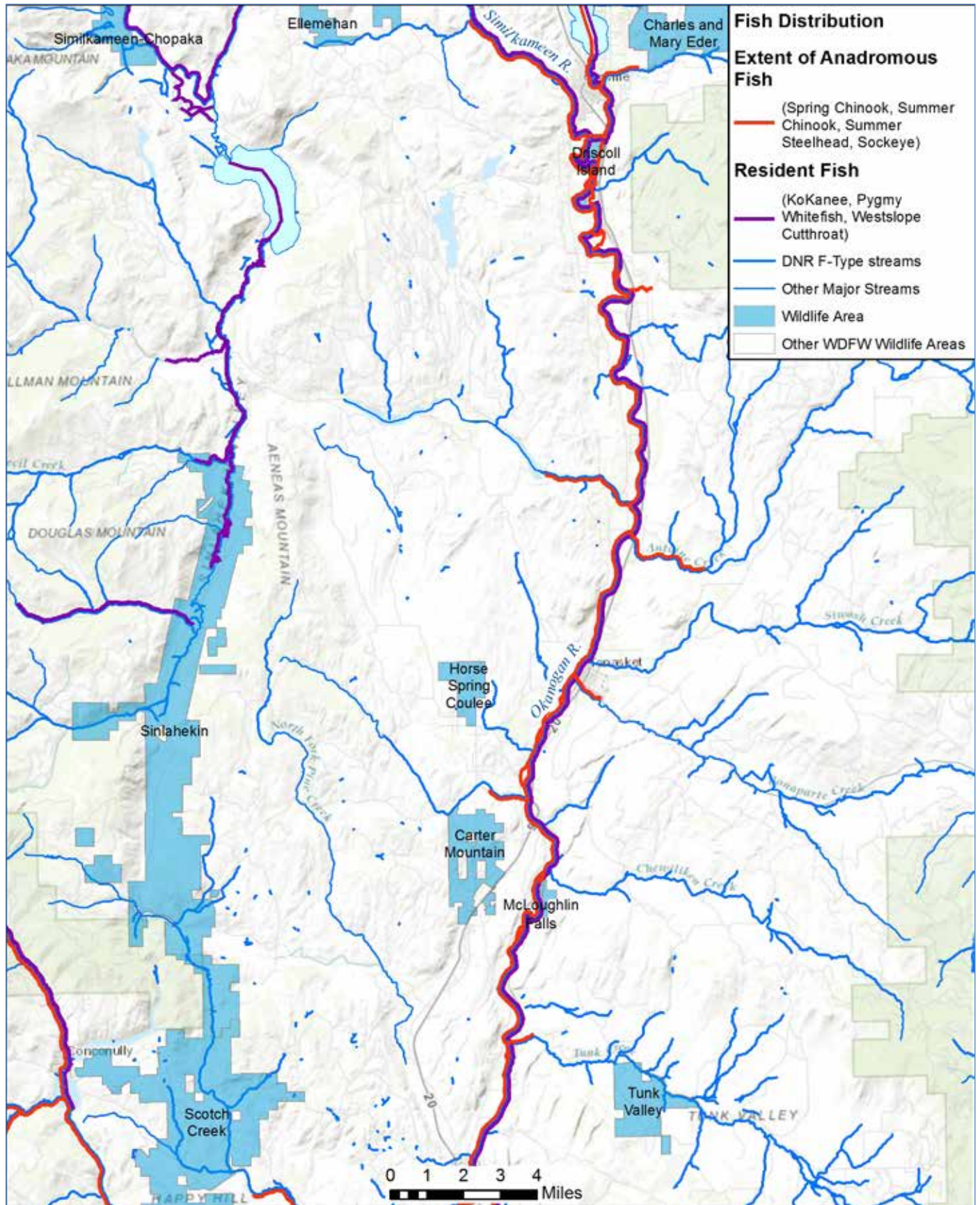
Lakes with major non-salmonid fisheries

Palmer Lake
Lake Osoyos
Rufus Woods Reservoir
Leader Lake
Whitestone Lake
Washburn Island Pond

Map 19. Summer steelhead distribution near the Scotch Creek and Sinlahekin wildlife areas



Map 20. Distribution of anadromous and resident fish near the Scotch Creek and Sinlahekin wildlife areas



Fish Management

Fisheries management surrounding the wildlife areas consists of protecting wild fish, recovering species listed under the ESA, and continuing the production of hatchery fish for sport anglers to harvest in the Okanogan River and sub-basins.

The Okanogan River and its tributaries are home to many different types of fish, salmon, steelhead, whitefish, and trout. Fish production comes from both natural and hatchery production. The different stocks of fish can be native (in the river originally) or introduced.

Many native stocks in the Columbia River, such as the Upper Columbia steelhead, are listed under the ESA because their numbers became so low at the time of listing that they needed further federal protection. State, federal, tribal, and county agencies are working hard to restore these fish species in the Okanogan River through habitat restoration and protection. Restoration activities in the Okanogan Sub-basin are focused on restoring natural connectivity, off-channel rearing and floodplain functions. Hatchery production of trout, sturgeon, salmon, and steelhead is done in the Okanogan watershed to augment harvest and wild production.

Summer Chinook and sockeye are not listed under the ESA in the Okanogan watershed. Natural summer Chinook production is augmented by annual plantings at Similkameen and in the mainstem Okanogan River for adult returns of sport and tribal fisheries. These fish are raised at the East Bank and Chief Joseph hatcheries. Anglers can only keep hatchery summer Chinook (marked by a clipped adipose fin) in the sport fishery. Natural sockeye production above Lake Osoyoos is augmented by Canadian hatchery releases and anglers can harvest both natural and hatchery origin sockeye adults.

In addition to natural production, steelhead smolts are released at the mainstem Okanogan River and Omak Creek for adult sport harvest. In the sport fishery, anglers can only keep hatchery steelhead, marked with a clipped adipose fin.

A variety of fishing seasons are implemented in Okanogan waters when a harvest surplus is identified or for genetic management of listed species. These fishing seasons include spring, summer, and fall Chinook, coho, steelhead,

sockeye, whitefish, resident trout, and various warmwater species. Season dates and locations vary annually and are subject to fishery-specific restrictions.

Many Okanogan lakes are managed for trout, warmwater fish, or a mix of fish species using a variety of natural reproduction and stocking strategies, including stoking fry, catchable, jumbo, and triploids. Species stocked by WDFW in Okanogan County include rainbow trout, brown trout, tiger trout, westslope cutthroat trout, kokanee, triploid eastern brook trout, and channel catfish. In fry planting lakes, juvenile hatchery fish are released into a lake and rear to harvestable size naturally. Catchable plants are reared to harvestable size in a hatchery and released into lakes. Jumbo plants are reared to one pound prior to release for quality fish harvests. Triploid plants are reared to a pound and a half for release into lakes.

WDFW manages warmwater lakes in Okanogan County for the natural reproduction of fish with the exception of channel catfish stocking. These warmwater lakes include Washburn Island and Whitestone lakes.

The department manages several lakes in Okanogan County, including Palmer, Leader, and Patterson lakes, for both the natural production of warmwater species and the stocking of catchable trout.

WDFW also manages lakes for trout-fishing opportunities. Some lakes are closed in winter to provide higher catch rates and larger sizes of trout during a limited warm season fishery. The exact opening dates vary by location. Anglers must fish with selective gear during fall and winter but can retain trout. In warmer seasons, however, anglers can continue to fish these waters for trout with catch-and-release opportunities. This management method maintains quality fishing opportunities and prevents anglers from over-fishing smaller, more popular lakes. WDFW limits the harvest of trout in some waters to provide a higher survival of trout to older, larger age classes. These lakes provide the opportunity to catch fewer, but larger fish.

Kokanee naturally migrate up Sinlahekin Creek from Palmer Lake for spawning each fall. A portion of these adults are captured for broodstock for hatchery releases into several Okanogan lakes, including Conconully Reservoir and Lake, Bonaparte, Spectacle, Alta, Palmer, and Patterson lakes.

Resident non-game species do not warrant active management at the current time. Periodic investigations are performed to identify general population trends over time.

In the event that an undesired species becomes established in a water body, WDFW has a variety of management options to restore the fisheries, including mechanical and chemical eradication. Mechanical removal includes

netting, electrofishing, and gear fishing. Chemical eradication uses rotenone, a natural, low impact chemical that kills all fish species. Following mechanical and chemical treatments, desired species can be restocked into the water body.

Habitat Management

The agency directs its own research in some cases, developing priorities and action plans for specific species that are carried out by WDFW staff and by other conservation organizations. The agency also collaborates with other agencies. In some cases, WDFW adopts the products and action plans developed by other agencies to reflect the most current conservation science. This includes the Ecological Integrity Assessment (EIA) and Ecological Integrity Monitoring (EIM) programs. These, when combined with the Citizen Science program, will help meet the statewide goal of maintaining and enhancing ecological integrity on all WDFW lands. Similar to species classifications that are grouped according to level

of threat and potential inability to support sustained populations, habitats are grouped by type, including those that are a priority for preservation and conservation.

The agency prioritizes habitat based on the classification system developed by NatureServe and DNR's Natural Heritage Program's Ecological Integrity monitoring, the PHS Program and output from the Washington Wildlife Habitat Connectivity Working Group (WHCWG).

This section provides a description of habitat management activities that occur on these wildlife areas, including forest management, weed management, fire management and history, restoration, climate and climate change



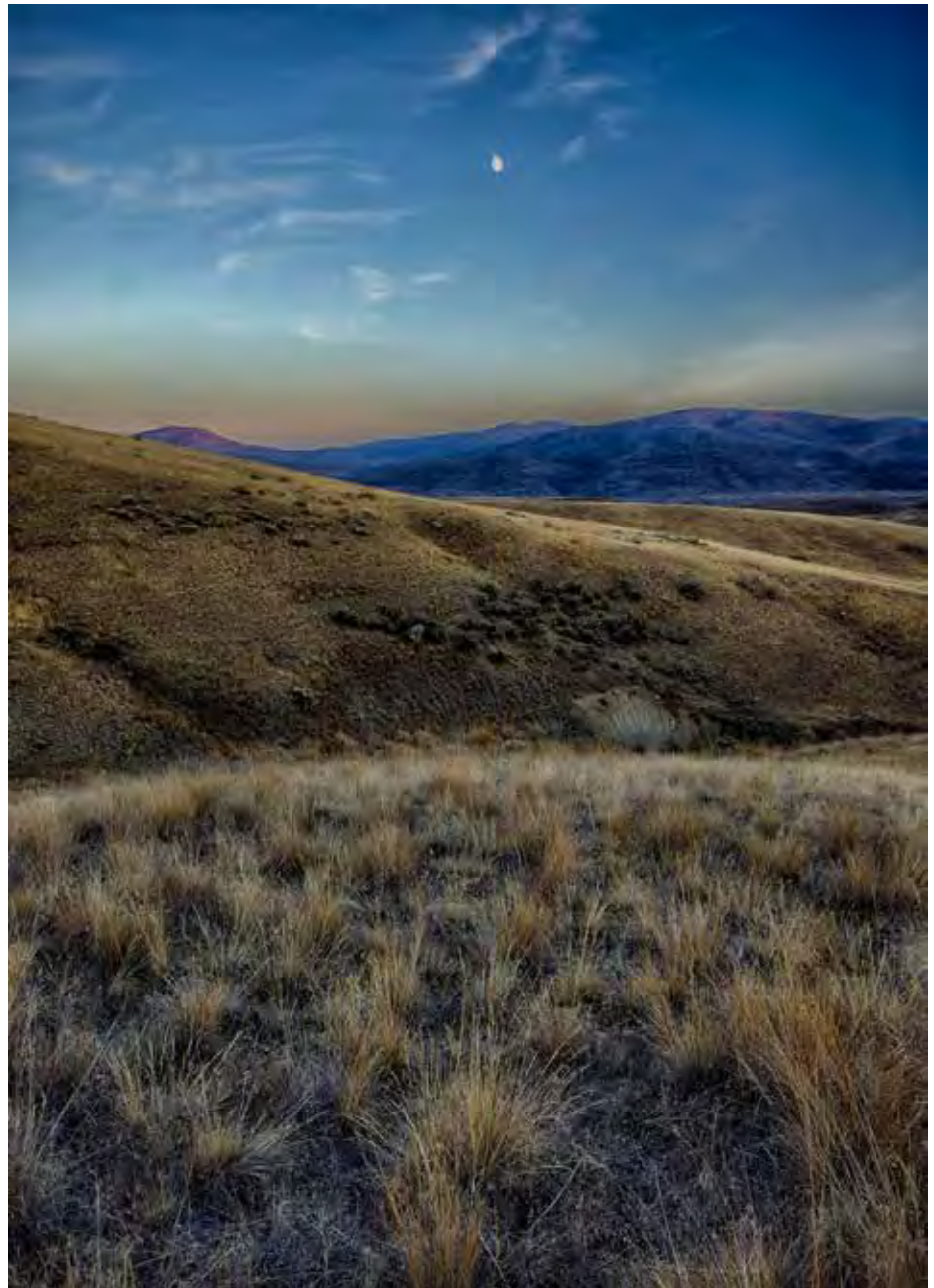
Similkameen-Chopaka Unit
Photo by Justin Haug

Ecological Systems and Ecological Integrity

WDFW's strategic objectives include protecting and restoring the ecological integrity of critical habitats, consistent with DNR's National Heritage Program's Ecological Integrity Monitoring. The complete classification system, including descriptions of all ecological systems, can be found online at <http://www.dnr.wa.gov/NHPecologicalsys> and summarized in the framework. Ecological integrity is defined as the ability of a system to support and maintain a community of organisms that has species composition, diversity, and functional organization comparable to those of natural habitats.

The planning process for Sinlakhekin and Scotch Creek wildlife areas identified 7 National Ecological Systems of Concern to manage for ecological integrity. Six of these are found within the Sinlakhekin and five are found within the Scotch Creek wildlife areas. Table 3 summarizes the National Ecological Systems of Concern for the two wildlife areas, taken from DNR's Natural Heritage Program website, listed above.

Additionally, Appendix E contains the list of SGCN believed to be present on the wildlife areas and their relationships with ecological systems of concern. Actions associated with ecological integrity are included in the goals and objectives section (Appendix A), and include determining a baseline for ecological integrity for each of these systems, and then devising a monitoring plan to evaluate progress over time.



Shrub-steppe and grassland, Horse Spring Coulee Unit
Photo by Justin Haug

Table 3. Ecological Systems of Concern Summary for Scotch Creek and Sinlahekin Wildlife Areas

Ecological System of Concern	WLA	Description
Columbia Basin Foothill Riparian Woodland and Shrubland	Scotch Creek & Sinlahekin	Low-elevation riparian system found along the mainstem of the Columbia River and associated major tributaries on the periphery of the mountains surrounding the Columbia River Basin at and below lower tree line. Found in low-elevation canyons and draws, on floodplains, or in steep-sided canyons, in narrow V-shaped valleys with rocky substrates.
Columbia Plateau Steppe and Grassland	Sinlahekin	Extensive grasslands, not grass-dominated patches within sagebrush shrub-steppe ecological system, dominated by perennial bunch grasses and forbs, sometimes with a sparse shrub layer. Often forms a landscape mosaic with the Columbia Plateau Shrubland ecological system. Very little exposed bare ground due to mosses and lichens carpeting the area between plants, comprising a biological soil crust that is a very important characteristic in this ecological system.
Inter-Mountain Basins Big Sagebrush Steppe	Scotch Creek & Sinlahekin	This system is grassland with shrubs. Shrubs are dominated by <i>Artemisia</i> spp., and/or <i>Purshia tridentata</i> in an open to moderately dense shrub layer and with at least 25 percent total perennial herbaceous cover. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, so the general aspect is that of grassland. <i>P. tridentata</i> is present almost always in association with tree cover, not out in the open.
North American Arid West Emergent Marsh	Scotch Creek	Marshes occurring below lower treelines. Typically surrounded by savanna, shrub-steppe, steppe, or desert vegetation.
Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	Sinlahekin	Riparian woodland and shrubland consists of deciduous, coniferous, and mixed conifer-deciduous forests that occur on streambanks and river floodplains of the lower montane and foothill zones.
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	Sinlahekin	These woodlands and savannas are, or at least historically were, fire-maintained and occurring at the lower treeline/ecotone between grasslands or shrublands at lower elevations and more mesic coniferous forests at higher elevations. This is the predominant ponderosa pine system of eastern Washington.
Rocky Mountain Aspen Forest and Woodland	Scotch Creek & Sinlahekin	Aspen forests and woodlands are a minor type found on the east side of the North Cascades. Although aspen can be associated with streams, ponds, or wetlands, this system consists of upland aspen stands found from low to moderate elevation.

Habitat Connectivity

Key wildlife habitat connectivity linkage networks in the Columbia Plateau were identified by the <http://wacconnected.org/> (WHCWG 2010). The linkage networks, comprised of suitable habitats and the linkages connecting them, were derived from two modeling approaches: focal species and landscape integrity. The focal species approach identified important habitat areas and the best linkages between the habitat areas for the movement of wildlife focal species. Focal species were carefully selected to represent the connectivity needs of a broader assemblage of wildlife (WHCWG 2010). The best linkages provide the least resistance to movement between habitat areas for that animal in that area. This means that some of the linkages may not be comprised of ideal habitat, but provide opportunities for movement through a human-modified landscape.

The landscape integrity approach identified core habitat areas that were relatively free from human modification and the least human-modified linkages between them (WHCWG 2010). Three of the focal species from the Columbia Plateau analysis are found on the Scotch Creek and Sinlahekin wildlife areas. These wildlife areas contain core habitat and provide connectivity for mule deer, sharptailed grouse and tiger salamander. These three species represent three different types or ranges of movement. Mule deer are a wide ranging species capable of significant movement covering many miles. Generally, these movements are between the mule deer summer and winter range, and are seasonal in nature. Sharp-tailed grouse movements are primarily flights between suitable habitat patches that can be miles apart. The tiger salamander is the least mobile; populations of tiger salamander are known to have reduced gene flow if they are more than a kilometer apart. Specific connectivity information as it pertains to the Scotch Creek and Sinlahekin wildlife areas can be found at the following link: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/.

Lynx and wolverine were two of the focal species that were included in the Washington Wildlife Habitat Connectivity Working Group analysis. They were selected because of good information available regarding habitat requirements and mobility; additionally they were broadly representative of a larger group of wildlife. The

analysis identified a good pathway for lynx and wolverine movement through one of the Scotch Creek / Sinlahekin wildlife area units. However, outside of the rare dispersal event, generally lynx and wolverine do not occur on the wildlife areas.

We do not have a strong understanding of impediments to habitat connectivity for grizzly bear in this landscape. The permeability of the existing landscape is likely sufficient to accommodate bear movement. Transportation routes such as highways could impact connectivity and be a source of mortality. If a grizzly bear population is re-established in Washington as envisioned in certain alternatives of the Grizzly Bear Restoration Plan, mule deer winter kill could be an attractive food source in the spring. Grizzly bears coming out of hibernation could move to wildlife areas seeking out this food source. The social/cultural carrying capacity would also have bearing on the permeability of the landscape to bear movement.

The presence of wolves on several units of the wildlife area is a strong indication of landscape permeability and that connections to adjoining habitats exist. The Okanogan is a stronghold for mule deer and supports the largest herd in Washington state. The Scotch Creek/ Sinlahekin wildlife areas are important year-round deer range and contain key winter range. A healthy deer population is beneficial to wolves. If the deer can move freely through a landscape and can access important protected habitats, this benefits the overall deer population and in turn supports wolves.

Habitat management priorities (Appendix A) for these areas include actions that will maintain and improve the core habitat and linkages between the core habitat areas for mule deer, sharp-tailed grouse and tiger salamander. Development of structures, road construction and development along moist habitats, wildlife-unfriendly fencing, and increased traffic in sensitive locations are other actions that could reduce landscape permeability and overall connectivity for these species, and should be avoided.

Forest Management

Forest Overview

Scotch Creek and Sinlahekin wildlife areas' forests contain a range of eight defined forest ecological systems totaling an estimated 13,050 acres, based on aerial and ground interpretation. The majority of the forested areas (81%) are defined by the dry pine and dry mixed conifer systems common to the North Central Washington East Cascade lowlands: Northern Rocky Mountain Ponderosa Pine Woodland and Savanna and Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest. An additional 7% of wildlife area forests consist of Rocky Mountain Aspen Forest and Woodland in smaller stands, stringers, and draws. The remaining 12% of forests are in consistently moist sites such as riparian and near-riparian forests. Mapped riparian forests include Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland, Columbia Basin Foothill Riparian Woodland and Shrubland, Rocky Mountain Subalpine-Montane Riparian Woodland, and Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland.

Fire, a key ecological process that sustains and regulates fire-dependent ecosystems, has been largely excluded for nearly 100 years. Fire is needed to maintain a mosaic of plant communities, in various stages of succession across the landscape, to meet the needs of wildlife. Historically forests and associated shrub-steppe ecosystems like those on the Scotch Creek and Sinlahekin wildlife areas were subjected to frequent, low intensity fire regimes (5-20 year return interval, site dependent). Insects and pathogens also played a historic role in maintaining forest density and structure but fire suppression coupled with a lack of active forest management has created overstocked, stressed stand conditions favorable to higher than historically normal insect populations and pathogen outbreaks that lead to unnatural forest structure loss.

Prior to various acquisitions, many stands were cleared or selection harvested for valuable trees. This has left stands without their mature forest structure and cohort and/or resulted in thick regeneration. Left unchecked by disturbance forests become overstocked, unhealthy, disease and disturbance-prone. The valuable and biodiverse understory component, natural succession processes, and habitat value are missing or rare.

Uncharacteristically intense wildfire is one of the greatest threats to wildlife area forests. Together the Carlton Complex (2014) and Okanogan Complex (2015) wildfires burned through more than 750,000 acres of public and private land including 13,000 acres of WDFW forest, half of which was on the Scotch Creek and Sinlahekin wildlife areas. While fire itself is an important component to the ecosystems, as mentioned above, these fires burned hotter and over larger areas than the historic norm contributing to loss of mature forest cohorts, increase insect-related mortality, reduced riparian shade and, due to size and heat of the burn, elimination of seed sources needed to re-establish forests. Total suppression or elimination of wildland fire is neither viable nor best management in the long-term. Active forest management can reduce severe wildfire behavior on WDFW lands and ensure that fires are less difficult to control. Without treatment that reduces the effects or spread of wildland fire, remaining forests likely will experience similar fires and results. Active forest management includes prescribed burning as a critical component when feasible.

Management Approach

The Scotch Creek and Sinlahekin wildlife areas forest management approach focuses on increasing ecological integrity to improve forest resiliency to disturbance (particularly fire) by rehabilitating degraded stands and habitat quality. In order to achieve these goals, assessments of need from a landscape-wide cross-ownership scale, and monitoring of post-wildfire needs will be conducted. Depending on assessment results both active and passive management strategies will be utilized. However, wherever prescribed fire cannot be applied at a sufficient frequency to counteract the documented effects of fire suppression, periodic treatments will be necessary.

Scotch Creek and Sinlahekin forests will be managed and maintained to meet the priorities and expectations of WDFW's mission to preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and commercial opportunities. The desired future condition for any given stand is based on historic forest reference conditions for frequent fire. These references are either obtained from the wildlife area itself or from studies in east Cascades stands with similar

stand type, topography, fire regime, moisture regime, and soil type. Treatments will not focus on creating a uniform open forest structure. Stands will be managed for the full range of historic variation, depending on landscape conditions, threats, and objectives.

The following active management activities will be utilized to manage wildlife area forests:

- **Commercial Thinning:** Prescribed for dry pine or mixed conifer (with high density stocking outside the historic range of variability) where ground logging is feasible. Projects reduce tree density to favor large trees of fire, drought and insect resistant species.
- **Non-commercial Thin - Old Tree Release:** Prescribed in stands where commercial thinning operations are not currently feasible due to access issues, lack of economic value, and/or logging system

restrictions that cause prohibitive cost for commercial thinning. Projects reduce tree density to favor large trees of fire, drought and insect resistant species.

- **Riparian Forest Management:** Prescribed in areas near or within no machine entry Riparian or Wetland Management Zones where dense conifers are eliminating desirable understory and hardwood species. Projects involve transforming select conifers into snags and downed logs.
- **Thinning by Prescribed Fire:** Prescribed for dry pine, dry mixed conifer, or aspen stands where prescribed fire, plus possible minimal pre-burn slashing can achieve objectives for desired structure, composition, and fuel loading without need for a large thinning operation.



Commercial Thinning, Sinlahekin Unit
Photo by Justin Haug

Fire History

Fire plays a dramatic role across the landscape in the Okanogan Valley and the Sinlahekin and Scotch Creek wildlife areas. The 14 wildlife area units within the Okanogan Valley have experienced approximately 100 wildfires that started within the units since 1975. The majority of these were lightning-caused. However, humans also caused several through abandoned campfires, target shooting, and cigarettes.

Additional research into the history of fire in the area shows an average fire return interval (the number of times that fires occur within a defined area and time period) of about seven to 10 years. This “fire history” was determined by analyzing samples taken from trees scarred by fire collected for a WDFW fire scar survey. This places the historic fire regime for most of the area in what is known as the “frequent low-severity” class.

Fires with the most impact started outside the wildlife area boundaries and made their way onto agency lands. The 2014 Carlton Complex Fire burned the entire Chiliwist Unit, and the 2015 Okanogan Complex Fire impacted approximately 23,000 acres of the Sinlahekin and Scotch Creek units, including the Sinlahekin, Scotch Creek, Pogue, Tunk, McLoughlin Falls, and Buzzard Lake units to varying degrees, see Table 4.

Fire Management

WDFW fire management practices for the Scotch Creek and Sinlahekin wildlife areas include agreements with other fire-fighting organizations including local fire

districts, BLM, USFS, and DNR, briefly described below. See Appendix F for the wildlife area fire district maps and fire response information.

WDFW employees serve as wildfire resource advisors during wildlife incidents, providing logistical information (access points, road locations, available water, sensitive habitats, cultural resources, etc.) to incident commanders to safely and effectively fight fires while protecting important natural resources. Some wildlife area staff members with appropriate training also provide initial attack or fire suppression actions under incident command. Because of the training required to support the agency’s Prescribed Fire Team, agency staff in Scotch Creek and Sinlahekin wildlife areas may also perform fire suppression activities to protect wildlife area lands. These crews, along with trained wildlife area managers and assistant managers from Okanogan County wildlife areas, assisted with structure protection and fire suppression efforts during the Carlton Complex and Okanogan Complex fires in 2014 and 2015.

Fire Districts

There are seven fire districts that cover the Scotch Creek and Sinlahekin wildlife areas. See Appendix F for more details.

- **Okanogan County Fire District #1.** Okanogan County Fire District #1 encompasses approximately 2.2 square miles along the Okanogan River valley. The Oroville station covers the Charles and Mary Eder and Driscoll/Eyhott Island units.

Table 4. Wildfires with Significant Impact on Scotch Creek and Sinlahekin Wildlife Areas

Wildfire Name	Units Impacted*	# of WDFW Acres Burned**	Notes
Rattlesnake	Chiliwist	500	August 2008. Lightning caused.
Tunk	Tunk Valley	1,399	August 1994. Lightning caused.
Gibson Creek	Sinlahekin	1,750	July 1977. Abandoned campfire. Fatality Fire (Ron Neely).
Carlton Complex	Chiliwist	4,890	July to August 2014
Okanogan Complex	Sinlahekin, Scotch Creek, Pogue Mountain, Buzzard Lake, Tunk Valley, McLoughlin Falls	23,000	August to September 2015

*Units impacted and acres burned within the Scotch Creek & Sinlahekin Wildlife Areas ONLY.

**WDFW acreage does not include the Methow or Wells wildlife areas

- **Okanogan County Fire District #3.** Okanogan County Fire District #3 is located in the center of Okanogan County and covers over 71 square miles. The Malott station covers the Chiliwist and Buzzard Lake units. The Omak station covers the Pogue Mountain Unit.
- **Okanogan County Fire District #4.** Fire District #4 covers 174 square miles. The Tonasket station covers the Horse Spring Coulee, Carter Mountain, and McLoughlin Falls units.
- **Okanogan County Fire District #7.** The district covers 33 square miles. It should be noted that it is 28 miles of gradual incline from the beginning of Tunk Creek Road near Riverside to its culmination at Crawfish Lake. The response time for a neighboring fire department to respond to a fire in the upper extent of Tunk Valley could be significant. The Riverside station covers the Tunk Valley Unit.
- **Okanogan County Fire District #9.** District #9 is about 64 square miles. The Conconully station covers the Scotch Creek Unit.
- **Okanogan County Fire District #10.** District #10 is about 24 square miles. The Loomis station covers the Similkameen-Chopaka, Ellemeham, and Sinlahekin units.
- **Okanogan County Fire District #11.** Fire District #11 is located in North Central Okanogan County and encompasses 71,040 private acres (111 square miles). The Molson/Chesaw station covers the Chesaw Unit.

Bureau of Land Management

The Spokane District Fire Management Program currently consists of two wildland engines; one engine is stationed in Spokane at the district office and the other in Wenatchee at the field office. There are approximately 16 other specialists (staff) from across the district that assist the Fire Management Program in wildland and/or prescribed fire efforts. With the district’s scattered ownership pattern, the engines are usually on scene after initial attack forces have arrived.

U.S. Forest Service

The Okanogan-Wenatchee National Forest covers nearly 4 million acres of forested lands on the eastern slopes of the Cascade Mountains. National forest lands span from the Canadian border south to the Yakima Indian Reservation and from the Cascade crest east to the Columbia River on the Wenatchee National Forest and to the Okanogan County line on the Okanogan National Forest. The forest has seven ranger districts, two of which are in Okanogan County. There are approximately 900 Forest Service employees who participate directly in fire suppression or support fire suppression activities.

Washington Department of Natural Resources

DNR considers itself the state’s largest on-call fire department, with employees who fight fire on about 12.7 million acres of state forest land. The DNR has primary protection responsibilities on private and state forest land throughout the northeast region in the State of Washington. The DNR may also respond to fires outside of its jurisdiction that threaten DNR-protected areas. The agency provides wildland fire prevention and regulation on private and state forestland. The DNR works cooperatively during suppression operations with the private sector, local protection entities, and other state and federal agencies.



Okanogan Complex (Limebelt Fire) approaching Fish Lake
Photo by Justin Haug

Rare Plants

Several rare plant species are known to occur on these wildlife areas. See Appendix C for a listing of rare plants on the Sinlahekin Wildlife Area. Two key management actions include: 1) seeking funding for vascular plant surveys; including threatened and endangered species and noxious weeds, and 2) reviewing proposed projects for potential impacts to rare plant species and populations. Funding is currently available for 2017 vascular plant surveys in the Scotch Creek Wildlife Area. These surveys will identify all vascular plants, including threatened and endangered species and noxious weeds.



Yellow lady's slipper (orchid)
Photo by Justin Haug

Weed Management

The weed management plan (Appendix D) identifies species, timing, and management practices to control weeds. The goals of the weed control plan are to maintain or improve the habitat for fish and wildlife, meet legal obligations, and protect adjacent private lands.

Weeds of concern on the two wildlife areas include:

- **Class A** wild four o'clock (*Mirabilis nyctaginea*);
- **Class B** species including Rush Skeletonweed (*Chondrilla juncea*), Scotch thistle (*Onopordum acanthium*), Musk thistle (*Carduus nutans*), plumeless thistle (*Carduus acanthoides*), and hoary alyssum (*Berteroa incana*); and
- **Class C** weeds including Russian knapweed (*Acroptilon repens*) and diffuse knapweed (*Centaurea diffusa*), houndstongue (*Cynoglossum officinale*), and Dalmatian toadflax (*Linaria dalmatica*).

Biological control (the use of biological agents, e.g., beetles, moths, etc. to control noxious weeds) of diffuse knapweed and Dalmatian toadflax has been relatively successful on the wildlife areas. See page 13 for more information.

Weed management is being conducted using the concept of Integrated Pest Management (IPM), where methods of weed control, including prevention, chemical, biological, mechanical, and cultural controls, are being used to effectively control the spread of weeds. In addition, potential economic impacts to the agency are considered when making a decision to use a method of weed control (e.g. biocontrol vs broadcast spraying), in terms of desired outcomes over the short and long-term. Weed management also requires cooperative efforts of all landowners and land managers as well as the general public. Weed management is incorporated into all aspects of land management including forest management, road maintenance and restoration activities.

Restoration

Shrub-steppe habitat restoration is a priority of the agency. With funding from BPA, over 1,500 acres of degraded rangeland and abandoned agricultural fields on the Scotch Creek Wildlife Area have been restored to native shrub-steppe. The process starts with complete removal of all vegetation by herbicides, followed by fallowing in the summer. Fall dormant seeding, with native source identified grasses and forbs, occurs in November. After this treatment, the perennials emerge the following spring with little competition. This method has produced quality shrub-steppe habitats where native Columbian sharp-tailed grouse have taken up occupancy and nested successfully.

Riparian areas are also a focus of restoration activities. Sharp-tailed grouse depend on these areas, just as they do the shrub-steppe environment. When snow depths accumulate in the uplands, the birds migrate to the valley bottoms and feed on water birch, aspen, wild rose, and other deciduous shrubs that line our waterways. Scotch Creek Wildlife Area staff has planted over 100,000 trees and shrubs over the years to produce this important habitat. Sharp-tails can be viewed every winter feeding in these plantings. In recent years, 30 - 40 sharp-tailed grouse have wintered in the water birch plantings near Headquarters.

The Sinlahekin Wildlife Area has implemented a variety of restoration efforts on ponderosa pine and mixed conifer

forests, as well as sagebrush-steppe and shrub-steppe habitat types. Thinning of forested stands goes back many decades on the wildlife area. Beginning in 2003, prescribed burning was initiated after timber harvest. With funding from the Sinlahekin Ecosystem Restoration Project (2009) (see page 11) prescribed burning has been an integral part of forest restoration on the Sinlahekin Wildlife Area and has become the agency standard in restoring these dry forest ecosystems. These burns also take place on sagebrush and shrub-steppe habitats, which add beneficial fire byproducts to the soils and create a mosaic of different vegetation associations that benefit a greater number of native species. These restoration efforts benefit a broad range of species – mule deer, bighorn sheep, western gray squirrels, pygmy nuthatch, woodpecker species, and all native plants that evolved as a part of these fire dependent ecosystems.

A significant amount of agency restoration work is done to convert abandoned agricultural fields to prior habitats that support native wildlife. Projects like these on the Sinlahekin Wildlife Area are planting native grass and forb seed sourced from the same ecoregion. These field restoration projects involve prepping the site by disking or spraying, then drill-seeding the native seed into the field. Approximately 100 acres of former dryland agriculture have been restored to native bunchgrass and steppe habitat in the last 25 years.

Cultural Resources

State and federal law require the protection of cultural, geological, and other non-renewable resources. Such resources may not be removed unless determined to be beneficial to wildlife, habitat, or for scientific or educational purposes. WDFW coordinates with appropriate agencies and tribes for the protection of such resources if any activity affects cultural, archaeological or historic resources. This includes the removal of various rock formations, Native American artifacts, plants, seeds, and other items.

BPA funds all maintenance and enhancement activities on the Scotch Creek Wildlife Area, which includes the development of cultural resource surveys and the required consultation with the Department of Archeology and Historic Preservation and the tribes. This must occur before any ground disturbance can take place. A summary of cultural resource information for the Scotch Creek and Sinlahekin wildlife areas is located in Appendix G.

Current Climate

Climate in the Okanogan Valley ranges from semi-arid in the valleys and to sub-humid in the mountains. There are fairly large seasonal temperature extremes – it is hot and dry in the summer months and cold with some precipitation (snow) in the winter months. The

average temperature range is 32 degrees in December to 88 degrees Fahrenheit in July and August. The average precipitation range is eight to 20 inches annually. The growing season in the valley is approximately 140 days.

Climate Change

Anticipated Changes due to Climate Change

This section describes the likely climate change impacts for the Sinlahekin and Scotch Creek wildlife areas. Tables 5 and 6 describe key impacts to forest, grassland, and shrubland, with potential management actions and information gaps.

The most direct impacts of climate change to this area will be in the form of warmer winters (3 to 6 degrees within 15 years) and drier summers (Climate Impacts Group 2013). Altered fire regimes caused by climate change are expected to increase the incidence of forest fires in the state in the future (Littell et al. 2010). Major fires have the capacity of damaging large areas of western gray squirrel habitat and directly killing squirrels in the North Cascades, as demonstrated by the large Carlton Complex Fire that occurred in 2014. Additionally, warmer temperatures associated with climate change could increase the exposure of squirrels to disease (Steel et al. 2011). Despite

these concerns, one recent modeling exercise suggests that western gray squirrels could significantly expand their range in eastern Washington as climate change alters forests over the next century (Johnston et al. 2012). A longer growing season and reduced summer precipitation may result in an increased area of aridity, suggesting that the drier edge of sharp-tailed grouse range may retreat (Miles and Lettenmaier 2007). Climate change may influence tolerance to plant toxins by sharp-tailed grouse and further restrict use of some plants species, because increases in atmospheric carbon dioxide (CO2) are predicted to increase concentrations of toxins in plants (Forbey et al. 2012). Climate change may increase the impact of diseases on sharp-tailed grouse populations (Stinson and Schroeder 2012). Table 7 describes vulnerability assessment information for sharp-tailed grouse and western gray squirrel.

Table 5. Key impacts of climate change, potential management actions and information gaps for forest habitats (Source: Glick and Moore NWF 2009)

Key Impacts	Potential Management Actions	Information Gaps
More frequent storm events	Engage the private sector	Vegetation community responses
Increased forest fires	Increase interagency collaboration	Phenology and species inter-relationships
Expansion of invasive species	Conduct vulnerability assessments and monitor species	
Loss of high elevation habitats	Acquire land for habitat conservation	
Carrying capacity, disease, and pine beetles	Change land management	

Table 6. Key impacts of climate change, potential management actions and information gaps for grassland and shrubland habitats (Source: Glick and Moore NWF 2009)

Key Impacts	Potential Management Actions	Information Gaps
Altered hydrology including floods and drought	Increase water use efficiency	Migration patterns
Increasing fires	Protect and restore habitat	Species interactions
Expansion of invasive species	Change agriculture practices to reduce the need for water	Post-fire ecosystem restoration
Changes in land use	Change land use management	
Loss of endemics and species diversity	Raise public awareness	

Table 7. Vulnerability* Assessment Information for Key Species (WDFW 2015)

Species	Overall Vulnerability	Overall Confidence	Sensitivity Rank	Exposure Rank	Summary of Exposure
Sharp-tailed grouse	Moderate	Moderate	Moderate	Moderate	<ul style="list-style-type: none"> > Increases in spring precipitation > Altered fire regimes > Changes in precipitation overall > Increased invasive weeds
Western gray squirrel	Low to moderate	Moderate	Low to moderate	Moderate	<ul style="list-style-type: none"> > Increased temperatures > Changes in precipitation > Altered fire regimes > Increased disease outbreaks

*Vulnerability to climate change is determined by an evaluation of sensitivity and exposure for each species or habitat, assessed confidence for each sensitivity and exposure evaluation, and scored overall vulnerability and confidence for a species or habitat.

Management activities on the wildlife area will help address future climate risks, such as restoration and weed management. Table 8 provides an overview of potential climate impacts, effects on habitat, and management actions for the plan, most of these actions are built into the list of goals and objectives of the plan, see Appendix A.

Table 8. Potential Climate Impacts, Effect on Habitat and Management Actions

Potential Climate Impacts	Effect on Habitat & Species	Management Action	Activities
Lower stream flows	Drought conditions; changes to the seasonal timing of flow and temperature of streams; streams drying up.	Develop compatible restoration objectives; prioritize and implement riparian restoration projects; water management and conservation.	Utilize drought tolerant seed mix.
Decreased precipitation	Increased grassland and noxious weeds.	Develop compatible restoration objectives.	Implement weed management plan. Utilize drought tolerant seed mix for restoration.
Increased risk of fire	Reduction in native wildlife, including western gray squirrel populations.	Continue forest restoration projects to increase resiliency Forest thinning/fuel break maintenance. Increase interagency collaboration for landscape-level forest management planning.	Implement forest restoration actions. Develop and implement forest management plan. Develop partnerships for managing western gray squirrel habitat; engage the private sector in coordinated forest management.
Changes in native plant distribution	Distribution of some plants will change, including an increase in invasive species.	Identify and monitor rare plant populations. Implement weed management plan.	Monitor rare plant populations. Utilize drought tolerant seed mix for restoration.
Loss of shrub-steppe habitat	Changes in species composition and extent of shrub-steppe habitat.	Implement weed management plan. Prioritize and implement restoration projects.	Utilize drought tolerant seed mix for restoration.
Loss of habitat connectivity	Loss of migration corridors. Changes in species distribution.	Implement weed management plan. Prioritize and implement restoration projects.	Seek new opportunities for increased habitat and open space protection.
Expansion of grassland	Loss of shrub component and species diversity. Increased cheatgrass will alter fire regime.	Implement weed management plan Prioritize and implement restoration projects.	Implement weed control measures. Utilize drought tolerant seed mix for restoration.

Research and Other Studies

Consistent with WDFW's mission to preserve, protect and perpetuate fish, wildlife, and habitat, WDFW supports independent studies to achieve wildlife area objectives. Past studies include fire history analysis, historic stand reconstruction, big horn sheep, vascular

plant monitoring, and small mammal surveys (Appendix B). These research efforts provide a source of best available science that can inform ecological integrity objectives, restoration, and species management activities for these wildlife areas.

Recreation and Public Use

WDFW wildlife areas provide fishing, hunting and wildlife-related recreation opportunities, consistent with the agency's mission, the statewide wildlife area planning goals, and with funding sources for each property. Public use on these wildlife areas is influenced by the character of the landscape, access, wildlife, and fish species present and seasonal considerations. WDFW may place limitations on some activities in order to protect resources, infrastructure, or the safety of personnel and the public. Maintaining healthy populations of fish and wildlife and the habitat that supports them is a high priority for WDFW. The agency seeks to promote public enjoyment of these resources while managing and perpetuating them for future generations.

Washington state's population is growing, putting more pressure on wildlife areas across the state, including the Scotch Creek and Sinlahekin. With more people comes a greater diversity of recreation interests, which can lead to conflicts between users (e.g. hunters and hikers). Increased use and conflicts between users can be detrimental to natural resources. WDFW is developing a Recreation Management Strategy to address these issues, which will likely lead to new laws, rules, and/or policies to balance recreation use and wildlife and habitat protection. The strategy is expected to be completed in 2018.

The Scotch Creek and Sinlahekin wildlife areas offer a diverse range of recreational opportunities for outdoor enthusiasts. From hunting big game to photographing butterflies, these wildlife areas provide a chance to experience the outdoors in a unique and personal way. The Sinlahekin is one of few wildlife areas where there are developed recreation facilities and several developed campgrounds. Otherwise, most of the supported recreational activities are similar to other wildlife areas in

that they offer a primarily a "primitive" outdoor experience with limited developed facilities. Some of the highlights of these two wildlife areas are summarized here. Table 9 includes the acceptable recreation activities for each unit of the Scotch Creek and Sinlahekin wildlife areas.

Hunting draws a significant number of visitors each year. Both the Sinlahekin and Scotch Creek wildlife areas are popular mule deer hunting destinations, and white-tailed deer hunting opportunities have also improved with increasing populations on both wildlife areas. Upland bird hunting is also popular in the area with hunters. Upland bird species include ruffed grouse, dusky grouse (formerly blue grouse), spruce grouse (not common), gray (Hungarian) partridge, chuckar, California quail, and ring-neck pheasant. Turkey and mourning dove also occur and are hunted in scattered locations. Other hunted species include black bear, elk, cougar and coyote.

Fishing also brings a large number of visitors to the wildlife areas each year. There are many lakes, rivers, and streams for anglers to choose from throughout the area. On the Sinlahekin Wildlife Area, Blue Lake, Fish Lake, Forde Lake and Conners Lake are popular destinations. Fish in these lakes include rainbow, cutthroat, eastern brook, brown, and tiger trout plus other species such as bluegill, yellow perch, and smallmouth bass. Adjacent to Driscoll-Eyhott Island and the McLoughlin Falls units, visitors may fish for steelhead, sockeye, or summer run Chinook salmon. The Scotch Creek Wildlife Area offers Green Lake adjacent to the Pogue Mountain Unit, Upper Conconully Reservoir near the Scotch Creek Unit, and the Similkameen River adjacent to the Similkameen-Chopaka and Ellemeham Mountain units.

Appendix H describes water access sites in and adjacent to the wildlife areas.

The Sinlahekin Unit offers both primitive and developed campgrounds. Blue Lake and Fish Lake are the two most popular camping areas, with multiple campgrounds adjacent to each lake. The Conconully State Park adjacent to the Scotch Creek Unit offers camping with more amenities. The wildlife areas also have approximately 20 miles of designated trails. The Dave Brittell Memorial Trail on the Sinlahekin Unit and Coulee Creek Trail span both Scotch Creek and Sinlahekin units and are options for users seeking a more developed hiking experience. Both trails are approximately eight miles long one way. The former memorializes Dave Brittell, a WDFW employee who spent his career protecting critical habitat for future generations. The Coulee Creek Trail begins near Fish Lake on the Sinlahekin and ends near Hess Lake on the Scotch Creek Wildlife Area. This trail winds through the Coulee Creek Canyon through ponderosa pine savanna, sage-brush steppe and riparian habitats. There are numerous interpretive signs along the route describing ecosystems and local history.

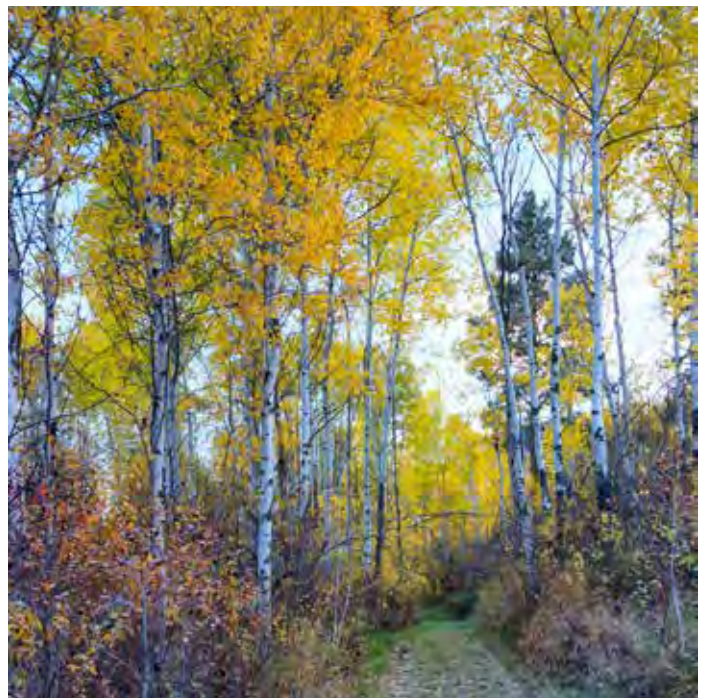
Visitors to the Sinlahekin or Scotch Creek wildlife areas have the option to explore each unit, but must respect private property and follow posted rules, regulations, and closures. A network of primitive roads provides paths for horseback riders, mountain bikers, and other users. The abundant diversity of plant and animal species between both wildlife areas and the wide array of ecological systems provides individuals the opportunity to see landscapes and species not found in other parts of the region. This ecological diversity contributes to bird watchers, wildlife enthusiasts, nature photographers or random rural traveler prospects for an enjoyable and unique outdoor experience.

Maintenance of quality shrub-steppe and other habitats is a high priority on the wildlife areas. WDFW has taken steps to limit damage to this resource, including limiting off-road driving. Additionally, dispersed camping is allowed but is restricted to existing sites. This helps to ensure that impacts of recreation are balanced with the objective of maintaining healthy plant communities that support wildlife species.

Seasonally high temperatures and drought are normal in eastern Washington, creating conditions ripe for wildfires both on the wildlife areas and on neighboring lands.

Therefore, open campfires are not allowed during burn bans. DNR usually implements burn bans between June and September. Wildlife areas are usually posted with the most up to date regulations. Further information on burn bans can be found on the <http://www.dnr.wa.gov/Wildfires>. Seasonal burn bans are implemented every year, usually from June through early October. Where open fires are not permitted, visitors may use enclosed stoves with screened stovepipes as a heat source. Propane grills and stoves may be used during seasonal burn bans. Charcoal barbecues are regulated as open fires, and are therefore subject to the same rules.

Other rules concerning recreation are covered in Washington Administrative Code 232-13 <http://apps.leg.wa.gov/WAC/default.aspx?cite=232-13>. These address length of stay while camping, fireworks, loose pets, livestock trespass, shooting near campgrounds, commercial use of state lands, use of lands by private groups or noncommercial organizations, sanitation, erecting permanent structures on state lands, interfering with lawful uses of the property by others, dumping of refuse, and other activities that affect visitors as well as potentially compromising WDFW's management of the property consistent with protection of agency lands.



Dave Brittell Memorial Trail - Sinlahekin Unit
Photo by Justin Haug

Table 9. Recreational Opportunities on Scotch Creek and Sinlahekin Wildlife Areas

Unit	Primary Hunting and Fishing Opportunities	Other Recreational Activities	Restrictions	Education & Interpretation	Facilities
Scotch Creek	Mule deer, upland game birds, white-tailed deer.	Camping, hiking, horseback riding, mountain biking, wildlife viewing.	Access limited to county roads.	Reader boards	Several undeveloped parking areas, Coulee Creek Trail trailhead at Hess Lake parking area.
Chesaw	Whitetail & mule deer, ruffed forest grouse, Rocky Mountain elk.	Camping, hiking, horseback riding, mountain biking, wildlife viewing.	Sharp-tailed grouse recovery area. No hunting of sharp-tailed grouse.	Reader board	2 undeveloped parking areas on Byers Road and Mary Ann Creek Road.
Pogue Mountain	Whitetail & mule deer, ruffed grouse, dusky grouse.	Hiking, horseback riding, mountain biking, wildlife viewing.	Limited access – public access from Green Lake only.	None	Green Lake boat launch & campground.
Tunk Valley	Whitetail & mule deer, black bear.	Bird watching, hiking, horseback riding, hunting, mountain biking, wildlife viewing.	Sharp-tailed grouse recovery area. No hunting on sharp-tailed grouse. Road open June 1 to Dec. 15.	Reader boards	Parking – upper and lower areas.
Similkameen Chopaka	Whitetail and mule deer, upland game birds, black bear, cougar.	Wildlife viewing, hiking, hunting, fishing.	Vehicle access restricted to county road.	Reader board	ADA parking, ADA trail, ADA viewing blind, canoe launch, gravel parking.
Charles & Mary Eder	Whitetail and mule deer with access permit only. Hunting other wildlife species is allowed in accordance with current regulations.	Bird watching, hunting, wildlife viewing.	Closed to general public during deer season. All other hunting in accordance with current regulations.	Reader board	Parking at the entrance on Eder Road and along the Molson Chesaw Road.
Ellemeham	Mule deer, limited access for upland game birds.	Camping, hiking, horseback riding, hunting, mountain biking, wildlife viewing.	Limited access.	Reader board	Gravel parking in two locations along Ellemeham Mountain Road.

Unit	Primary Hunting and Fishing Opportunities	Other Recreational Activities	Restrictions	Education & Interpretation	Facilities
Sinlahekin	Whitetail and mule deer, upland birds, black bear, cougar and bobcat.	Boating, camping, fishing, hiking, horseback riding, Nordic skiing, snowshoeing, trapping, wildlife viewing, fishing.	Some secondary roads closed during spring thaw.	Informational signs and kiosks	Trails, toilets, boat launches, camping sites, parking, ADA trails, viewing blinds and fishing pier.
Chiliwist	Upland game birds, mule and white-tailed deer.	Camping, walking, hiking, horseback riding, hunting, trapping, wildlife viewing.	Some secondary roads closed during spring thaw.	Information signs and kiosks	Camping, toilet, parking.
Driscoll-Eyhott Island	Upland game birds	Boating, dog training, trials & walking, fishing, hiking, horseback riding, hunting, trapping, wildlife viewing.	Access to the island only by fording the Okanogan River. High water possible during spring and summer.	Reader board	Parking, primitive boat launches.
McLoughlin Falls	Mule deer	Fishing, boating, and wildlife viewing.	Public access via Okanogan River only.	None	None
Carter Mountain	Mule deer	Hiking, horseback riding, wildlife viewing.	None	Reader board	Parking
Horse Spring Coulee	Mule deer	Horseback riding, wildlife viewing.	None	None	None
Buzzard Lake	Mule deer, bear and small game.	Boating, camping, fishing, hiking, horseback riding, wildlife viewing.	Road to Buzzard Lake is not plowed during winter.	Reader boards	Parking, primitive boat launch, primitive camping.

Road Management

A network of state, county, and agency-owned roads provides access to the Scotch Creek and Sinlahekin wildlife areas. Public access is provided primarily by roads owned and managed by Okanogan County, with the exception of McLoughlin Falls. Other public roads in the area are owned and managed by USFS, BLM, and DNR. Each agency maintains their respective roads differently, whether it is annually, seasonally, or on an ‘as needed’ basis.

WDFW road management activities are performed on an as needed basis, with the highest priority being roads that provide public and agency staff access. Staff access is for all management activities including road and wildlife area operations and maintenance activities. Roads and associated culverts, cattle guards, and gates are also important features that need regular inspection and maintenance. There are approximately 95 miles of WDFW-owned and maintained roads on these wildlife areas. Routine maintenance activities include clearing blockages in culverts, checking for road surface erosion, performing weed control adjacent to roadways, mowing and brushing along roads, collecting litter, arranging for road grading, and clearing fallen trees. Major repairs require the assistance of WDFW’s Capital Assets Management Program.

Seasonal road closures are implemented annually to limit disturbance to priority species, protect road surfaces from damage while soils are soft, and protect meadows near the roads from damage from off-road driving. Strategic vehicle access restrictions protect certain areas from motor vehicle disturbance without impacting walk-in access. Where closed to the public, roads within the wildlife areas are posted with “No Unauthorized Vehicles Beyond This Point.” In some cases, these roads will still provide access for agency operations and maintenance staff.

The wildlife areas also have approximately 20 miles of designated trails that need annual maintenance. The wildlife areas have numerous primitive and abandoned two-track roads (non-paved and primitive roads), which are used as trails. Some of these have been converted to formally designated trails and are maintained by wildlife area staff. This includes the Coulee Creek Trail connecting Scotch Creek and Sinlahekin wildlife areas and the Dave Brittell Memorial Trail. Public use of other primitive two-track roads is discouraged. Okanogan County has recently made available most county roads to off-road vehicle (ORV)/all-terrain vehicle traffic (ATV) use. All units of the Sinlahekin allow ORV traffic on county roads only – unless otherwise marked. Off-road travel is strictly prohibited on the wildlife areas.



Sinlahekin Road near Blue Lake
Photo by Justin Haug

Land Ownership and Management

Acquisition History, Funding and Purpose

Conserving key habitats is crucial to protecting Washington's natural heritage and hunting and fishing traditions. With this in mind, WDFW identified the Okanogan Valley as a priority area for land acquisition during the 1930s and made the first purchase of what is now the Sinlahekin Wildlife Area in 1939 for the purpose of mule deer protection. Many additions to the wildlife areas have been made since the original purchase. Land acquisition proposals are evaluated as opportunities arise based on their importance for securing critical fish and wildlife habitat, recreational values and proximity to existing public ownership. WDFW considers a variety of factors in prioritizing specific parcels for acquisition in order to use funds wisely and ensure that lands are appropriate to meeting agency objectives. Real estate transactions are only done with willing landowners. Acquisition funding from the following state and federal sources has been used to purchase properties on these wildlife areas: State Bonds, BPA, Recreation Conservation Office, U.S. Fish and Wildlife Service (USFWS) Cooperative Endangered Species Conservation Fund, Wildlife Fund, Pittman-Robertson, and Land and Water Conservation Fund.

The Sinlahekin Wildlife Area is funded, in part, by the Federal Aid in Wildlife Restoration Act of 1937 (Pittman-Robertson Act [PR]). In 1939, portions of today's Sinlahekin Wildlife Area between Loomis and Conconully became the first property to be purchased by the state using PR funds. The land was purchased for the protection of mule deer winter range. Cooperative Endangered Species Conservation Funding (USFWS Section 6) was used to acquire 3,883 acres of land on the wildlife area. All of the properties in the Scotch Creek Wildlife Area were originally purchased by WDFW with funds provided by the Recreation Conservation Office's -WWRP. The WWRP program was created by the Washington state Legislature in response to the expanding human population in Washington state, with the purpose of protecting critical wildlife habitats and recreation areas. At the time of acquisition in 1991, the Scotch Creek Wildlife Area units were combined with the Sinlahekin

Wildlife Area and operations and maintenance funding, from PR, was shared between all areas. USFWS - Section 6 funding was used to acquire 12,986 acres of land on the wildlife area.

In 1997, BPA and WDFW reached an agreement which enables the BPA to partially meet its mitigation obligation to compensate for wildlife losses resulting from the construction of Grand Coulee and Chief Joseph hydroelectric dams by funding the habitat enhancements and operations and maintenance for the life of the project. This contract allows BPA to receive credit towards their mitigation debt and permits WDFW to separate the management of Sinlahekin and Scotch Creek wildlife areas into two separate funding and staffing units.

Encumbrances and Deed Restrictions

Easements

WDFW holds the following easements for public recreational access and property management on the two wildlife areas: 1) One pedestrian easement on the Eder Unit allowing public access across private property; and 2) Management access easements to McLoughlin Falls Unit and to a small portion of the Chiliwist Unit. These easements do not allow public use.

Water Rights

WDFW manages numerous water rights on these wildlife areas that are utilized for irrigation, stock water, and domestic use. The number of water rights is extensive. For specific information on water rights, visit the Department of Ecology website or contact WDFW's Region 2 Headquarter at (509) 754-4624.

Managing Lands on Behalf of Other Entities

WDFW manages property owned by BLM as part of the Chiliwist (760 acres) and Sinlahekin (2,800 acres) units. A stewardship agreement for these properties is currently being finalized by the two agencies. Management of these properties will focus on forest restoration for habitat enhancement. The stewardship agreement will confirm management of these properties is consistent with the goals and objectives for the wildlife areas.

Other Entities Operating on WDFW Lands

Grazing

Grazing on wildlife areas is permitted for site specific goals and objectives, and must be consistent with maintaining or increasing ecological integrity of areas where livestock grazing is permitted.

Livestock grazing can be used as a tool for managing habitat and manipulating vegetation. WDFW staff participates in the coordinated resource management process that emphasizes landscape-level land use favoring maintenance of open space. Big game species such as deer and elk are often present on grazed lands (public and private), demonstrating that carefully managed grazing can be compatible with maintenance of game populations. WDFW's range ecologist provides technical expertise in evaluating the condition of the range and monitors range trends on grazing permit areas. There are 13 grazing permits currently active on the wildlife areas (see Table 10).

Table 10. Grazing and Agricultural Leases Summary for each unit

WLA Unit permits	Grazing permits	Acres of grazing	Agriculture	Acres of Ag.
Sinlahekin	5	2,000	2	96.6
Driscoll-Eyhott Island			2	145
Chiliwist	1	5,100	1	120
Carter Mountain	1	1,000	1	80
Buzzard Lake	1	610		
McLoughlin Falls			2	45.2
Total	8	8,710	8	487
Scotch Creek	2	2,157	1	120
Chesaw	1	1,385		
Similkameen – Chopaka	1	1,139	1	305
Ellemeham	1	1,462		
Total	5	6,143	2	425

Agriculture

Agricultural leases are another tool used to manage habitat and species. Farming can enhance forage and cover for wildlife, provide weed and soil erosion control, protect private lands from wildlife intrusion, and can help maintain valuable water rights. There are ten active agricultural leases on the wildlife areas (see Table 10). Through sharecropping agreements, in which farmers pay WDFW in exchange for cultivating the land, these leases provide benefits to private property owners and/or farmers who wish to continue agricultural activities on WDFW lands.

Examples of specific wildlife enhancements include maintaining short grass meadows for use by Canada geese and numerous species of ducks; increased food and cover for upland birds; increased diversity of habitat types on a landscape; and providing varying forage for deer.

Local Land Use Plans

The Scotch Creek and Sinlahekin wildlife areas fall under the jurisdiction of Okanogan County, and land use must be consistent with the county's Natural Resource Ordinance, Critical Areas Ordinance and Shoreline Management Plan. Okanogan County completed an updated Natural Resource Ordinance (Draft) in June 6, 2016, an updated Critical Areas Ordinance in May 10, 2013, and an updated Shorelines Master Plan in June 30, 2015 (see Table 11). The following table describes the relationship of these land use regulations to the two wildlife area lands, which are consistent with the current uses on WDFW lands.

Table 11. Scotch Creek and Sinlahekin Wildlife Area Units and Regulatory Designations

Wildlife Area Unit	Comprehensive Plan Land Use Designation and Zoning*	Shoreline Management Plan Designation	Comments
Scotch Creek	Rural 20	Conservation	Adjacent to Conconully Lake
Chesaw	Rural 20	N/A	
Pogue Mountain		N/A	
Tunk Valley	Rural 20	N/A	
Similkameen-Chopaka	Rural 20	Conservation	Along Similkameen River
Charles & Mary Eder	Rural 20	N/A	
Ellemeham	Rural 20	Natural	Parcels on the Similkameen River
Sinlahekin	Rural 20	Conservation	Blue and Fish Lake
Chiliwist	Rural 20	N/A	
Driscoll-Eyhott Island	Rural 20	Conservation	Lower Similkameen River
McLoughlin Falls	Rural 20	Rural Resource	Agricultural along Okanogan River
Carter Mountain	Rural 20	N/A	
Horse Spring Coulee	Rural 20	N/A	
Buzzard Lake	Rural 20	N/A	

*Land use definitions can be found at the Okanogan County website: <http://www.okanogancounty.org/planning/>.

Administration and Staffing

Scotch Creek and Sinlahekin wildlife areas are located in WDFW's North Central Region (Region 2), which has headquarters in Ephrata (<http://wdfw.wa.gov/about/regions/region2/>). While all of WDFW's wildlife areas are operated under the Lands Division, supervision is the responsibility of the region wildlife program manager.

The Scotch Creek Wildlife Area has four full-time staff members, including the wildlife area manager, wildlife area assistant manager and two natural resource technicians. The Sinlahekin Wildlife Area has three full-time staff members, including the wildlife area manager, wildlife area assistant manager, a maintenance mechanic, and a natural resource worker that works one quarter time.

Enforcement

Enforcement on the wildlife areas is provided by WDFW enforcement officers. WDFW's enforcement officers perform a wide range of duties that protect natural resources, the communities and economies that rely on them, and those who recreate outdoors. They approach enforcement in four ways: enforcement, education, partnerships and community involvement.

Their highest priority is enforcement of all fish and wildlife laws under Title 77 RCW. Officers have demanding jobs and often deal with issues related to poaching, threatened and endangered species protection, habitat protection, and border issues. A core duty of Fish and Wildlife Officers is protecting public safety in the outdoors, and they participate in a variety of enforcement activities related to this, including enforcing boating, off-road vehicle and snowmobile laws, and eradicating illegal drug growing and manufacturing. Officers work closely with emergency management agencies and play an important role in emergency management statewide.

Enforcement activities at the Scotch Creek and Sinlahekin wildlife areas include addressing off-road vehicles, litter, unattended campfires and occasional poaching.

Facilities and Maintenance

Wildlife area staff members are responsible for a range of duties including managing the public and recreation users on the units, maintaining equipment and repairing/

improving facilities and other wildlife area infrastructure to support fish and wildlife management consistent with agency objectives.

The headquarters of the Scotch Creek Wildlife Area is located on the Scotch Creek Unit. Most of the developed facilities for wildlife area administration and maintenance are located at headquarters, including an office, barn, garage, residence, shop, equipment storage buildings, and a bunkhouse. Other facilities on the Scotch Creek Wildlife Area are located on the Chesaw Unit and include a residence, two barns, and numerous outbuildings.

The headquarters of the Sinlahekin Wildlife Area is located on the Sinlahekin Unit. Most of the facilities are located at headquarters, including a residence, office/bunkhouse, equipment shed and storage building. Other facilities on the wildlife area include outbuildings on Chiliwist and McLoughlin Falls units.

Fences are important assets on the wildlife areas, serving to define the property boundaries and control livestock movement. There are 218 miles of fencing on the two wildlife areas (127 miles on Scotch Creek WLA and 91 miles on Sinlahekin WLA) that require annual inspection and maintenance. New fences are constructed utilizing "wildlife friendly" fencing standards. Fences associated with grazing permits are maintained cooperatively depending on the permit, which is a great benefit to the wildlife areas.

On the Sinlahekin Wildlife Area, there are seven "guzzlers" that capture water and make it available for upland birds and other animals. There are 16 upland bird feeders scattered across the Sinlahekin and Driscoll-Eyhott Island Units. These are filled every November and maintained in the spring or summer. Structures are fenced to protect them from damage and are cleaned and inspected annually, with minor repairs attended to as promptly as possible. Major repairs or rebuilding are sometimes required due to weather damage or decay.

The wildlife areas have numerous signs and kiosks that provide information but also require routine inspection and maintenance. There are also hundreds of bluebird, kestrel, and wood duck boxes that need cleaned and maintained annually throughout both wildlife areas.

Management Direction and Approach

Management Goals, Objectives and Performance Measures

This plan sets management priorities for the Scotch Creek and Sinlahekin wildlife areas for the next 10 years. The goals, objectives, and performance measures in this plan were developed by an interdisciplinary team of regional and headquarters staff, with input from the Scotch Creek and Sinlahekin Wildlife Areas Advisory Committee, the public and other agency staff. They are consistent with WDFW's Mission and Strategic Plan. Goals, objectives, and performance measures for the wildlife areas are located in Appendix A.

Adaptive Management/Monitoring

Wildlife area objectives are to be measured annually based on associated performance measures and through staff annual evaluations. On a biennial basis, the Scotch Creek and Sinlahekin wildlife area managers will review, report, and revise, as appropriate, objectives and performance measures for the next two year cycle. Staff will engage and develop recommendations for the two-year update with the advisory committee and regional district team. Such reporting will allow the managers, their staff, and the regional office staff to modify tasks and timelines as necessary to meet the associated objective. Further, over the term of the plan (10 years), performance illustrates the adequacy or inadequacy of funding and capacity to successfully manage the wildlife area, potentially influencing goals and objectives in the next planning term.



Prescribed Burn, Sinlahekin Unit

Photo by Justin Haug

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Appendices

- A. Scotch Creek and Sinlahekin Wildlife Areas Goals, Objectives and Performance Measures
- B. Research & Other Studies
- C. Rare Plants on the Sinlahekin WLA
- D. Weed Management Plan
- E. Species and Habitat Information
- F. Fire Management
- G. Cultural Resources Summary
- H. Water Access Sites
- I. Summary of Public Process

Appendix A. Goals, Objectives & Performance Measures

Table 12. Goals, Objectives and Performance Measures

Goal	Objective	Unit	Performance Measure	Lead	Task
1. Maintain or improve the ecological integrity of priority sites.	<p>Statewide Goal #1: Restore and protect the integrity of priority ecological systems and sites</p> <p>A. Establish an ecological integrity (EI) baseline for ecological systems of concern/priority systems, and established EI goals by 2020.</p> <p>B. Implement Weed management plan</p> <p>C. Annually inspect 25 % of boundary fencing and gates; repair and replace as needed and as funding allows.</p> <p>D. Complete vegetation inventory by July 2017.</p> <p>E. Build and maintain a citizen science network to collect ecological integrity data.</p>	All	<ol style="list-style-type: none"> 1. Baseline established (y/n) 2. EI goals established (y/n) 	Ecological Integrity Monitoring Team	<p>Work with WLA manager to design monitoring plan to achieve objective A over 10-year planning term.</p> <p>Conduct data collection to determine baseline within 10-year planning term.</p> <p>Provide EI baseline report to WLA manager prior to start of subsequent 10-year planning term.</p> <p>Work with WLA manager to establish EI goals.</p>
		All	<ol style="list-style-type: none"> 1. # of acres inspected; 2. # of acres treated; 3. # of biocontrol agents released 	WLA Manager	<p>Work with WSU Extension for continued bio-control releases to supplement existing populations and target new infestations for biocontrol</p> <p>Coordinate with Okanogan County Coordinated Weed Management Area Partners (BLM, DNR, USFS and Okanogan County).</p> <p>Inventory weed infestations using GPS and GIS and prioritize.</p> <p>Seek additional funding for post-disturbance (wildfire, flooding, timber harvests, etc.) weed control efforts</p> <p>Target weed treatments within disturbed areas and areas affected by the Carlton and Okanogan complex fires.</p>
		All	<ol style="list-style-type: none"> 1. # miles of fences inspected and repaired; 2. # of gates inspected and repaired. 	WLA Manager	<p>Across both WLAs, inventory up to 25% of fences per year and repair, replace or remove up to 10 miles of fence per year</p> <p>Where necessary, install walk-throughs or horse passage gates with the aid of volunteers</p> <p>Using volunteers, remove old stock fencing on Driscoll Island</p> <p>With existing funding, construct new fence on the eastern boundary of the Chilliwist Unit</p> <p>With existing funding, construct riparian fence near Simlahekin Creek as part of the Forde Lake permit</p>
		Scotch Creek	1. Inventory complete (y/n)	WLA Manager	Field botanist will inventory: vascular plants, map non-native vegetation, document rare and endangered plant and map habitat units.
		All	<ol style="list-style-type: none"> 1. % of photo points collected by citizen scientists annually; 2. % of vegetation plots collected by citizen science every 5 years. 	Ecological Integrity Monitoring Team	Recruit citizen scientists to meet monitoring need established in 1A.

Goal	Objective	Unit	Performance Measure	Lead	Task
1. Maintain or improve the ecological integrity of priority sites.	F. Restore degraded shrub-steppe habitats using the WDFW Shrub-Steppe and Grassland Restoration Manual to perform native seed plantings and implement prescribed burning of shrub-steppe habitat where feasible. (WDFW burn team is required)	Scotch Creek, Tunk Valley, Sinlahekin, Chiliwist, Eder units and Carter Mtn	1. # of acres restored per area	WLA Manager	Collect ecotype-specific native seed within each unique ecosystem to be used throughout each WLA where restoration is planned and grow out via contracted vendor. Utilize (drought tolerant) seed mix for changing habitats due to climate change. Using existing funds and project funding, restore former ag fields to native shrub-steppe habitat on listed units.
	G. Restore 50 acre feed lot on Eder unit by December 2016 (using BPA funds).	Eder unit	1. Feeder lot restored (y/n)	WLA Manager	Project underway with existing funds. Expected to be completed in 2018.
	H. Determine priority areas for seasonal closures for wintering mule deer during critical seasons and sensitive habitat protection by July 2017.	Sinlahekin, Chiliwist	1. Priority areas identified (y/n); 2. Barrier gates placed (y/n)	WLA Manager	Assess and prioritize areas for seasonal closures Implement closures on priority areas by spring 2017.
	I. Develop a plan to survey and inventory all riparian ecosystems and restore degraded riparian habitat types by June 2018.	Driscoll-Eyhott, McLoughlin Falls, Chiliwist, Buzzard Lake, Similkameen-Chopaka, Tunk Valley, Scotch Creek	1. Plan completed (y/n); 2. Plan implemented (y/n); 3. Funding secured (y/n); 4. # of projects identified; 5. # of restoration projects completed	WLA Manager Habitat Program	Develop an inventory of sites suitable for restoration by 2017 Communicate with entities interested in enhancement regarding salmon recovery/riparian restoration goals. Apply for funding to implement restoration projects Implement restoration projects when funding is secured Utilize seed mix (drought tolerant) for changing habitats due to climate change. Consider future water availability and management. Restore functionality of Little Loup Creek north of Buzzard Lake by applying for RCO funding under the State Lands Restoration Category.
	J. Implement the Forest Management Plan which identifies current forest habitats, conditions, and future management needs by July 2017.	Sinlahekin, Scotch Creek, Buzzard Lake, Pogue, Ellemaham, Similkameen-Chopaka, Driscoll-Eyhott Island, Chiliwist, Tunk Valley, Chesaw	1. Inventory complete (y/n); 2. Funding secured (y/n) 3. # acres managed annually	Forester WLA Manager	Seek funding for forest habitat restoration and improvement projects, including but not limited to: riparian hardwood habitat improvements, post-fire damage mitigation, conifer forest rehabilitation and preparation for prescribed fire, fuel manipulation and reduction, etc. Develop inventory Monitor effects of treatments via visual survey or photo monitoring to inform adaptive management. Monitoring will be done consistent with 1A Maintain inventory and casual monitoring for adaptive management Implement Sinlahekin Ecosystem Restoration Project Phase 3 and complete by June 2018

Goal	Objective	Unit	Performance Measure	Lead	Task
1.	<p>K. Catalog various known disturbances for all habitat types throughout the Sinihahkin Wildlife Area and map sites using ArcGIS to use in development of future management objectives and complete by December 2017.</p> <p>L. Monitor known rare plant populations and survey for rare species whenever possible.</p>	<p>Sinihahkin</p> <p>All</p>	<p>1. Report of disturbance created (y/n)</p> <p>1. Annual Report completed (y/n); 2. Surveyed completed (y/n)</p>	<p>WLA Manager</p> <p>WLA Manager</p>	<p>Draft report of known disturbance regimes within each unit of the Sinihahkin using existing funding and volunteers or interns</p> <p>Consider specific climate sensitivity for individual SGCN before implementing habitat management.</p> <p>Coordinate with Rare Care (UW)</p> <p>Survey for rare species prior to project implementation or whenever funding is allocated.</p>
Statewide Goal #2: Sustain individual species through habitat and population management actions, where consistent with site purpose and funding					
2.	<p>A. Coordinate, or participate in, species habitat and population management actions on wildlife areas consistent with recovery plans, management plans, agency and program priorities, and available funding (Priorities include: Columbia spotted frog, tiger salamander, western toad, silver-haired bat, sagebrush lizard, Preble's shrew, loggerhead shrike.)</p> <p>B. Implement strategies to improve loon nesting success on Blue Lake by improving water levels, developing sensitive areas map and protecting sensitive identified areas by 2017.</p> <p>C. Enhance habitat conditions to benefit the greatest number of pollinator species throughout different habitat types by 2017.</p> <p>D. Develop draft species lists utilizing existing information by December 2017.</p>	<p>All</p> <p>Sinihahkin</p> <p>All</p>	<p>1. # of species for which population management actions are implemented annually; 2. # of species for which habitat management actions are implemented annually</p> <p>1. Water diversion improved (y/n); 2. Maps developed (y/n)</p> <p>1. # of acres improved; 2. grants applied for (y/n)</p> <p>1. Species lists completed (y/n)</p>	<p>Diversity</p> <p>WLA Manager</p> <p>WLA Manager</p>	<p>District biologist coordinates with Diversity staff from HQ during annual workplan efforts to identify new activities and document prior years' efforts.</p> <p>Consider specific climate sensitivity for individual SGCN before implementing habitat management.</p> <p>Post information regarding loons in camping areas and boat launches.</p> <p>Consider installing nesting platforms</p> <p>Coordinate with Fish Program</p> <p>Coordinate with BLM and county</p> <p>Consider specific climate sensitivity for individual SGCN before implementing habitat management.</p> <p>Develop a list of potential projects to benefit pollinator species and seek funding to implement ASAP.</p> <p>Submit NFWF grant to restore habitat to benefit Monarch butterflies on Driscoll-Eyhott Island. Potentially implement in 2017.</p> <p>Involved local school districts in pollinator education and use students to implement projects.</p> <p>Draft species lists for each wildlife area unit using existing funding and volunteers and/or interns by 2017.</p> <p>As lists are completed they will be added to the website.</p>

Goal	Objective	Unit	Performance Measure	Lead	Task
2.	E. Identify potential projects to increase amphibian abundance on lakes and wetlands not historically utilized for recreational fishing	Sinlahekin	1. Projects identified (y/n); 2. # of surveys completed	WLA Manager	Conduct amphibian surveys on lakes and wetlands not currently managed for recreational fishing Develop plan to protect identified sites from human impact and survey for increased numbers of amphibians when time and funding allow
3.	Maintain and enhance game and upland bird habitat.	Sinlahekin, Carter Mountain, Horse Spring Coulee	1. Projects Identified (y/n); 2. # acres restored	WLA Manager	Identify priority areas within Sinlahekin, Carter Mountain and Horse Spring Coulee units by July 2017. Implement enhancement projects <u>Information gaps</u> – determine how mule deer utilize shrub-steppe post wildfire or prescribed fire.
	B. Determine the feasibility of a potential seasonal road closures to protect mule deer populations and their winter range habitat by November 2017.	Sinlahekin, Chiliwist, Carter Mountain	1. Scoping completed (y/n); 2. Roads Identified (y/n)	WLA Manager District Wildlife Biologist Enforcement	Meet with Game Division and other agency staff to determine feasibility of seasonal road closures Develop a pilot road closure plan to implement each year and consider other closures as the need arises. Coordinate with Enforcement
	C. Maintain agricultural production where current leases exists to benefit big game species, other wildlife and the local community	Sinlahekin, Scotch Creek, Driscoll-Eyhott Is, McLoughlin Falls, Chiliwist, Similkameen-Chopaka	1. Leases out to bid (y/n)	WLA Manager	Make sure leases are sent out to bid prior to expiration. Maintain user access to agricultural areas Work closely with leases to maximize agricultural opportunities
	D. Collect and grow out bio-type specific native grass and forb seeds for restoration projects planned by 2021.	All	1. # of pounds native seed collected	WLA Manager	Collect seed Contract with nursery to grow out Utilize seed mix (drought tolerant) for changing habitats due to climate change.
	E. Continue to plant grain crops to benefit upland game birds (pheasant, quail, Hungarian partridge, etc.) and deer species where consistent with wildlife area funding and agency goals	All	1. # of acres planted	WLA Manager	Implement annual planting schedule within fields previously designated for grain crops Use existing wildlife area funds or seek new funding to plant additional acres within previous agricultural fields
	F. Minimize the potential for disease transmission between domestic livestock and wild bighorn sheep.	Sinlahekin	1. Outreach conducted (y/n)	Special Species Division Wildlife Biologist WLA Manager	Communicate regularly with district biologist Conduct outreach to local landowners via email, informative flyers and in-person communication Limit grazing permits on wildlife area to cattle only

Goal	Objective	Unit	Performance Measure	Lead	Task
3.	G. Evaluate the effects of grazing on sharp-tailed grouse and waterfowl nesting by December 2017.	Similkameen-Chopaka, Chiliwist	Spring survey conducted (y/n).	WLA Manager	Summarize results of survey Management enhancement may include adding nest structures or consider changing grazing plan rotation.
4.	Recover sharp-tailed grouse populations in the wildlife area to healthy, self-sustaining levels. A. Augment and reintroduce sharp-tailed grouse population as funding and source populations become available. B. Annually monitor sharp-tailed grouse populations C. Replace fence markers for sharp-tailed grouse and other upland birds on existing lands that were burned in the 2015 fire and mark fences on newly acquired properties where bird/fence collisions are likely by 2018.	Scotch Creek, Tunk Valley, Chesaw Scotch Creek, Tunk Valley, Chesaw Scotch Creek, Tunk Valley, Chesaw	# of grouse released on site per year # of surveys conducted per year # of miles of fence marked/maintained	Science Division Research Biologist WLA Manager WLA Manager	Coordinate with Science Division for capture and translocations of sharp-tailed grouse as source populations become available. Conduct annual lek surveys per WDFW protocol on known historic lek sites. Conduct lek searches in suitable habitat outside traditional lekking sites. Replace fence markers on 10.5 miles of fence by 2018
5.	Improve the distribution and abundance of western gray squirrel populations in suitable habitat. A. Inventory and evaluate suitable habitat for western gray squirrel to determine habitat enhancement project needs & priorities. B. Develop partnerships for managing western gray squirrel habitat.	Simlahekin, Chiliwist, Buzzard Lake, Pogue Mtn Simlahekin, Chiliwist, Buzzard Lake, Pogue Mnt, Similkameen-Chopaka	# of acres enhanced per year # of projects identified	Forester, District WL Biologist, Science Division Research Biologist District WL Biologist, Science Division Research Biologist	Utilize GIS with some qualitative ground-truthing and prioritization of treatment areas As funding becomes available implement habitat enhancement projects. Incorporate habitat recommendations when implementing restoration projects. Document and share known WGS occurrences across agency lines. Develop management strategies with BLM, DNR and USFS to more successfully manage habitat across jurisdictions.
6.	Manage wolf-livestock conflicts to minimize livestock losses, while not impacting the recovery of a sustainable wolf population. A. Follow statewide guidelines for wolf management. If a pack is established around the WLA, evaluate adaptive management as per statewide planning.	All, Confirmed sighting 2016	1. Document sightings (y/n); 2. Conduct follow-ups as needed	District Wildlife Conflict Specialist	Work with Conflict Staff to document viable wolf sightings as per public and WDFW reports. Set cameras as needed to verify individual and wolf pack presence based on sightings/reports. Communicate with permittee as it pertains to the permits.

Goal	Objective	Unit	Performance Measure	Lead	Task
7. Support and maintain appropriate recreation opportunities.	<p>Apply for State Lands Development funding through RCO for projects that improve wildlife related recreational opportunities. Apply for funding during each funding cycle (next cycle deadline – May 2019)</p> <p>B. Apply for NOVA funding through RCO to develop parking and access at the Byers residence site by December 2017.</p> <p>C. Install nest platforms for Canada Geese, wood ducks, kestrel, bluebirds, osprey and other raptors, in areas of potential nesting habitat by 2018, to provide viewing opportunities adjacent to established trails or viewing blinds.</p> <p>D. Develop parking area/access site at the Horse Spring Coulee Unit and expand parking area/access site on the North Pine Creek entrance to the Carter Mountain Unit.</p> <p>E. Coordinate with Okanogan County to provide safe wildlife viewing along Conconully Road near Scotch Creek WLA.</p> <p>F. Improve designated campground area on the Chiliwist Unit.</p> <p>G. Develop a plan to develop non-motorized access to Pogue Mountain.</p>	All	<ol style="list-style-type: none"> Potential projects identified (y/n); Vehicle counters installed (y/n); Grant proposal(s) submitted (y/n) 	WLA Manager	<p>Develop a prioritized list of access improvement projects.</p> <p>Install vehicle counters where projects are likely to occur</p> <p>Apply for and submit grant application projects.</p>
		Chesaw	Grant proposal(s) submitted (y/n)	WLA Manager	If successful, coordinate with CAMP to design and construct parking, kiosk, and rail fence for main WLA access point on the Chesaw unit
		Chopaka, Similkameen, Scotch Creek	<ol style="list-style-type: none"> # of structures installed; # of nest boxes cleaned annually. 	WLA Manager	<p>Identify suitable habitat and map locations of potential nesting areas</p> <p>Purchase materials and construct nesting platforms</p> <p>Install platforms</p> <p>Do not erect/maintain kestrel or other raptor boxes or platforms where sharp-tailed grouse nest or rear broods.</p>
		Horse Spring Coulee and Carter Mountain	Projects completed (y/n)	WLA Manager	<p>Submit SEPA and Cultural Resource Survey Reports</p> <p>Apply for and submit grant application projects (RCO, ALEA).</p> <p>Work with user groups, volunteers or other organizations to implement projects.</p>
		Scotch Creek	Wildlife viewing site improved (y/n)	WLA Manager	<p>Work with Okanogan County to post no parking signs where dangerous hazards might occur along the Conconully Road.</p> <p>Direct traffic to one of three pullouts where parking is safe.</p>
		Chiliwist	<ol style="list-style-type: none"> Vault toilet installed (y/n); Fire ring placed (y/n); Area resurfaced (y/n) 	WLA Manager	<p>Work with CAMP to place new vault toilet</p> <p>Improve surface of entry and area adjacent to signage using appropriate rock</p> <p>Install ADA-compliant fire ring</p> <p>Control weeds within the area and plant native grass seed to compete with weeds.</p>
		Pogue Mountain	Plan completed (y/n)	WLA manager	<p>Submit SEPA and Cultural Resource Survey Reports</p> <p>Apply for and submit grant application projects (RCO, ALEA or Other).</p> <p>Work with user groups, volunteers or other organizations to implement projects (e.g. Washington Trails Association)</p>

Goal	Objective	Unit	Performance Measure	Lead	Task
7. Support and maintain appropriate recreation opportunities.	H. Develop a plan to develop hike trails from old fire lines by 2018	Sinlahekin	1. Inventory complete (y/n); 2. Plan developed (y/n)	WLA Manager	Identify those fire breaks that could be maintained as trails – consult with trail builders Draft plan and designate lines to be maintained by user groups
	I. Coordinate trail maintenance with volunteer groups (e.g. Back Country Horseman)	All	1. # events annually; 2. # volunteer meetings	WLA Manager Volunteer coordinator	Contact user groups each winter for planning Meet with maintenance groups each year at WAAC or field visit to discuss each trail
	J. Develop a plan to improve public access to the Driscoll-Eyhott Unit including an interpretive loop trail by April 2018.	Driscoll-Eyhott	1. Plan completed (y/n); 2. Grant proposal submitted (y/n); 3. Construction complete (y/n)	WLA Manager	Seek public support for the project(s) prior to the next funding cycle. Compile information and apply for funding through RCO or other entity for the project(s). Complete construction when funding and permits are secured.
	K. Develop plan for ADA access and hunting opportunities throughout the wildlife areas (e.g. restroom at Buzzard Lake) by December 2017.	All	4. Plan drafted (y/n); 5. ADA restroom at Buzzard Lake installed (y/n); 6. Evaluations complete (y/n).	WLA Manager	Develop ADA accessible restroom facility and improved boat launch on the Buzzard Lake Unit. Apply for capital funding or apply for RCO grant to complete project. Complete by 2020. Evaluate the potential for additional ADA access on Zachman Road and Forde Lake access road (both Sinlahekin) for increased ADA hunting opportunities. Work with WDFW disabled hunting lead and draft plan by Dec. 2017.
	L. Develop a feasibility study for development of low impact shooting range facility on the wildlife area by 2017.	All	1. Feasibility study completed (y/n)	WLA Manager	Work with lands division staff to develop potential target shoot sites and draft scope of work/funding needs by June 2017.
	M. Improve signing throughout each wildlife area unit to better communicate various regulations, restrictions and general information.	All	1. Funding secured (y/n); 2. # of signs installed.	WLA Manager Enforcement	Develop informative signs to be deployed at entry points and designated pull out locations on the WLAs. Signs need to be in compliance with legal standards (Enforcement) Install boundary signs where fences are on surveyed lines Install trail markers and signage on Similkameen-Chopaka Unit trail Update interpretive signs along the Dave Brittell Memorial Trail on the Sinlahekin WLA.
	N. Develop a formal proposal to construct and operate a learning center-style facility and submit to EMT for approval by 2020	Sinlahekin	1. Proposal developed (y/n); 2. Funding secured (y/n)	WLA Manager	Develop a working group and gather information and support for the construction of an environmental learning center. Draft proposal and submit to WDFW-EMT for review. Seek funding through multiple channels. Present the proposal by 2020.

Goal	Objective	Unit	Performance Measure	Lead	Task	
Statewide Goal #4: Engage Stakeholders in consistent, timely and transparent communication regarding WLA management activities						
8.	Offer multiple and varied opportunities for stakeholder participation and engagement.	A. Coordinate and maintain Okanogan Valley Wildlife Area Advisory Committee	All	1. # of meetings per year	WLA Manager	Meet with the WAAC annually to communicate performance and solicit ideas Include meeting notes in wildlife area management plan updates and website
		B. Explore opportunities to involve WAAC members in expanding wildlife related recreational opportunities (birding, platforms/blinds and interpretive sites).	All	1. # of events per year	WLA Manager	Field visit after each WAAC to explore recreational opportunities. Seek broad input regarding feasibility of projects and seek funding if projects coincide with agency objectives
		C. Develop and implement a promotional strategy for WDFW lands in Okanogan County by 2019 to assist with fund raising for habitat improvement and protection.	All	1. Outreach materials developed (y/n); 2. # of groups contacted per year; 3. # of news articles published	RD Lands Division Public Affairs	Develop outreach materials including newspaper articles. Meet with local groups, community organizations and non-governmental organizations to open dialogue update on wildlife area management activities. Meet with Tonasket Chamber of Commerce, Local School Districts and other civic groups regularly for management updates and agency promotion. Coordinate and utilize the WAAC to promote WDFW lands – have them present at BOCC and chamber periodically
		D. Provide opportunities annually for the public and other stakeholders to volunteer on the Scotch Creek and Sinalahekin Wildlife Areas.	All	1. # of volunteers; 2. # of volunteer hours; 3. # of volunteer projects on site.	WLA Manager Volunteer coordinator	Partner with sportsmen's organizations and conservation groups to recruit volunteers, secure funding, and gather management input Utilize WDFW's CERVIS volunteer management platform for future projects. Add new projects to the website by March 2017.
		E. Coordinate communication with community groups about current wildlife area management activities.	--	1. # of group/constituents contacted	WLA manager	Provide wildlife area information to local organizations, through email, telephone calls, community group meeting attendance and presentations, and written notices and newsletters.
Statewide Goal #5: Maintain productive and positive working relationships with local community neighbors, lessees, partners and permittees						
9.	A. Coordinate with U.S. Border Patrol through the enforcement program to provide safety on lands with a nexus involving cross border illicit activity.	Eder, Chesaw, Similkameen-Chopaka	1. # of reports to region Enforcement Program of any suspected illegal activity occurring on the WLA.	Enforcement WLA Manager	Provide access for equipment Understand confidentiality of information Ensure WDFW safety	
	B. Install water efficient irrigation systems (center pivot irrigation) using Environmental Quality and Incentives Program or other water efficiency funds on units with current agricultural leases.	All	1. Water efficient system installed (y/n)	WLA Manager Range Ecologist	Maintain existing ag leases on all units of Scotch Creek and Sinalahekin Wildlife Areas where leases are currently utilized.	

Goal	Objective	Unit	Performance Measure	Lead	Task
9.	<p>C. Maintain and develop grazing permits to benefit wildlife, including remove unnecessary fences.</p> <p>D. WDFW will work internally to determine feasibility of grazing on the Tunk Valley and Pogue Mountain units, considering risks to sharp-tailed grouse.</p> <p>E. Develop strategy for developing Horse Spring Coulee as emergency pasture opportunity for future wildfire disasters by 2017.</p> <p>F. Complete all requirements to fulfill the annual BPA mitigation contract.</p> <p>G. Develop a plan to facilitate discussions with stakeholders to address the Sinlahekin Creek diversion by 2018.</p> <p>H. Draft a new agreement with the DNR to lease and operate the Highlands Fire Camp by December 2017.</p> <p>I. Coordinate with DNR, BLM and USFS on current WLA management and future area planning.</p> <p>J. Develop a stewardship agreement or MOU for BLM federal inholdings by December 2020.</p>	<p>All</p> <p>Tunk Valley and Pogue Mountain</p> <p>Horse Spring Coulee</p> <p>All Scotch Creek units</p> <p>Sinlahekin WLA</p> <p>Sinlahekin</p> <p>ALL</p> <p>Chesaw, Pogue Mtn, Scotch Ck, Sinlahekin, Chilliwist, Carter Mtn</p>	<p>1. # of grazing permits renewed</p> <p>1. Assessment completed (y/n).</p> <p>1. Plan developed (y/n)</p> <p>1. Annual contract approved (y/n)</p> <p>1. Scope of work developed (y/n);</p> <p>2. Draft plan developed (y/n).</p> <p>1. Agreement drafted (y/n);</p> <p>2. Agreement approved (y/n).</p> <p>1. Meetings scheduled (y/n);</p> <p>2. Cooperative work days scheduled (y/n).</p> <p>1. Agreement/MOU completed (y/n).</p>	<p>WLA Manager Range Ecologist</p> <p>WLA Manager</p> <p>WLA manager</p> <p>WLA manager</p> <p>WLA Manager Habitat Program</p> <p>Land Division Real Estate Div WLA Manager</p> <p>Lands Division WLA Manager</p> <p>Lands Division WLA Manager</p>	<p>Develop a list of priority projects on each management unit and determine funding requirements by July 2017.</p> <p>Maintain existing grazing permits on Scotch Creek (Limebelt)</p> <p>Prepare proposal to include grazing on both areas in a CRM plan by Dec 2017.</p> <p>Coordinate with Range Ecologist</p> <p>Seek approval through WDFW Science Division and District Team.</p> <p>Coordinate with Lands Division and seek input from the agency regarding future use as emergency grazing</p> <p>Coordinate with assigned BPA contract representative to develop annual line-item budgets, work element budgets, and statements of work.</p> <p>Prepare Statement of Work annually</p> <p>Complete required annual and quarterly reports on time</p> <p>Contact stakeholders and meet to tour the site and discuss the issues.</p> <p>Draft a plan using the input provided by the stakeholder team. Meet by 2017.</p> <p>Present plan to WDFW-EMT to discuss funding and implementing the plan.</p> <p>Schedule meeting with appropriate agency staff and DNR/NE Region to initiate new agreement</p> <p>Finalize draft agreement that's mutually beneficial to both agencies.</p> <p>Invite state and federal agencies to planning and other meetings.</p> <p>Work in cooperation with other land management agencies to foster good relationships and share management goals and objectives</p> <p>Meet with the BLM and draft agreement/MOU</p> <p>Finalize draft agreement/MOU that's mutually beneficial to both agencies</p>

Goal	Objective	Unit	Performance Measure	Lead	Task
Statewide Goal #6: Hire, Train, equip, and license, as necessary, WLA staff, to meet the operation and maintenance needs of the WLAs					
10. Properly train, equip, and license WLA staff to meet operation and management needs of the WLA.	<p>A. Draft a plan to increase staffing levels to address peak work periods by 2018.</p> <p>B. Maintain fire protection actions and assure fire response capability prior to fires being present.</p> <p>C. Ensure employees responsible for special licenses maintain their pesticide license, red card, CDL, and other necessary certifications to effectively manage the wildlife areas.</p>	All	<p>Plan drafted (y/n)</p> <p>1. Annual inspections completed (y/n); 2. Training and certifications up to date (y/n).</p> <p>Licenses/certifications maintained/renewed (y/n)</p>	WLA Manager	<p>Draft a plan to request additional funding for increased staff to WDFW by 2018.</p> <p>Maintain crews using project funds until additional funding can be found.</p> <p>Train crews and keep certification to date.</p> <p>Utilize the Region's prescribed burn team to perform land management activities</p> <p>Annually inspect fire equipment to ensure reliability and seek funding for additional and modernized equipment to address wildfire.</p> <p>Keep current annual training in firefighting.</p> <p>Review all employees training records to ensure necessary training and certifications have been kept current</p> <p>Ensure staff attend required training</p>
Statewide Goal #7: Maintain safe, highly functional, and cost effective administration facilities and equipment					
11.	<p>A. Review and inventory existing water rights and determine strategies to place unused rights in trust.</p> <p>B. Preserve or replace critical WLA infrastructure including office, outbuildings, bunkhouse, irrigation, and other infrastructure to ensure a safe, efficient workplace.</p> <p>C. Improve GIS/mapping for all units in the wildlife areas</p>	All	<p>1. Water rights inventoried (y/n); 2. # of rights placed in trust by year</p> <p>1. Funding request made to Conservation District (y/n); 2. Capital project requests submitted (y/n)</p> <p>1. Data gathered, downloaded and organized (y/n); 2. Database created (y/n)</p>	<p>Water Rights Lead WLA Manager</p> <p>WLA Manager</p>	<p>Review and inventory existing water rights and determine strategies to place unused rights in trust</p> <p>Apply to DOE for moving surface water right at Scotch Creek HQ to ground water right.</p> <p>Seek funding to install center pivots</p> <p>For water-related infrastructure, consider future hydrologic projections.</p> <p>Submit capital project requests annually to repair or replace failing infrastructure.</p> <p>Adhere to maintenance schedules for all equipment.</p> <p>Repair buildings, irrigation systems, spring developments, project equipment, vehicles and other infrastructure as needed.</p> <p>Coordinate with Lands Division GIS staff to develop and continually update GIS layers for all units, standardize collected information and create geodatabases. Organize and create database by 2018 using existing funds</p>

Goal	Objective	Unit	Performance Measure	Lead	Task
	D. Develop a plan to design and implement FireWise recommendations to protect infrastructure damage from wildfire.	All	1. Plan drafted and submitted (y/n); 2. Funding secured (y/n)	WLA Manager	Work with agency staff to develop design and implement within 5 years (by 2021). Annually inspect areas adjacent to facilities to remove fuels and protect areas from wildfires. As funding allows, install irrigation systems around WLA facilities for protection from future wildfires.
11.	E. Develop a plan to use alternative energy sources to supplement power.	All	1. Design drafted and submitted (y/n); 2. Solar panels installed (y/n)	WLA Manager	Work with agency staff to draft project proposal and implement ASAP. Install solar panels as funding becomes available at headquarters locations.
	F. Improve access roads and public parking.	All	1. # miles of road repaired annually; 2. Strawberry Lake road repaired (y/n); 3. Cattle guards installed (y/n)	WLA Manager WDFW Engineering	Repair Radar Hill road on Eder unit Repair main access on Tunk Valley Repair road to Strawberry Lake on Chesaw Install cattle guard on north entrance to Pogue Mtn unit Repair washout and improve road/trail to Hunsinger Lake for administrative and recreation use Repair Chilwist Butte Rd (Chilwist) and Zachman Rd (Sinlahekin) Build containment wall and fill with rock and earth to widen one section of the road at Pogue Mountain. Grade and install water bars where necessary
	G. Construct equipment storage areas to house all project equipment and vehicles by 2021.	Scotch Creek	1. Building constructed (y/n); 2. Storage shed constructed (y/n)	WLA Manager	Construct one equipment storage building at the Scotch Creek HQ to house equipment. Construct a vehicle storage shed at the HQ for project vehicles.

Appendix B. Research and Other Studies

Table 13. Research and other studies

Project Name	Date	Lead	Funding Source	Description	Unit
Vascular Plant	October 2003	Dana Visalli - Botanist Methow Biodiversity Project	Healthy Forest Initiative & WDFW	Comprehensive survey of all vascular plants; native and non-native	Sinlahekin
Bryophyte inventory & surveys	2008-2009	Dana Visalli as part of the Vascular Plant survey and by Lee Ellis as a volunteer.	ALEA	Addition to the vascular plant survey	Sinlahekin
Historic Stand Reconstruction	December 2009	Richard Schellhaas – Schellhaas Forestry LLC	TNC & FLN	Reconstruction the historic stand structure within two units of the SERP	Sinlahekin
Small Mammal Survey	September 2011	Dale Swedberg – Sinlahekin Wildlife Area	TNC and the Fire Learning Network	Survey of small mammals across SERP area	Sinlahekin
Fire History Analysis	June 2012	Richard Schellhaas – Schellhaas Forestry LLC	RCO – WWRP	Collection and analysis of fire scars to determine fire return intervals	Sinlahekin
Vascular Plant Survey and Photo Monitoring	August 2014	Prof. Kathleen Johnson - Wenatchee Valley College – Omak	Aquatic Lands Enhancement Account (ALEA)	Beginning survey of vascular plants and photo monitoring points	Carter Mountain and Horse Spring Coulee
Field Guide to Okanogan County Butterflies	2015	Caitlin C. LaBar	Self-Funded	Condensed Field Guild to Okanogan Co. Butterflies	All
Bighorn Sheep Study	December 2015	Tiffany Lee Baker – M.S. Washington State University	WDFW, WSU and Private donors	Study to determine use of fire-restored habitat by California bighorn sheep	Sinlahekin
SERP & EIM Photo Monitoring	2008 - 2016	Justin Haug – Sinlahekin Wildlife Area	WDFW	Before and after photos of numerous sites within the SERP	Sinlahekin

Appendix C. Rare Plants on the Sinlahekin WLA

Table 14. Rare Plants on the Sinlahekin Wildlife Area

Common Name	Scientific Name	State Status *	Global **
Robbin's Milkvetch	<i>Astragalus robbinsii</i>		G5
Cordilleran carex	<i>Carex cordillerana</i>		G3
Many-headed sedge	<i>Carex sychnocephala</i>	SS, S2	G4
Slender sedge	<i>Carex tenera</i>		G5
Valley sedge	<i>Carex vallicola</i>	State Sensitive, S2	G5
Yellow lady's-slipper	<i>Cypripedium parviflorum</i>	State Threatened, S2	G5
Beaked spike-rush	<i>Eleocharis rostellata</i>	State Sensitive, S2	G5
Brittle prickly-pear cactus	<i>Opuntia fragilis</i>	Under review	G5
Maccall's willow	<i>Salix maccalliana</i>	S1	G5
Black snake-root	<i>Sanicula marilandica</i>	State Sensitive, S2	G5

***State Rank**

State rank characterizes the relative rarity or endangerment within the state of Washington. Factors including, but not limited to, number of known occurrences are considered when assigning a rank. Two codes together represent an inexact range (e.g., S1S2) or different ranks for breeding and non-breeding populations (e.g., S1B, S3N). Values and their definitions can be found using the following link: <http://www.dnr.wa.gov/NHPIlists>

http://www.wnps.org/plant_lists/exploring_native_plants.html

<http://biology.burke.washington.edu/herbarium/imagecollection.php?Page=introduction.php>

****Global Rank**

Global rank characterizes the relative rarity or endangerment of the element world-wide. Factors including, but not limited to, number of occurrences are considered when assigning a rank. Values and their definitions can be found using the following link: <http://www.dnr.wa.gov/NHPIlists>

Appendix D. Weed Management Plan

Weed Management Goals on WDFW Lands

The goal of weed control on WDFW managed lands is to maintain and improve the habitat for fish and wildlife, meet legal obligations, provide good stewardship, and protect adjacent private lands.

Weed control activities and restoration projects that protect and enhance fish and wildlife populations and their habitats on WDFW managed lands are a high priority. When managing for specific wildlife species on WDFW lands the weed densities that trigger control are sometimes different than on lands managed for other purposes (e.g. agricultural). For example, if a weed is present at low densities and does not diminish the overall habitat value, nor pose an immediate threat to adjacent lands, control may not be warranted. WDFW focuses land management activities on the desired plant species and communities, rather than on simply eliminating weeds.

Control for certain listed species, regardless of extent, is mandated by state law (RCW 17.10 and 17.26) and enforced by the County Noxious Weed Board. WDFW will strive to meet its legal obligation to control noxious weeds listed according to state law (Class A, B-Designate, and county listed weeds).

Importantly, WDFW will continue to be a good neighbor and partner regarding weed control issues on adjacent lands. Weeds do not respect property boundaries. The agency believes the best way to gain long-term control is to work cooperatively on a regional scale. As funding and mutual management objectives allow, WDFW will find solutions to collective weed control problems.

Weed Management Approach

State law (RCW 17.15) requires that WDFW use integrated pest management (IPM), defined as a coordinated decision-making and action process that uses the most appropriate pest control methods and strategy in an environmentally and economically sound manner to meet agency programmatic pest management objectives, to accomplish weed control. The elements of IPM include:

Prevention – Prevention programs are implemented to keep the management area free of species that are not yet established but are known to be pests elsewhere in the area.

Preventing weed establishment and aggravation of existing weed problems is the most cost effective part of a weed management program and therefore a priority. This includes:

- Minimizing soil disturbance.
- Restoring disturbed sites.
- Minimizing risk of new weed infestations by encouraging “weed free” equipment, vehicles, people, and domestic animals.
- Managing livestock use on the area.
- Managing public use.
- Coordinating weed prevention and control efforts with federal, state, county, and local entities to improve efficacy and minimize costs.

Monitoring – Monitoring is necessary to locate new infestations, determine effectiveness of control efforts, implement prevention, and document the weed species, the distribution, and the relative density on the wildlife area.

Monitoring will include systematic gridding of the wildlife area, mapping weed infestation using ArcGIS, and documenting treatment effectiveness.

Prioritizing - Prioritizing weed control is based on many factors, such as monitoring data, the invasiveness of the species, management objectives for the infested area, the value of invaded habitat, the feasibility of control, the legal status of the weed, past control efforts, and available budget. WDFW participates in Coordinated Weed Management Areas (CWMAs) with other agencies and partners to facilitate joint control across the ownerships. Weed management priority areas on the Sinlahekin and Scotch Creek wildlife areas include:

- 1. Class A Weed Eradication and Weeds with Limited Distributions** – Eradication of Class A weed infestations is paramount for WDFW. Wild four-o'clock (*Mirabilis nyctaginea*) receives significant treatment within the McLoughlin and Sinlahekin units. Spurge flax (*Thymelaea passerine*) has been surveyed for on various units and will continue to be searched for to limit potential expansion. Species such as leafy spurge (*Euphorbia esula*) on the Similkameen-Chopaka Unit and plumeless thistle

(*Carduus acanthoides*) on the Driscoll-Eyhott Island Unit are Class B weeds with a limited distribution and eradication may be achievable. These infestations receive more frequent chemical and/or mechanical treatments as well.

2. **Priority Habitats** – Sagebrush steppe, ponderosa pine woodlands, riparian, and wetlands are priority habitats where focused weed control measures are implemented. Critical or imperiled habitats such as these are given greater attention when implementing IPM strategies. Biological controls are used considerably in these areas. Diffuse knapweed (*Centaurea diffusa*) is controlled using a variety of seed-feeding and root feeding beetles and weevils. For Dalmatian toadflax (*Linaria dalmatica*), stem-mining beetles are commonly used for control. Purple loosestrife (*Lythrum salicaria*) in wetland habitats is controlled using the *Galerucella* spp. beetle which can defoliate and kill the plants if abundant enough. In most cases however, bio-control agents suppress infestations of noxious weeds, but the eradication of infestations are not the objective.
3. **Heavy Use and Disturbed Areas** – Roadsides, campgrounds, and parking areas are types of high use areas where noxious weed control is a priority. These areas pose a higher risk for weed transportation due to increased human traffic and likelihood of weed-spreading vectors such as vehicle tires, ATVs, pets, clothing, etc. Examples of weeds targeted in these areas are: houndstongue (*Cynoglossum officinale*), puncturevine (*Tribulus terrestris*), and spiny sandbur (*Cenchrus longispinus*). Reducing the human-caused transportation of these weeds will not only limit infestations within and between wildlife areas but also benefit various public and private properties as well. Treatments usually consist of mechanical (digging, pulling and bagging) or chemical control.
4. **Restoration Sites and Projects** – Weed control is an integral component of habitat restoration projects such as sagebrush steppe restoration within various Scotch Creek units and the Sinlahekin Ecosystem Restoration Project (SERP). Restoration projects generally create short-term, localized disturbances during implementation and require an increased

attention to weed control following completion. Common noxious weeds associated with shrub-steppe restoration are Russian thistle (*Kali tragus*) and diffuse knapweed. Weeds usually targeted following forest restoration projects are various thistle species and common mullein (*Verbascum thapsus*). All control methods are utilized – cultural, mechanical, chemical and biological.

Treatment – Treatment of a weed using biological, cultural, mechanical, and chemical control serves to eradicate pioneering infestations, reduce established weed populations below densities that impact management objectives for the site, or otherwise diminish their impacts. The method used for control considers human health, ecological impact, feasibility, and cost-effectiveness. Singularly or in combination, treatment methods will be used to obtain maximum effect for control of the target weeds while minimizing detrimental impacts to other vegetation if possible and maximizing weed control resources.

Adaptive Management – Adaptive management evaluates the effects and efficacy of weed treatments and makes adjustments to improve the desired outcome for the management area.

The premise behind a weed management plan is a structured, logical approach to weed management, based on the best available information, is cheaper and more effective than an ad-hoc approach where one only deals with weed problems as they arise.

Table 15. Weed Class and Unit Location

Noxious Weed (not a complete list)	Okanogan Co. Designation ¹	2015 Est. Affected Acres	2015 Treated Acres	Treatment Method(s) ²	Qualitative Density	Annual Trend	Control Objective/ Strategy	WLA Distribution ³
Bladder Senna <i>Colutea arborecens</i>	C	~ 300	2	H	MODERATE	INCREASING	Treat all known sites via herbicide (foliar or fall basal) in spring & summer. Limit further spread.	SWA, CMWA
Baby's Breath <i>Gypsophila paniculata</i>	C	~ 50	2	H, M	LOW	STABLE	Treat all known sites via herbicide in late spring - summer. Limit further spread.	CWA, CMWA, HSCWA, TVWA
Canada Thistle <i>Cirsium arvense</i>	C	< 1000	25	H	MODERATE	STABLE	Treat small, remote infestations with herbicides. Keep large patches from expanding.	ALL
Common Mullein <i>Verbascum thapsus</i>	C	< 500	20	H, M	MODERATE	STABLE	Treat small, remote infestations with herbicides. Keep large patches from expanding.	ALL
Common Tansy <i>Tanacetum vulgare</i>	C	< 50	10	H, M	LOW	DECLINING	Small isolated infestations near water bodies, roadsides, and disturbed sites.	SCHWA, DEIWA, MFWA
Dalmatian Toadflax <i>Linaria dalmatica ssp. dalmatica</i>	C	~ 2000	5	H, B	LOW	STABLE	Survey for new infestations. Treat existing infestations with herbicides.	SWA, CWA, MFWA, CMWA, PMWA, TVWA, SCWA, EMWA, CHEWA
Diffuse knapweed <i>Centaurea diffusa</i>	C	> 5000	50	H, B, M	MODERATE	DECLINING	Continue to augment biocontrol populations when available. Spray plants in high-use areas.	ALL
Hoary Alyssum <i>Berteroa incana</i>	B	< 10	1	H	LOW	STABLE	Small streamside, lakeside and upland infestations.	PMWA, SWA
Leafy Spurge <i>Euphorbia esula</i>	B	< 1	1	H	LOW	STABLE	Small scattered infestation near Similkameen River.	SCHWA
Houndstounge <i>Cynoglossum officinale</i>	C	< 500	30	H, M	MODERATE	STABLE	Treat first-year plants in spring and fall. Spray sites before flowing stage in spring.	ALL
Musk thistle <i>Carduus nutans</i>	B	~ 3000	100	H, M	MODERATE	STABLE	Widely scattered throughout Chesaw Unit. Treat before flowering stage in early summer.	CMWA, BLWA, CHWA,
Plumeless thistle <i>Carduus acanthoids</i>	B	< 0.1	0.1	H, M	LOW	DECLINING	Infestation slowing declining. Mechanically treat when possible. Spray fall rosettes.	DEIWA
Puncturevine <i>Thibulus terrestris</i>	C	10	1	H, M	LOW	DECLINING	Mechanically treat all sites in mid-summer. Survey for new plants whenever possible.	SWA, MFWA, CWA, CMWA, SCWA, EWA
Purple loosestrife <i>Lythrum salicaria</i>	C	2	0	B	LOW	INCREASING	Biocontrols released on SWA. Control small infestations using aquatically approved herbic.	SWA, MFWA, CMWA

Noxious Weed (not a complete list)	Okanogan Co. Designation ¹	2015 Est. Affected Acres	2015 Treated Acres	Treatment Method(s) ²	Qualitative Density	Annual Trend	Control Objective/ Strategy	WLA Distribution ³
Rush skeletonweed <i>Chondrilla juncea</i>	B	< 50	1	H, B	LOW	INCREASING	Treat all known sites via herbicide in spring and fall. Survey in summer for new sites.	CMWA
Russian knapweed <i>Acroptilon repens</i>	C	~ 2000	100	H, B	MODERATE	STABLE	Survey for new infestations. Treat existing infestations with herbicides.	ALL - except BLWA.
Russian Thistle <i>Kali tragus</i>	C	100	80	H	LOW	STABLE	Treat all known sites via herbicide in spring and fall. Limit further disturbance to control spread.	ALL
Scotch thistle <i>Onopordum acanthium</i>	C	< 320	200	H, M	MODERATE	STABLE	Survey for new infestations. Treat existing infestations with herbicides.	CWA, SCWA, PMWA
Longspine Sandbur <i>Cenchrus longispinus</i>	C	2	2	H, M	LOW	DECLINING	Vigourously treat known infestations with hand pulling and herbicides - early summer.	SWA, CWA, MFWA
St. Johnswort <i>Hypericum perforatum</i>	C	~ 500	40	H, B	MODERATE	DECLINING	Treat small, remote infestations with residual herbicides. Biocontrols work larger infestations.	ALL
Whitetop <i>Cardaria draba</i>	C	80	3	H	MODERATE	DECLINING	Survey for new infestations. Treat existing infestations with herbicides.	SWA, MFWA, SCWA,
Wild Four-o'clock <i>Mirabilis nyctaginea</i>	A	5	< 1	H, M	LOW	DECLINING	HIGH PRIORITY. Class A - Eradication Required. MFWA infestation controlled by AG leasee.	SWA, MFWA
General Weeds ⁴ (disturbed & other areas)	C	< 1000	200	H	MODERATE	STABLE	Continue to treat infestations along roadsides and high-use areas in spring, summer & fall.	ALL

¹ A-Designation requires mandatory eradication. B-Designation requires the stop of seed production. C-Designation for widespread weed species; control to aid agricultural community and neighbors

² 'H' for Herbicide, 'M' for Mechanical and 'B' for Biological Control. Mechanical may include: digging, pulling, clipping, bagging, or harrowing.

³ Sinlahekin Wildlife Area (SWA), Chiliwist (CWA), Driscoll-Eyhott Island (DEIWA), Carter Mountain (CMWA), Horse Spring Coulee (HSCWA), Buzzard Lake (BLWA) McLoughlin Falls (MFWA), Scotch Creek (SCWA), Pogue Mountain (PMWA), Tunk Valley (TVWA), Charles & Mary Eder (EWA), Chesaw (CHWA), Ellemeham Mountain (EMWA), Similkameen-Chopaka (SCHWA)

⁴ General Weeds include, but not limited to: sweet-clover, field bindweed, tumble mustards, cheatgrass, reed canarygrass, bull thistle, russian olive and kochia. Areas may be natural areas, AG fields, roadsides, right-of-ways, etc.

Appendix E. Species and Habitat Information

Sinlahekin Species and Habitat Lists can be found online at http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/

Okanogan County Priority Habitat List (<http://wdfw.wa.gov/conservation/phs/list/>)

Aspen	Snags and Logs
Inland Dunes	Cliffs
Old-growth Mature Forests	Caves
Shrub-steppe	Instream
Riparian	Freshwater Wetlands and Fresh Deepwater
Talus	Biodiversity Areas and Corridors

Table 16. Species of Greatest Conservation Need Relationship with Ecological Systems of Concern for Sinlahekin and Scotch Creek WLAs

Species of Greatest Conservation Need	Columbia Basin Foothill Riparian Woodland and Shrubland	Columbia Plateau Steppe and Grassland	Inter-Mountain Basins Big Sagebrush Steppe	North American Arid West Emergent Marsh	Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna
Bald eagle	x			x	x	x
Golden eagle	x		x		x	x
Harlequin duck					x	x
Red necked grebe				x		
Common loon				x		
Barrow's Goldeneye				x	x	
Lewis' woodpecker	x				x	x
Sharp-tailed grouse	x	x	x		x	
Loggerhead shrike	x	x	x			
Sage thrasher		x	x			
Flammulated owl					x	x
Burrowing owl		x	x			
White-headed woodpecker						x
Hoary bat	x	x	x	x	x	x
Keen's myotis						
Preble's shrew					x	
Silver-haired bat	x	x	x	x	x	x
Townsend's western big-eared bat	x	x	x	x	x	x
White-tailed jackrabbit		x	x			
Western gray squirrel					x	x
Fisher					x	
Gray wolf					x	x
Columbia spotted frog	x	x	x	x	x	x
Tiger salamander		x	x	x	x	x

Species of Greatest Conservation Need	Columbia Basin Foothill Riparian Woodland and Shrubland	Columbia Plateau Steppe and Grassland	Inter-Mountain Basins Big Sagebrush Steppe	North American Arid West Emergent Marsh	Northern Rocky Mountain Lower Montane Riparian Woodland and Shrubland	Northern Rocky Mountain Ponderosa Pine Woodland and Savanna
Western toad	x		x		x	x
Desert night snake		x	x			x
Sagebrush lizard			x			
California floater						
Silver-bordered fritillary				x		
Pacific lamprey	x		x			
Bull trout - Mid-Columbia Recovery Unit	x		x			
Upper Columbia Steelhead DPS	x		x			
Lake chub	----- not determined -----					
Leopard dace	----- not determined -----					
Umatilla dace	----- not determined -----					
Pygmy whitefish	----- not determined -----					
Westslope cutthroat trout	----- not determined -----					
Inland redband trout	----- not determined -----					



Lewis's Woodpecker
Photo by Justin Haug

Appendix F. Fire Management

Contacts:

Fire Districts

Okanogan County District # 10, Loomis	509-223-4021
Okanogan County District # 9, Conconully	509-429-4153
Okanogan County District # 3, Malott	911
Okanogan County District # 4, Tonasket	509-486-2611
Okanogan County District # 7, Riverside	509-826-4670
Okanogan County District # 11, Molson/Chesaw	509-485-3533
Okanogan County District # 1, Oroville	509-476-2106

DNR/USFS

Report a forest fire:	911 & (800) 562-6010
DNR Highlands District Office, Fire Line	(509) 223-4592
DNR Omak District Office	(509) 826-7316
http://gacc.nifc.gov/nwcc/districts/NEWICC/index.html	(509) 685-6900

WDFW

Justin Haug, Sinlahekin Wildlife Area Manager	(509) 223-3358
Jim Olson, Scotch Creek Wildlife Area Manager	(509) 826-4430
Matt Eberlein, NCW Prescribed Burn Team Lead	(509) 429-4236
Troy McCormick, WDFW Officer/WA State Patrol	(509) 422-3800
Dan Christensen, WDFW Officer/WA State Patrol	(509) 422-3800
WDFW Region 2 Office, Ephrata	(509) 754-4624

Fire Districts Information

Okanogan County Fire District #1.

Okanogan County Fire District #1 encompasses approximately 2.2 square miles (2 miles in the district and 0.2 within Oroville city limits) along the Okanogan River valley. The City of Oroville sits on the south end of Lake Osoyoos and at the convergence of the Okanogan and Similkameen Rivers. The city is 4 miles south of the Canadian border.

The District and city has one combined Fire Department which is operated by the City of Oroville and contracts with FD #1 for suppression services. All equipment and operations are housed and conducted from the city fire station in downtown Oroville. The Oroville station covers the Charles and Mary Eder, and Driscoll/Eyott Island units.

Okanogan County Fire District #3.

Okanogan County Fire District #3 is located in center of Okanogan County and currently has 78 volunteers serving a population of approximately 8,000 over 71 square miles. The area is predominately valley floor with steep slopes to benches, residences are located at the edge of these benches with very little regard to the wildland fuel that abuts there residence. Fuel types are natural grasses and sage, some areas have sage as tall as 10' in height. The area was primarily agriculture until recent years, the loss of orchard has provided large tracts of land that provide avenues for fire to enter the district or leave the district whatever the case maybe. The area, which comprises FD #3, is fire prone with a high frequency of lightning ignitions in June, July, August and September. Additionally there are frequent human fire starts throughout the region.

There are 3 stations within the fire district - Station 1 is located in downtown Omak, the fire district rents space from the City of Omak; Station 2 is located in downtown Okanogan this station is located approximately 5 miles from the Omak Station, the fire district rents space from the City of Okanogan; and Station 3 is located in Malott a non-incorporated community 7 miles south of Okanogan. Each station maintains its own roster and handles its own recruitment and training. Departments are responsible for mainly structure fire protection but are trained and respond to wildland fires, vehicle accidents, EMS calls, hazardous material spills, and other types of rescues. The Mallot station covers the Chiliwist, and Buzzard Lake units. The Omak station covers the Pogue Mountain unit.

Okanogan County Fire District #4.

FD #4 covers 174 square miles and with a population of about 6,000. The District includes the incorporated City of Tonasket and the unincorporated communities of Ellisforde and Crumbacher, as well as the Tonasket Municipal Airport. The City of Tonasket is about 20 miles south of the Canadian border. The town is at the intersection of US Highway 97 and State Highway 20, about 28 miles north of Okanogan, the county seat. Apple, pear, peach, apricot, plum, and cherry orchards, wineries, ranches, farms and rugged mountains with sage-covered foothills make up the fire district. FD #4 is 100 percent volunteer and currently has 35 volunteers. The district responds to both structural and wildland fires. The Tonasket station covers the Horse Spring Coulee, Carter Mountain, and McLoughlin Falls units.

Okanogan County Fire District #7.

The District covers 33 square miles and is made up of orchards and other crops grown both within the valley area and on many of the low benches where irrigation water is available. The surrounding foothills are vegetated primarily by sagebrush and various lower growing grasses. Sparse ponderosa pine can be found in a few of the nearby draws. The District provides coverage for the Town of Riverside (population 348) and is 100 percent volunteer with around 18 volunteers. The district responds to both structural and wildland fires. Individual residents in the Tunk Valley have purchased land they hope will eventually house a small fire department. It should be noted that it is 21 miles of gradual incline from the beginning of Tunk Creek Road near Riverside to its culmination at

Crawfish Lake; thus the response time for a neighboring fire department to respond to a fire in the upper extent of Tunk Valley could be significant. The Riverside station covers the Tunk Valley Unit.

Okanogan County Fire District #9.

District #9 is about 64 square miles. It is made up of farms, ranches and open range lands. Structures are fairly scattered in most parts. The District does surround the Town of Conconully; however the town has its own fire department. FD #9 only has wildland fire equipment; the residents rely on the Town of Conconully Fire Department for structure protection within 5 miles of the town. For other residents, FD #9 has a mutual aid agreement with FD #3 for structure protection. FD #9 borders USFS, BLM, DNR, and WDFW lands. FD #9 is an entirely volunteer fire district with no paid staff and 23 volunteer fire fighters. The Conconully station covers the Scotch Creek Unit.

Okanogan County Fire District #10.

District #10 is about 24 square miles. It is made up of orchards, farms, ranches, open range lands and timber. Structures are fairly scattered in most parts. The District does surround the unincorporated Town of Loomis. The volunteers are responsible for both wildland fire and structure fire protection. FD #10 borders BLM, DNR, and WDFW lands. FD #10 is an entirely volunteer fire district with no paid staff and 13 volunteer fire fighters. They have no formal fire halls. The Loomis station covers the Similkameen-Chopaka, Ellemeham, and Sinlahekin units.

Okanogan County Fire District #11.

Fire District #11 is located in North Central Okanogan County and encompasses 71,040 private acres (111 square miles) with approximately 550 citizens and an estimated 350 structures. The area is primarily mountainous with numerous drainages. Northern boundary is 13 miles of east/west international border with the closest Canadian fire station being 20 miles from our Molson satellite station. Western boundary follows Nine Mile Road adjoining private ground. Eastern boundary is the Chesaw Highway and adjoins private and USFS property. The Southern boundary is intermixed with USFS and private property. FD #11 adjoins approximately 300,000 acres of land not protected by any fire protection district. The Chesaw station covers the Chesaw Unit.

Other agencies:

Bureau of Land Management

The Spokane District Fire Management Program currently consists of 2 type six wildland engines (300 gallons) with two full time Engine Captains, four engine crew members, one Fuels Specialist, Seasonal Dispatcher, and a Fire Management Officer (FMO). One engine is stationed in Spokane at the District office and the other in Wenatchee at the field office. There are approximately 16 other specialist (staff) from across the district that assist the Fire Management Program in wildland and/or prescribed fire efforts. With the District's scattered ownership pattern, the engines are usually on scene after initial attack forces have arrived. Our engines and personnel are available for off District and out of state fire assignments that aide in support, training, and experience. The Spokane District BLM has cooperative agreements with the Colville National Forest, DNR, Spokane County FD #10 & #3, Grant County FD #5, Douglas County FD #4, Chelan County FD #1, Benton County FD #1, and Kennewick City FD.

U.S. Forest Service

The Okanogan-Wenatchee National Forests (OWF) covers nearly 4 million acres of forested lands on the eastern slopes of the Cascade Mountains. National forest lands span from the Canadian border south to the Yakima Indian Reservation and from the Cascade crest east to the Columbia River on the Wenatchee National Forest and to the Okanogan County line on the Okanogan National Forest. The OWF has 7 Ranger Districts, two of which are in Okanogan County. There are approximately 900 Forest Service employees that participate directly in fire suppression or support fire suppression activities.

Washington Department of Natural Resources

DNR is the state's largest on call fire department with employees who fight fire on about 12.7 million acres of non-federal (private, state and tribal) forest land. The DNR has the primary protection responsibilities on private and state forest land throughout Northeast Region in the State of Washington. The DNR may also respond to fires outside of DNR jurisdiction that threaten DNR protection. The DNR provides wildland fire prevention and regulation on private and state forestland. The DNR

works cooperatively during suppression operations with the private sector, local protection entities, and other state and federal agencies. The DNR does not provide formal EMT services. Most DNR employees have first-aid training.

South Okanogan and Highlands Districts cooperate and share equipment, personnel and resources when initial attack resources are stretched. The Northeast Region Interagency Communications Center (NEWICC) maintains lists of "call when needed" Faller Agreements and Dozer Agreements. Operators are self-equipped, inspected and trained for fire suppression throughout the local districts. Dozer sizes can range from D-4 to D-8. DNR helicopter(s) are staged at the Omak Airport initially, and later at Colville or Deer Park throughout fire season for initial attack. The DNR helicopter staged at the Omak Airport is usually a Bell 205 with helitack crew. A DNR Fire Boss (SEAT on pontoons) water scooper is usually staged at Omak Airport. Sometimes a second DNR Rotor or a second Fire Boss is at Omak Airport. A fixed-wing Air Attack platform is usually staged at Omak. Other Fire Bosses are generally staged at Deer Park. The BIA SEAT has been available to DNR at the Omak Airport for initial attack during recent fire seasons. Canadian air tankers and lead plane are requested for initial attack when needed. The DNR South Okanogan District is located in the southwest quadrant of the Northeast Region of the State of Washington. The South Okanogan District spans more than 1 million acres and is located geographically within the south half of Okanogan County. The district is comprised of private, county, state, federal and tribal property ownerships with numerous jurisdictions. Within the district there are approximately 250,000 acres of state land (including both DNR and WDFW managed lands), and approximately 300,000 acres of private land (including private lands within the Colville Reservation).

The Northeast Region Office is located in Colville, Washington. The South Okanogan District has one work center located at the Omak Airport. South Okanogan District Fire Control staff number 24 employees during the peak of fire season. Of which, 3 are permanent full time employees. The remaining 21 employees are comprised of 7 Natural Resource Worker 2 (NRW2),

engine drivers and 14 firefighters. Employment duration for the 7 NRW2 positions is usually between mid-April and mid-October and employment duration for the firefighters is usually three months. South Okanogan District State Lands staff number 4 permanent employees who participate in the fire program as needed. DNR resources are neither trained nor equipped for structure suppression.

The South Okanogan District seasonally staffs 10 - Type 5 4X4 engines. The engines are usually staffed with a 4 person firefighting crew 5 days per week and are on offset schedules to provide 7 day a week coverage. Staffing levels vary as fire season begins and draws to an end. There are 4 permanent fire employees. There are 6 state lands employees that can help with fire duties during peak periods. A strike team of engines are requested to assist the district with initial attack when "Red Flag" warnings are predicted.

The DNR Highlands District is located in the northwest quadrant of the Northeast Region of the State of Washington; and spans a 1,330,000 acre mosaic of ownerships and jurisdictions.

Highlands District is located in the northern portions of both Okanogan and Ferry Counties; and is bordered on the north by Canada, on the south by the boundaries of the Colville Confederated Tribes, on the west by the foothills of the Cascade Range, and on the East by the Kettle Range.

The district is comprised of private, county, state, federal and tribal ownerships with numerous jurisdictions and interests. Within Highlands District in Okanogan County there are about 178,711 acres of DNR managed land, about 25,811 acres of WDFW managed land and about 601,193 acres of private land.

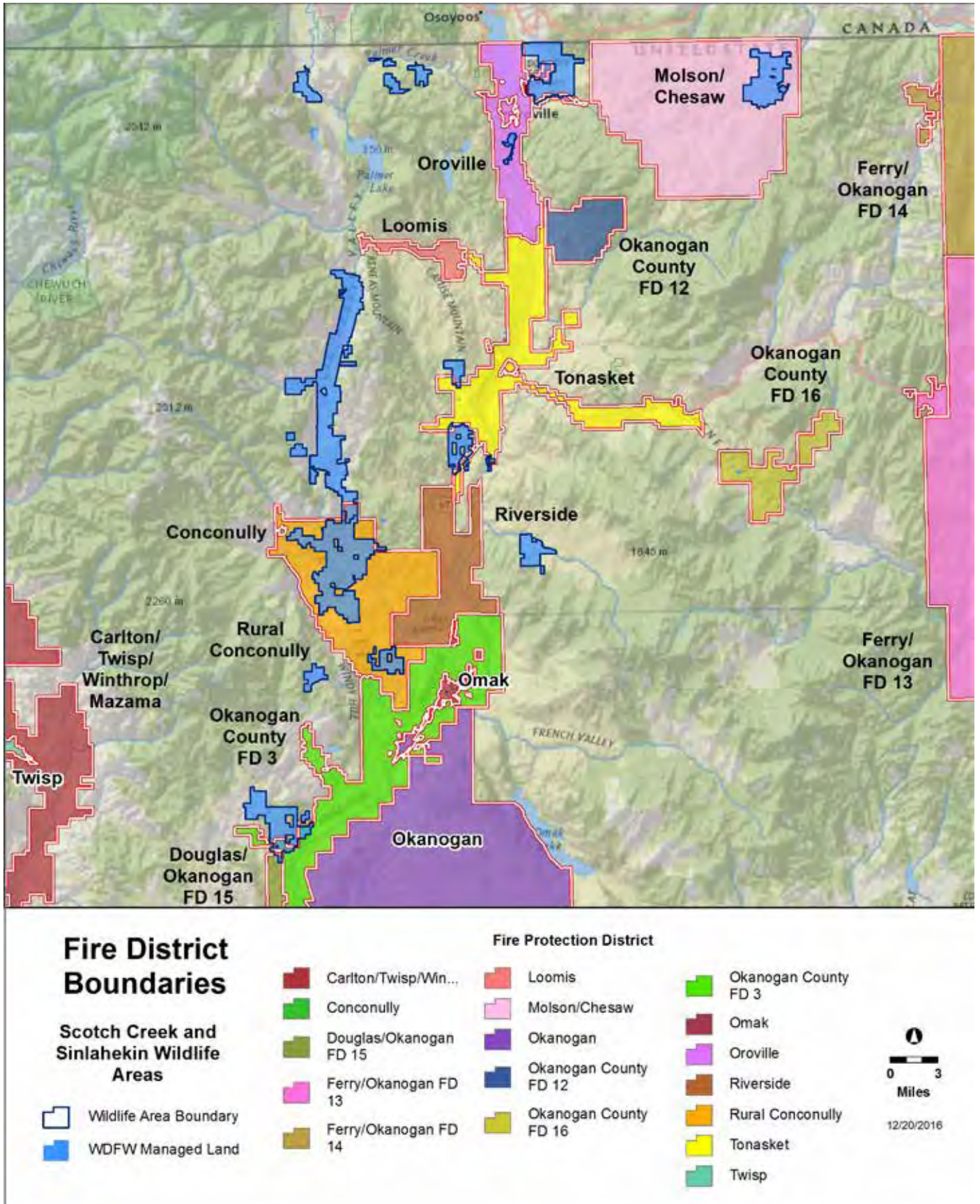
Highlands district also has about 26,785 acres of DNR managed land located in Ferry county. Topographic variations range from 900ft to 8,000ft. Uplands are a mixture of very rugged, often rocky slopes giving way to either rolling highlands or partially timbered rounded mountains. The Highlands District fire program has one

work center at Highlands Fire Camp (HFC), 2 miles south of Loomis.

Highlands state lands staff use a work center in downtown Loomis. The regular Highlands District Fire Control (HFC) staff totals 69 individuals at the peak of fire season which includes 4 permanent employees, 7 career-seasonal employees who work from April through October, and 49 seasonal fire fighter employees on staff from roughly May or June through September. The Highlands 20 Person Hand Crew resides and trains at Highlands Fire Camp, until they are needed for fire response anywhere in the District, or across the state. A Crew Cook is located at HFC. HFC also has a permanent heli-spot and Fire Base Camp location. When needed, additional fire resources, such as Incident Management Teams and Strike Teams are brought in for peak workloads. Highlands State Lands staff has 8 additional staff that participate in the fire program when needed.

The Highlands District seasonally staffs eleven (ten - Type 5 and one - Type 6) 4X4 engines, with a four-person firefighting crew in each engine (except a three person crew in the type 6 engine). Engine staffing is on a varied schedule that provides seven day per week coverage June through September. The DNR utilizes a "home guard" approach in that the seasonal engine drivers park their assigned engines at their residence within their assigned geographic area of the district. The 4 fire supervisors also drive a type 7 4X4 engine for quicker response. Highlands also staff Aeneas Mountain Fire Look Out, about nine miles west of Tonasket for early fire detection and communications. Inside the DNR Highlands District are portions of Ferry and Okanogan counties with two E-911 Dispatching Centers and Emergency Service Operations. Three incorporated cities; Oroville, Tonasket and Republic, all have Wildland Urban Interface (WUI) neighborhoods developing outside their city boundaries. Additionally six towns and numerous communities provide a multiplex of rural/urban interface neighborhoods developing in mountainous drainages within perennial fire ecology with a history of complex, costly wildfires.

Map 22. Fire District Boundaries for Scotch Creek and Sinlahekin Wildlife Areas (2016)



Appendix G. Cultural Resources Summary

Scotch Creek – Sinlahekin WLA Overview

The management areas are located in north-central Washington. The region was formed some 200 million years ago as terrane accreted on the western edge of the North American continent (Lilliquist et al. 2013). The landscape was further shaped during the last million years of the Pleistocene epoch by repeated advances and retreats of the Okanogan glacial lobe of the Cordilleran ice sheet (Lenfesty 1980) and by volcanic activity. The local geography and wildfire regime played a significant role in the settlement history of the Valley.

The Highlands are generally considered to be split into a western and an eastern half, with the Columbia River as the demarcation line. The eastern portion is also referred to as the Columbia Highlands (Moses 2013). The upland landscapes in the Highlands are split by north-south trending valleys, and characterized by “slightly graded tributaries originating in grassland meadow areas of upland valleys” (Uebelacker 1978:11).

Ash layers formed in the region as a result of eruptions of Mount Mazama in Crater Lake, Oregon and Glacier Peak in Washington, provide at least two important archaeological time markers. The earlier Glacier Peak ash layer dates to approximately 12,000 years Before Present (BP), while the later Mazama ash fall dates to some 6,600 years B.P. (Uebelacker 1978).

Regionally, toolstone represented in the archaeological record consists of the use of quartzite, granite, and basalt for hammerstones, net weights, hopper mortars, pestles, and similar objects. Materials like chert, quartzite, dacite, andesite, steatite, serpentine, vitrophyre, obsidian, and petrified wood were often used to make a wide variety of cutting and scraping tools. With the possible exception of obsidian, all of these materials are available in the region. In fact, most of these materials are available in abundance within a few days’ foot-travel of the Sinlahekin WLA headquarters. Basalt flows extend into Omak, though they are “generally coarse-grained and of poor flaking quality” (Mierendorf et al. 1981:12); chert is present in McLoughlin’s Canyon (Spier 1938:55); and steatite and serpentine are both found in the vicinity of the management areas. In additional geologic and archaeological evidence, ethnographic accounts relate

toolstone sources. The nearest example is nearby Little Chopka Mountain, which was known as a source for “the special rocks known as (untranslated) that were used for making scrapers such as those used for scraping hides” (Bouchard and Kennedy 1984:85).

The Okanagon Highlands were also rich in mineral resources attractive to non-native people. In the historic era, prospectors sought and found gold, silver, lead, zinc, and molybdenum, copper and other mineral commodities in the Okanagon Highlands. Nearby Ruby, in the Conconully Mining District, flourished between 1887 and 1892 when the silver mining was at its peak (Moen 1973).

Plant food resources are numerous and include various root plants (Hunn 1991). The edible riparian vegetation along rivers consists of arrowleaf balsamroot, wild onion, Gray’s biscuitroot, yarrow, and few others.

Aside from anadromous fish resources, human populations in the region would have utilized riverine and lacustrine resources such as Native Rainbow trout, cyprinid minnows, suckers, and eels (Schalk 1977). Minnow use by Native people has been documented historically (Spier 1938) and this use may have extended into the precontact past. Terrestrial fauna was abundant and provided a wide variety of foodstuffs and raw materials for clothing, lodging, and tool-making, among other necessities of daily life.

The management areas are located with the Plateau Cultural area in the recognized ancestral lands of the Southern Okanogan Tribe or Sinkaietk Indians (Ames et al. 1998). Within this region, as others, resource management strategies are used to differentiate groups by identifying their mobility type, mobility frequency, consumption pattern and scheduling. As these dimensions are identified in regions and time periods, assumptions can be made to link similar groups together until new evidence is found showing a shift in one or more of these dimensions.

The Sinlahekin and Scotch Creek wildlife areas are also located in the traditional territory of the Okanogan-Colville, made up of the Northern Okanogan, Lakes and Colville (Kennedy and Bouchard 1998:238). The people of the Okanogan Highlands practiced a seasonal round following resource availability throughout the year, and had established villages along watercourses, lakes and the

drainages thereof in the region. The following is a brief summary of the relationship between the Okanogan people (Mourning Dove 1990:145).

Four tribes made up what is known as the Okanogan grouping: the Colville (Swhy-ayl-puh), the Sanpoil (Snpo-i-il), the Lakes (Si-na-aich-kis-tu), and the Okanogan. (All of them belong to the Interior Salish division of the Salishan language family) and speak closely related tongues, with dialect variations chiefly in pronunciation. The Okanogan had two main divisions, the Upper or Lake Okanogan of British Columbia and the Lower or River Okanogan, now on the Colville Reservation of north-central Washington State, where Colville and Sanpoil still occupy ancestral lands. Most Lakes have also moved to this reservation, although some also remain British Columbia. Before non-Native settlers arrived, all four tribes had an estimated population of ten thousand or more.

The Uknquinx (Lower Okanogan) and Sinlahekin Bands inhabited the Sinlahekin Valley. The Sinlahekin people built dwellings similar to those of the tribes of the Thompson Plateau to the north, while the Lower Okanogan dwellings were more similar to those of the Columbia Basin (Hart 1998; Ray 1936; Ruby and Brown 1992; Schalk and Mierendorf 1983). These differences suggest that the Lower Okanogan were closely associated Middle Columbia River Salishans (along with the Nespelum, the San Poil, the Sinkayuse [or Moses-Columbias], the Wenatchee, the Entiat, the Chelan, and the Methow) and the Sinlahekin were closely associated with the Northern Okanogan (along with the Colville and Lakes). Today's Lower Similkameen Indian Band (of British Columbia) also has strong connections to the Sinlahekin Valley (Haug, personal communication, 2015).

Prior to the wide-scale immigration of non-Native peoples, residents typically lived in multiple family villages along the river valleys. Houses were generally semi-subterranean. The seasonal round included visits to uplands area for plant resources such as berries, bitterroot, camas, as well as terrestrial mammals (e.g., deer elk, and sheep). Root processing sites might contain grinding stones or the remains of roasting pits, especially near springs in the hills or in meadows at lower elevations. Hunting blinds might be present near springs, along ancient game trails, or within draws. Winter resource gathering included bark stripping

for cambium harvest (Turner 1997). The cambium is the sweet carbohydrate-rich inner lining of pine tree bark. Old growth stands of ponderosa pine, if any are present in the management areas, might bear evidence of this activity. Hunting was often communal, as was salmon fishing, though solitary or small group efforts were not unknown.

The Sinlahekin and other travelers on the landscape would have been well aware of upland resources, such as root crops, and that local streams and lakes would support fish, and their associated riparian areas would have been good locations for varied berries and other important flora. Kennedy and Bouchard (1998) provided the following summary of seasonal gathering patterns:

Four great hunts occurred each year, in the spring for deer and sheep, in the late fall for deer, sheep, elk, and bear, in midwinter for deer, and in late winter for sheep. Hunting strategies often involved chasing deer to hidden hunters with bows and arrows or driving herds off cliffs. The Okanogan caught many types of fish including sockeye salmon, suckerfish, whitefish, ling, lamprey, Dolly Vardon char (now recognized as bull trout), sturgeon, steelhead, rainbow trout, and cutthroat trout. Freshwater mussels were collected when other foods were scarce. Fishing devices included weirs, basketry traps, leisters, harpoons, hook and line, dip nets, and seine nets. Villages held first fruits and first roots ceremonies in the spring for Saskatoon berries, bitterroot, and other plants. Other plant foods harvested included black tree lichen, mushrooms, green shoots, tree cambium, roots, seeds, nuts, and berries.

Settlement patterns in the Sinlahekin and Scotch Creek wildlife areas followed similar trajectories in their early historic to modern land-use patterns and process of acquisition by the State. Both wildlife areas exhibit local expressions of the above mentioned regional themes; however, these factors unfolded at different times and under differing circumstances in the Sinlahekin and Scotch Creek wildlife areas. Post-contact history of the region can be divided into the following themes:

Explorers and Fur Traders (1811-1860). The first trading post in Washington State was the "Spokane House" established in 1810 by the Canadian North West Company (NWC) (Oldham 2003). Established by John Jacob Astor's expedition in 1811, Fort Okanogan (a 16 x 20 ft. log cabin)

was the first official trading post in the region. Alexander Ross, a Scottish immigrant and Pacific Fur Company clerk, was a first long term non-Indian resident of Okanogan County. Ross traded furs for tobacco and other goods with local Indians, likely Southern Okanogans. Over the next two decades, a succession of trading companies took ownership of the post, introducing disease and United States presence in the region (Oliver 2014).

Canadian explorer and NWC partner, David Thompson, was likely the first non-native to lay eyes on the Okanogan area. After pioneering a new trade route through the Canadian Rockies, Thompson undertook mapping the Columbia River and assessing its navigability. Accompanied by a small group of French Canadians, Iroquois, and “Simpoils” Indians, Thompson passed the future southern border of Okanogan County on July 4, 1811.

Mining (1859-1893). The first semi-permanent non-Natives into the area were miners. These often young and brash men made their way to Okanogan County from previous mining booms; the earliest arrived in the late 1850s chasing gold strikes in Alaska and the Fraser Valley (Wilson 1990). Often single and transitory, the miners helped to establish basic infrastructure and community in the region. Their arrival in region helped to shape the future of Native-American habitation as miners instigated and/or at the very least promoted violent removal of the Columbia-Moses Reservation. While they pre-date the first substantial influx of homesteaders, their presence coincided and drove the overall growth in the region.

Largely due to discovery of gold in the region, miners began streaming into the region surrounding the Sinlahekin Valley ca. 1858. One of the first permanent white settlers in Okanogan country was Hiram F. “Okanogan” Smith. Credited with introducing cattle, orchards, and hardrock mining into North central Washington, Smith’s precise date of arrival in the area is unknown but consensus opinion places him near Lake Osoyoos around 1858 (Wilson 1990). While agriculture would eventually become the economic engine of Okanogan County, the raucous influence of young, transient miners was impetus for more permanent settlement to come. Although relatively short lived, lasting from 1886-1893, the seven years long mining boom helped lay

the groundwork for many elements of modern Okanogan County. Prior to the boom, gold, silver, lead, and copper were found within the borders of the Moses Reservation. President Grover Cleveland fully opened the reservation in 1886, initiating a surge of miners into the region. In addition to retrieving mineral itself, a host of supporting industries grew wildly as a result of close proximity to a mining operation. The boom spurred an all-out incursion of capitalists, prospectors, merchants, blacksmiths, service workers, freighters, claim holders/jumpers, and farmers to the region (Wilson 1990).

Personal accounts of mining within Scotch Creek were not available, but the area’s location between Conconully and the now defunct mining town of Ruby suggests it played a role in the region mining boom. Formerly located to the south of the Scotch Creek Unit, the town of Ruby was once the “most vibrant mining camp in the Northwest.” The camp became a prosperous business hub, all built around the mining boom occurring throughout the Conconully-Ruby area (Wilson 1990).

Gold was discovered in 1886 near Conconully about 4-miles west of the Scotch Creek Unit. Respected cattleman, Quebec-born Wellington French was the first non-Native settler in the Scotch Creek Basin. He was a locally elected mining district recorder for the Salmon River District (Wilson 1990). Like the rest of Okanogan County, mining gave way to homesteaders attempting to scratch-out an existence on the hardscrabble land. Ruby became the first, though short-lived, county seat of Okanogan in 1888 (Wilma 2003). In 1893, the price of silver ore drop sharply causing a panic. Many miners moved on, ending the boom near the Sinlahekin. The remaining miners left the valley in search of new claims in the Methow.

The mining boom experience in the Sinlahekin area had several significance effects on the region. Okanogan County was established in 1888, resulting from a demand for readily available government clerical services; or rather, the quick processing of mining claims. Before the first major influx of pioneers, there were a few scattered in and around the Sinlahekin Valley. Most notable among them were Okanogan Smith, David Gubser, and Guy Waring. These early pioneers usually came to the valley for the initial gold rush in 1849 (Waring 1936).

A significant part of what we know about the early years in the Sinlahekin Valley is due the extraordinary efforts of Frank (Sakae) Matsura. Mr. Matsura was a Japanese immigrant and photographer who arrived in the area in 1903 (Roe 1981; Fitzgerald 2007; Mimura 2010; ShiPu Wang 2014). His documentation of life in the Sinlahekin Valley and the Okanogan Plateau are both an invaluable research tool and a rare window into the past. Unpublished Matsura photos are available for viewing at the Colville Tribal Museum in Coulee Dam and at the Okanogan County Historical Society. A digitized collection is also available through the Sinlahekin Wildlife Area webpage and WSU's Digital Collection.

Reservation and Allotments (1884-1909). The Sinlahekin, members of a band of the Southern Okanogan Tribe, were traditionally associated with the Sinlahekin Valley. In 1855, the band became involved in the Yakima Treaty, opposing the decision. Chief Moses became the leading opposition figure to American colonialism in Central Washington. By 1877, Moses was faced with forcible removal to either the Yakima or Colville Reservations (Kershner 2008); several clashes took place, but full-scale war was averted by the creation of the Moses-Columbia Reservation.

Following the establishment of reservations by treaty, the United States Congress authorized the president to establish reservations by Executive Order. Wilma (2006) provides the following summary of reservation development in the Okanogan Highlands:

The Okanogan tribe and other tribes of north central Washington Territory never signed treaties ceding their lands to the U.S. Government. In 1871, Congress authorized the president to establish reservations by executive order and Ulysses Grant created the Colville Indian Reservation in 1872. This was to be home to about 4,200 Methows, Okanogans, San Poils, Nespelems, Lakes, Colvilles, Calispels, Spokanes, and Coeur d'Alenes. White settlers whose homes fell within the vast area protested and had the Colville Valley in the east subtracted. At one time, all of today's Okanogan County was an Indian Reservation. But miners and settlers lobbied the government relentlessly until the reservation was reduced in 1886 to the contemporary Colville Indian Reservation, home to the Colville Confederated Tribes.

In 1879, Chief Moses traveled to Washington D.C. to petition then President Rutherford B. Hayes for the creation of a reservation sited on the present day City of Wenatchee, spanning north to the Canadian border between the crest of the Cascades and the Okanogan River. Established by executive order, the formation of the Moses Reservation encountered resistance from white settlers almost immediately (Kershner 2008).

To exacerbate matters, less than 100 members of Moses's tribe had moved to the reservation by 1881; even Chief Moses himself did not live on the reservation, preferring to settle in the Nespelem Valley (Kershner 2008). After unsuccessful lobbying for repeal of the reservation, settlers lashed out, destroying Indian property in 1882. Sustained agitation from white settlers resulted in an executive order issued by sitting president Chester A. Arthur in February 1883 that restored a 15-mile strip of the reservation land near the Canadian border to public domain (Wilson 1990). In July 7, 1883, Chief Moses and Sar-sarp-kin of the Columbia Reservation, and Chiefs Tonasket and Lot of the Colville Reservation travelled to Washington, D.C. in an attempt to clarify the situation. The options presented were to accept individual allotments and give up tribal rights or continue to live tribally, but leave their ancestral lands and move to the Colville Reservation (OSU-L 2017).

The Sinlahekin and Scotch Creek wildlife areas were within the Moses-Columbia Reservation established by Executive Order in 1879 and terminated in 1886 (Uebelacker 1978). From 1872 until 1886, the management units would have been included within the boundary of the Reservation (Bouchard and Kennedy 1984; Hart 1998; Page and Sons 1886). Much of the Sinlahekin Wildlife Area and parts of the Scotch Creek Wildlife Area are made up of allotments to Southern Okanogan people, members of the Sinkaietk (or Sinlahekin) band living in the Sinlahekin Valley in the ethnohistoric period. Allotments were taken by tribal members who did not relocate to the Colville Reservation, instead opting to stay on lands traditionally held by their family or of great personal or cultural significance.

Chief Sar-sarp-kin of the Sinlahekin band chose to remain on the lands of the former Columbia Reservation in the Sinlahekin Valley. In return, the U.S. Government allotted one square mile for each adult male or head of a family

(Fralely 1997). The Indian allotments, as an official U.S. Government response was not officially established until passage of the Dawes Severalty Act of 1887; the Columbia Treaty appears to be a major precursor to the legislation. The Dawes Act, also known as the Indian Allotment Act, divided reservation land in 160 acre allotments to be granted to individual tribal members. The Act was an attempt to assimilate native peoples into American society by promoting Euroamerican cultural practices such as private land ownership. Equally, the act strengthened the federal government possession as it attempted to subdue and ultimately extinguish tribal governments and communal jurisdiction of Indian lands (Wilson 1990).

Quo-lock-ons, “a member of the Columbia tribe of Indians and a [resident] of the Columbia Indian Reservation” chose his allotment on what is now the Scotch Creek Wildlife Area (DOI 1908:514). Quo-lock-ons, who died around 1890, had at least two children, sons Frank (or Dominique or Te-kom-tarl-ken) and Sam Pierre (US v. Moore, 1908). The troublesome relationship between non-native settlers and native holders of allotments is reflected in the legal history of the allotment. A 1908 government administrative report includes a discussion of eviction. The Attorney-General instructed the U.S. attorney for the eastern district of Washington to file suit against a settler named James F. Moore, to “eject him from lands allotted to an Indian named Quo-lock-ons” (DOI 1908:68). The case was eventually dismissed.

Settlement (1856 – 1910). The first settlers into the region came as via the Cariboo Trail and in search of gold. Twice as long as the Chisholm Trail, the Cariboo began south from The Dalles in Oregon and continued to the upper Fraser Valley in British Columbia, Canada. As the initial influx of non-native began to pour into the area during the 1850s, the trail provided easy access for both incoming miners and cattle (Wilson 1990). The Yakima cattle syndicate of Phelps & Wadleigh began leasing grazing land from Chief Moses (Kirk 1995); using the Sinlahekin Valley as a winter cattle station due to the sheltered and protective nature of the valley (Oliver 2014).

The new settlers were a diverse group, hailing from American’s east coast and midwest. Some left their native countries in Western Europe and Canada, all due to the allure of free land. Passed in 1862, the Homestead Act

granted 160 acres to anyone who was 21 years old, or head of a family, and did not take up arms against the United States. After five years of residency and completion of certain improvements to the property, the grantee could apply for title.

By the early 1880s, settlement increased dramatically, with most immigrants arriving via routes established by miners and other tradesmen. A series of military expeditions ventured through the area in the mid-1800s were “looking for routes and performing other chores” (Wilson 1990). Chasing economic opportunity, many settlers arrived with intent to capitalize on the area’s resources through prospecting, mining, and ranching. Sawmills were established ca. 1884 by and for early settlers to refine timber for homesteaders. This second wave of settlers was made up largely of families whose main goal was to put down permanent roots in the Okanogan area.

In 1890, there were 1,467 non-Indian county residences in the Okanogan County; by 1910 there were over 12,000; of those, many practiced agriculture of some type (Wilson 1990). Farming and husbandry had overtaken mining as the primary economic driver in the region by the early 20th century. Dry-land farming was a popular practice, with more than 2,500 acres under grain cultivation in 1903 on the North Half of the Colville Reservation alone (Yates 1968).

A small number of homesteaders were stockmen, grazing their cattle and relying on the valley for seasonal shelter. Others looked to modern irrigation practices to bring their land into cultivation (Wilson 1990). Guy Waring is credited with building a system during his residency in the valley from 1884 through 1887 (Oliver 2014). Waring’s design was mimicked by many of his neighbors. With irrigation, the land had high potential for growing fruit, crops, and pasturing livestock (Oliver 2014). From 1910 to 1915, the Whitestone Irrigation and Power Company built a system to transport water from Toats Coulee Creek across the Sinlahekin Valley in flumes to be storage in the Spectacle lakes (Wilson 2014). By 1919, the company gave way to the Whitestone Reclamation District. Still, flumes were not efficient and some of the dams and reservoirs leaked. By the early 1940s, the ditches and flumes were abandoned in the Sinlahekin Valley.

Like the establishment of reservations, these attempts to

cordon off native lands or create an autonomous space for Sinkaietk Indians were met by agitation and pressure from competing white settlers. Homestead patent data does not clearly explain the transition of land titles in the valley between the early 1900s-1940s. Similarly, transition of the original six Sar-sarp-kin allotments to non-Indian settlers is equally obscured with reports conflicting with Bureau of Land Management homestead data (Okanogan 2014). Still, several commonalities arose in a majority of sources related to intimidation from whites and potential foul play in the death of Sar-sarp-kin's relatives (Briley 2014). The last known dates of Chief Sar-sarp-kin's family still owning an allotment was 1909, when Ellen, one of the Chief's daughters, thought she was signing a lease and in actuality, was signing an agreement to sell her allotment to a man named Fitzgerald (Briley 2014). Records are unclear about the when and who overtook the six allotments; though it is clear that they were not held by any of Sar-sarp-kin's family by the early twentieth century.

By 1909, every allotment in the Sinlahekin Valley had been traded or sold to the incoming settlers (Wilson 1990; Briley 2014). The Oroville Weekly Gazette reported on February 17, 1911 that approximately 1,100 acres between Loomis and Blue Lake was sold to D.C. Cowgill of Spokane (Oroville 1911). The deal as described encompassed the vast majority of the allotments deeded to Sar-sarp-kin and his followers. Additionally, the article indicated that “much of the land is in the valley, and can be readily placed under irrigation.”

Agricultural Development 1880 – 1920. Unlike the transient occupation of mining, those who homesteaded the Okanogan region came with goals for long-term residency. Almost all practiced some form of agriculture, with many establishing farms, orchards, and ranches. Some were dry-land farmers; others sought the promises of recent irrigation projects in the area. In 1900s the north half of the Colville Reservation was open to settlers. Easily the most significant agricultural development in the region was the advent of irrigation. Credited as the first irrigator in the area, pioneer Hiram (Okanogan) Smith, dug a diversion ditch near Lake Osoyoos ca. 1858 (Wilson 1990).

Another early pioneer, Guy Waring, attempted to plant fruit trees in the Okanogan area around the same time.

The trees died soon after planting, unable to survive in the arid climate of Eastern Washington. Still, orchards would eventually become big business in Okanogan County with the first commercial fruit harvest produced in 1893 thanks to more sophisticated irrigation systems.

The quest for water continued as major theme in the early part of the Twentieth Century. The Newland Act, or the Federal Reclamation Act, of 1902 created the Bureau of Reclamation to reclaim arid lands in the West (Kershner 2010). After several local petitions, the Okanogan Irrigation Project was approved in 1905. The goal of the project was to impound water from Salmon Creek and supply it to agricultural fields near Omak and Okanogan. Completed in 1910, the project failed almost immediately as irrigation water ran dry by August 1, 1911 (Kershner 2010). As drought set in by 1915, many orchardist abandoned their homesteads—leaving their trees to wither.

Development of the Okanogan National Forest (1891 – 1955). The National Forest system was created by the Land Revision Act of 1891; the Act, among other things, led to the establishment of the Forest Service in 1905 (USDA 2015). The Chelan National Forest, the first regional expression of the system, was created in 1907 and extended from the Cascade Crest to the Okanogan River and from the Canadian border to the divide between the Chelan and Entiat watersheds; a year later the Okanogan National Forest was established. These two systems would eventually merge, taking first the name “Chelan” for the entire system, then later “Okanogan”. By 1925, sections of the Loomis and Sweat Creek ranger districts, which included portions of the Scotch Creek Wildlife Area, were transferred to the State of Washington to form the Loomis State Forest.

In 1905, Russell B. Pierpont of Chelan, Washington was appointed Forest Guard at Chelan. In 1907, he had risen to the rank of Forest Ranger and was assigned to the Sinlahekin Valley by order of the United State Forest Service (Swedberg 1999). According to BLM record, the land was acquired by the United State Forest Service per the General Exchange Act of 1922. By 1910, Pierpont was the Ranger in charge of the Conconully District. The Spikeman Ranger Station, within Scotch Creek Wildlife Area's Spikeman Unit, became his headquarters. Pierpont,

his wife Ellen Ann Larson and their children occupied the Ranger Station until 1923, when Pierpont was assigned to the Malheur (Steele 1958).

Hard times (1914 – 1937). In the early twentieth century, Okanogan was thrust headlong into the affairs of the outside world. After centuries of geographic isolation, area residents saw two major events rock their traditional lifeways. Perceived as a squabble between European powers in 1914, the regional conflict quickly evolved into a World War. The draft was enacted in 1917, sending hundreds of young men from the area to foreign lands (Wilson 1990). The Spanish Flu epidemic devastated the county's population with a majority of families stricken by the disease. A total count of flu victims were never compiled as funerals and basic ceremonies gave way to immediate burial as a preventive against further infection. While some sense of normalcy returned by the 1920s, the residents of Okanogan County were soon again beset by crisis.

Successive years of dry weather drained the region of its agricultural vitality (Wilson 1990). Homesteading enhanced the growth begun by miners; many settlers would not withstand the economic hardships of the Great Depression. Many farmers surrendered to the ravages of drought, selling their lands to neighbors. By the end of the decade, the economic downturn of the Great Depression was fast approaching. Many local residents lost their homestead to banks or mortgage companies. The larger Okanogan Irrigation Project had fostered the growth of the fruit orchard industry. Light industry, such as the Loomis

Bottling Works, and local commerce flourished in the years leading to the depression. However, by the late 1920s and early 30s, economic hardships, drought, and poorly designed irrigation led too many of the heavily mortgaged farms and irrigated orchards abandoned (Wilson 1990). Although logging and construction of the Grand Coulee Dam in 1933 helped to ease the economic strife in the county, the homesteads in the Sinlahekin Valley were totally abandoned by the end of the 1930s.

To alleviate some of the hardships of the depression, President Franklin D. Roosevelt, authorized the construction of a 290 ft. dam on the Columbia River known as the Grand Coulee Dam. Origins of the idea of a Grand Coulee Dam can be traced to the 1920s when irrigation proponents were divided between one group that supported a gravity canal that would irrigate the vast Grand Coulee Valley and another other group that proposed a large dam and pump irrigation. The approved plan did not satisfy either party as financial concerns caused the dam to be downsized. Worse, it did not provide any kind of irrigation (Tate 2005).

Engineering problems were largely solved with Presidential support and the influx of federal funding, and ground broke on the project in 1933. The large-scale construction project was highlighted by a presidential visit to the site in 1934. By 1936, local lobbying succeeded as plans were modified to meet demands for a "high dam" with irrigation capabilities. Nearly 8,000 men worked on the project (Wilson 1990).

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Appendix H. Water Access Sites



Connors Lake

Photo by Justin Haug

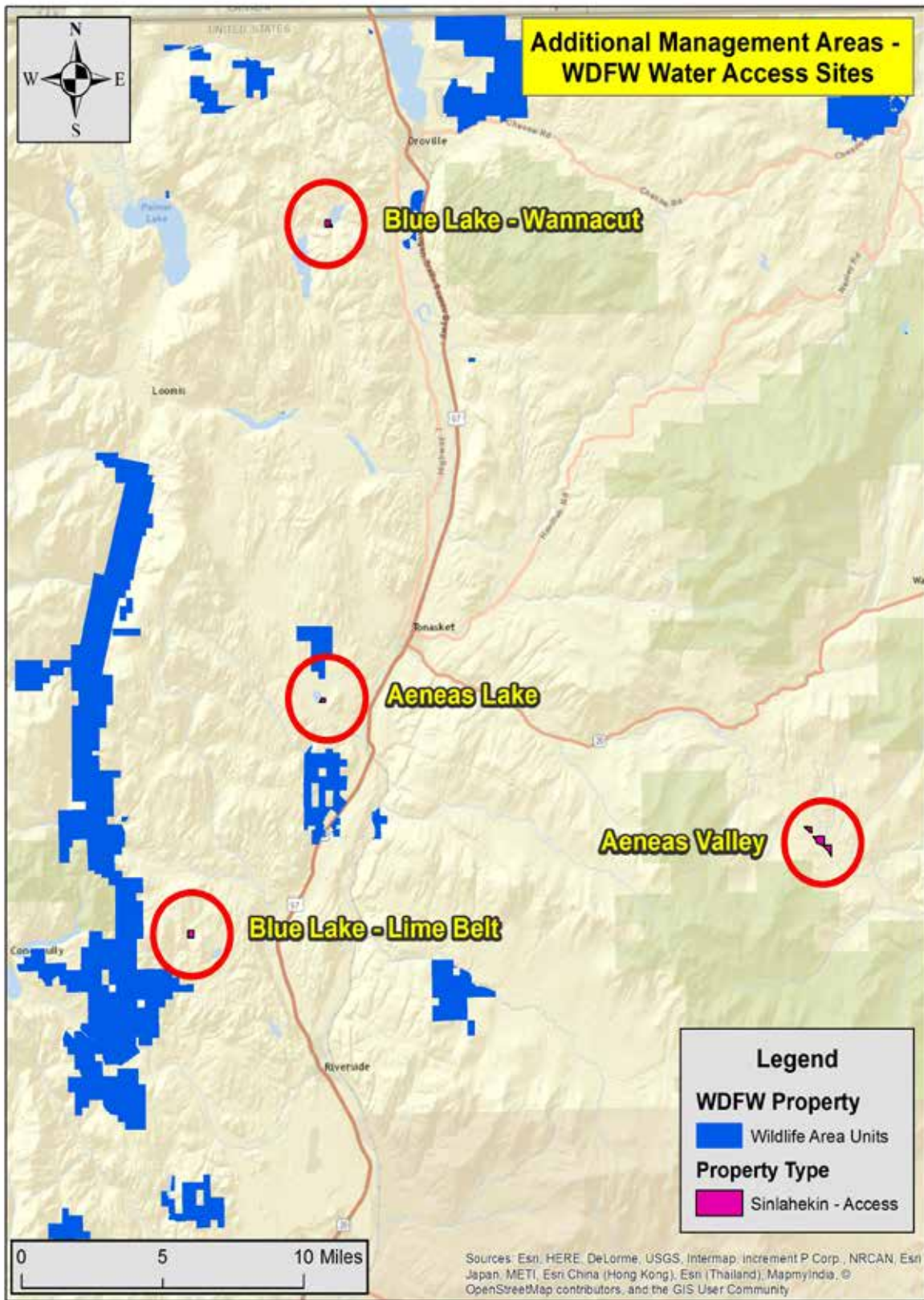
In addition to the 14 individual units of the Scotch Creek and Sinlahekin Wildlife Areas, there are also a number of WDFW water access sites scattered throughout the Okanogan Valley. Okanogan County currently offers 77 water access sites that are owned and/or managed by WDFW. Of those, 43 sites are located in eastern Okanogan County (see Table 1), most of which lie within or near the Scotch Creek and Sinlahekin Wildlife Areas. Most of these 43 sites are relatively small in size (under a few acres) or are found within the boundaries of wildlife area units. However, a few are significantly larger, ranging from 13.5 acres to over 100 acres. A single WDFW water access manager (Wildlife Program / Region 2) is responsible for all access sites in the county, which includes servicing vault toilets, litter control, and vegetation management (weed control, mowing, etc). Currently, very little management consideration is given to the bulk of the acreage surrounding the standard public use amenities within these larger units. This document will address habitat management needs and responsibilities within these larger water access sites.

The following water access sites are addressed in this document (see map on next page):

- Aeneas Lake
- Aeneas Valley (Ell Lake, Long Lake, Round Lake, and Round Lake #2)
- Limebelt
- Blue Lake – Wannacut

These units require additional management actions in addition to standard activities already being performed. These actions include, but are not limited to, increased weed control, fence maintenance, and habitat management. General information, management actions, and responsibilities are described below.

Map 23. WDFW Water Access Sites



Aeneas Valley Water Access Site



Aeneas Valley Water Access Site
Photo by Justin Haug

GENERAL UNIT INFORMATION

Size	- 103.5 acres
Acquisition Date	- 1953 and 1954
Acquisition Funding	- Dingle-Johnson, LWCF, and Wildlife Fund
Location	- T36N R30E Sect. 19, T36N R29E Portions of Sections 13 and 24
Elevation	- 2,573 – 2,620 ft
Recreational Opportunities	- Fishing, camping, hiking, wildlife viewing, nature photography
More Information & Directions	- Long Lake – http://wdfw.wa.gov/lands/water_access/30376/ Ell Lake - http://wdfw.wa.gov/lands/water_access/30367/ Round Lake - http://wdfw.wa.gov/lands/water_access/30392/ Round Lake #2 – http://wdfw.wa.gov/lands/water_access/30996/
Additional Management Actions	- 3.0 miles of Fence Maintenance Increased weed control – knapweed species Limit dispersed camping/disturbances

Aeneas Lake Water Access Site



Aeneas Lake Water Access Site
Photo by Justin Haug

GENERAL UNIT INFORMATION

Size	- 13.5 acres
Acquisition Date	- 1965
Acquisition Funding	- Land & Water Conservation Fund, Recreation Conservation Office & Wildlife Fund
Location	- T37N R26E Sect. 25
Elevation	- 1,356 – 1,393 ft
Recreational Opportunities	- Fishing, camping, hiking, wildlife viewing, nature photography
More Information & Directions	- http://wdfw.wa.gov/lands/water_access/30339/
Additional Management Actions	- 0.5 miles of fence maintenance Increased weed control – knapweed species Limit dispersed camping/disturbances

Limebelt Water Access Site



Blue Lake - Limebelt Water Access Site
Photo by Justin Haug

GENERAL UNIT INFORMATION	
Size	- 31.5 acres
Acquisition Date	- 1960
Acquisition Funding	- Transfer from Bureau of Land Management
Location	- T35N R26E Sect. 06
Elevation	- 2,580 – 2,800 ft
Recreational Opportunities	- Fishing, camping, hiking, wildlife viewing, nature photography
More Information & Directions	- http://wdfw.wa.gov/lands/water_access/30374/
Additional Management Actions	- 0.25 miles of fence maintenance Increased weed control – various species Limit dispersed camping/disturbances

Blue Lake – Wannacut Water Access Site



Blue Lake - Wannacut Water Access Site
Photo by Justin Haug

GENERAL UNIT INFORMATION	
Size	- 28.5 acres
Acquisition Date	- 1987 & 1998
Acquisition Funding	- Wildlife Fund
Location	- T39N R26E Sect. 01
Elevation	- 1,780 – 2263 ft
Recreational Opportunities	- Fishing, camping, hiking, wildlife viewing, nature photography
More Information & Directions	- http://wdfw.wa.gov/lands/water_access/30381/
Additional Management Actions	- 0.25 miles of Fence Maintenance Increased weed control – various species Limit dispersed camping/disturbances

Table 17. Water Access Sites in Eastern Okanogan County

East Okanogan Access Sites	SITE NAME	Site Name on WebPage	Common Name on WebPage	Wildlife Area Name	Unit Name	Latitude	Longitude	Restrooms	Boat Launch Available
WATER BODY									
Aeneas Lake	Aeneas Lake	Aeneas Lake	Aeneas Lake	Access Site		48.67772146	-119.5048712	Yes	Yes
Blue Lake	Limebelt	Limebelt	Blue Lake-Limebelt	Access Site		48.1113787	-119.6120754	No	Yes
Blue Lake	Blue Lake-Wannacut	Blue Lake-Wannacut	Orville	Access Site		48.90131015	-119.4983313	No	Yes
Blue Lake/Sinlahkein	Blue Lake South	Blue Lake south	Blue Lake south	Sinlahkein	Sinlahkein	48.67131760	-119.689354	Yes	Yes
Blue Lake/Sinlahkein	Blue Lake North	Blue Lake north	Blue Lake/Sinlahkein #2	Sinlahkein	Sinlahkein	48.682923	-119.6880407	Yes	Yes
Buzzard Lake	Buzzard Lake	Buzzard Lake	Buzzard Lake	Sinlahkein	Buzzard Lake	48.4191438	-119.7123926	No	Car top only
Chilwist W.A.	Chilwist #1			Sinlahkein	Chilwist	48.271515	-119.751658	Yes	No
Chilwist W.A.	Chilwist #2			Sinlahkein	Chilwist	48.275894	-119.753361	No	No
Comers Lake	Comers Lake	Comers Lake	Comers Lake	Sinlahkein	Sinlahkein	48.75532129	-119.6605415	Yes	Yes
Ell Lake	Ell Lake	Ell Lake	Ell Lake	Access Site		48.60166926	-119.17932	Yes	Yes
Fish Lake	Fish Lake #5	Fish Lake #5	Fish Lake #5	Sinlahkein	Sinlahkein	48.61565096	-119.7098998	Yes	No
Fish Lake	Fish Lake #6	Fish Lake #6	Fish Lake #6	Sinlahkein	Sinlahkein	48.61255711	-119.7259835	Yes	No
Fish Lake #1	East End	East end	Fish Lake #1	Sinlahkein	Sinlahkein	48.61252245	-119.6870132	Yes	Yes
Fish Lake #2	Southside	Southside Fish Lake	Fish Lake #2	Sinlahkein	Sinlahkein	48.61403225	-119.6913542	No	Yes
Fish Lake #3	Southwest End	Southwest end	Fish Lake #3	Sinlahkein	Sinlahkein	48.61606017	-119.701734	Yes	No
Fish Lake #4	Northwest End	Northwest End	Fish Lake #4	Sinlahkein	Sinlahkein	48.6157739	-119.7018124	Yes	Yes
Ford Lake	Ford Lake	Ford Lake	Ford Lake	Sinlahkein	Sinlahkein	48.73692095	-119.6700821	Yes	Yes
Ford Lake	Southside Ford Lake			Sinlahkein	Sinlahkein	48.72626	-119.667128	Yes	No
Green Lake	Green Lake	Green Lake	Big Green Lake	Access Site		48.45122302	-119.6271362	Yes	Yes
Little Green Lake	Little Green Lake	Little Green Lake	Little Green Lake	Access Site		48.43884883	-119.6285097	Yes	Yes
Long Lake	Long Lake	Long Lake	Long Lake	Access Site		48.61130547	-119.1322125	Yes	Yes
Okanogan River	Cordell-New Pump			Access Site					
Okanogan River	Cantello-Old Pump			Access Site					
Okanogan River	Driscoll Island	Driscoll Island	Driscoll Island	Sinlahkein	Driscoll-Evhoft	48.91379813	-119.4245142	No	Yes
Okanogan River	Ellisford-Old Pump			Access Site					
Okanogan River	Highway 97 Bridge	Highway 97 Site	Highway 97	Access Site		48.9210523	-119.4210709	No	No
Okanogan River	Riverside	Riverside	Riverside	Access Site		48.50128939	-119.5027646	No	Yes
Okanogan River	Tonnasket Cemetery	Tonnasket Cemetery	Tonnasket Cemetery	Access Site		48.7627651	-119.4072218	No	No
Round Lake	Round Lake	Round Lake	Round Lake	Access Site		48.17591271	-119.8081012	Yes	Yes
Round Lake #2	Round Lake #2	Round Lake #2	Round Lake #2	Access Site		48.60774313	-119.128016	Yes	Closed
Sidley Lake	Sidley Lake	Sidley Lake	Sidley Lake	Access Site		48.6061781	-119.1218303	Yes	Closed
Silvermail Lake	Silvermail Lake	Silvermail Lake	Silvermail Lake	Access Site		48.99188971	-119.2218824	Yes	Yes
Sinnikameen River	Catchie #1	Catchie #1	Catchie #1	Access Site		48.99520573	-119.4649116	No	Car top only
Sinnikameen River	Catchie #2	Catchie #2	Catchie #2	Access Site	Sinnikameen-Chopaka	48.99554167	-119.7235399	No	Yes
Sinnikameen River	Catchie #3	Catchie #3	Catchie #3	Access Site	Sinnikameen-Chopaka	48.95710009	-119.7148659	No	Yes
Sinnikameen Creek	Sinnikameen Creek			Access Site	Sinnikameen	48.94741576	-119.6522735	No	Yes
Sinlahkein WLA	Hunters Camp			Sinlahkein	Sinlahkein	48.697013	-119.6915	Yes	No
Sinlahkein WLA	Hunters Camp			Sinlahkein	Sinlahkein	48.645054	-119.69597	Yes	No
Spectacle Lake	Spectacle Lake #1	Spectacle Lake #1	Spectacle Lake #1	Access Site		48.8136402	-119.5346478	No	Car top only
Spectacle Lake	Spectacle Lake #2	Spectacle Lake #2	Spectacle Lake #2	Access Site		48.8090256	-119.5462435	Yes	Yes
Stanzman Lakes	Stanzman Lakes	Stanzman Lakes	Stanzman Lakes	Access Site		48.231902	-119.7769492	No	Yes
Wannacut Lake	Wannacut Lake	Wannacut Lake	Wannacut Lake	Access Site		48.86540994	-119.5179614	Yes	Yes
Whitestone Lake	Whitestone Lake	Whitestone Lake	Whitestone Lake	Access Site		48.79199974	-119.4694017	Yes	Yes

Appendix I. Summary of Public Process

Includes the following:

- SEPA comment response
- Wildlife Area Advisory Committee Meeting Materials
- Public meeting materials

WDFW response to public comments received during public review of the Scotch Creek & Sinlahekin Wildlife Area Management Plan draft under the State Environmental Policy Act (SEPA) from November 29, 2016 until December 29, 2016

#	Comment	WDFW Response
1	Page 2. Advisory Committee is far too narrowly composed. All Washington citizens have an interest in these places, and that reality is not reflected in this very local representation. Steven Herman	All citizens do have an interest and their input valued, however local participation is most crucial given they spend significant more time in these areas as other Washington state citizens. Providing a 30-day comment period for the plan allowed interested citizens from across the state to provide input. A news release was issued locally as well as through our agency online to request feedback.
2	Page 6. Add grazing table to list of tables Steven Herman	The grazing table is listed on page 6.
3	Page 7. What is needed here is a DEFINITION of "ecological integrity". I know now that the definition is articulated later, but it should appear much earlier in the document, and be accompanied by a citation. Steven Herman	Ecological integrity is defined on page 87. Please see the Wildlife Area Management Planning Framework for more information: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/
4	All the photography by Justin Haug is spectacular and adds immeasurably to the plan presentation. Steven Herman	OK
5	Page 9. all aspects resource management"? "significant public involvement"? NO! All Washington citizens are stakeholders here. Has this plan been circulated to WDFW staff for review? See Appendix K for public outreach details. Specific goals in Appendix A.\ Steven Herman	Appendix J in the final plan will detail the complete public process for development of the management plan. The public process for this specific management plan included two wildlife area advisory committee meetings and two public meetings. SEPA review included 30 day public comment period. Comments are summarized in Appendix J including meeting notes from all public meetings. The plan was reviewed several times during development by regional and Olympia staff.
6	Page 10. Only native wildlife? What is "ecological integrity", how is it determined site by site, and how will it be monitored? "summary of species"? Goal 4: who are the stakeholders? Reviewed only be the advisory group? Goal 5" Why only local "community neighbors"? Steven Herman	The statewide planning goals listed on page 10 are consistent with the agency's mission and strategic plan. See #3 above for information on ecological integrity. Stakeholders include local community members, county and city representatives, tribes, federal and state agencies, neighbors, Audubon representatives, local businesses, user groups, etc.
7	Page 11. Where are the quantitative data	Numerous before and after photos exist.

	supporting the success of the ecosystem restoration project? There should be before and after vegetation data, or at the very least, before and after photos. Steven Herman	Grant funding did not allow for post-project vegetative monitoring. Photo monitoring performed using operational dollars.
8	Page 13. Quantitative data on the success of the biological control program? Check for Winston et al in References. Very good that this method is being employed. Steven Herman	WSU-Extension has been collecting data pre and post-monitoring. Success has been determined by years of monitoring, and multiple site visits observed reduction in overall infestation.
9	Page 14. Details on shrubsteppe and riparian restoration? Again, if this restoration has actually been accomplished, the achievement is significant and should be documented. Steven Herman	Restoration throughout this document refers to the process or action of restoring an area to future historic condition(s). Enhancement would be what we currently have following these various activities.
10	Page 15. If shrubsteppe has been restored, the accomplishment is unique in the American West. Details please! No after photos? Steven Herman	See above comment #9. Restoration photos will be included in future wildlife area plan updates.
11	Page 16. It's not clear that these are well paired before and after photos. Steven Herman	Not intended to be before and after photos
12	Page 17. "The species list is based on suspected occurrence"? Huh? This admission describes the most serious shortfall in the "plan". Some of these units are nearly 80 years old. Do you mean personnel still need to guess about the (mostly non-game) species that are present? Remarkable if true! Steven Herman	Appendix F includes a link to species lists for the Sinlahekin WLA: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/
13	Page 19. All of the English names of species -here and elsewhere- should be capitalized. Is upland bird hunting allowed on this SHTG habitat? Steven Herman	Comment noted. Yes, upland bird hunting is allowed with post signs identifying sharp-tailed grouse presence.

14	<p>Page 20. What is a "savanna habitat"? and how might it differ from a steppe habitat? See the definitive paper (Daubenmire 1970). And ah, the "social and economic benefits of a working landscape" What's that, and what are the benefits? Do they include economic stimuli from visits by Seattle birders? Steven Herman</p>	<p>See Page 56 of DNR – Ecosystems of Washington State – A guide to identification by Roccio and Crawford. 2015. A working landscape recognizes the mutual benefit management activities can have on the local economy. Yes, birding is considered within these economic benefits.</p>
15	<p>Page 21. "rural ownership" is a "land use"? Restoration details? Upland bird hunting? "migrating song birds in the spring" (but not in the fall)? NOT "Hungarian partridge"! non-native bird! English names should be capitalized. Bird list woefully depauperate and speculative. "an array of song birds"? Steven Herman</p>	<p>Rural ownership corrected. Upland bird hunting is allowed. Fall migration also occurs. There's no suggestion that Hungarian partridge is a native species. Bulleted species in unit descriptions are not intended to be comprehensive.</p>
16	<p>Page 23. Are Mule Deer in need of recovery? And how does the grazing on this unit contribute to this vision? Steven Herman</p>	<p>On the Scotch Creek Wildlife Area, the Limebelt area provides critical habitat for wintering mule deer.</p>
17	<p>Page 24. Brook Trout are not native! Here's "Hungarian Partridge" again. How often are Prairie Falcons seen here? Aha" Another place with "an array of songbirds"! What's a "Priority species"? Shrubsteppe restoration. Grazing every other year to protect the "ecological integrity" again. Focus here on the stated reasons for grazing. NO references!! How does targeting spring grasses and forbs with cattle "reduce competition to bitterbrush and other deciduous shrubs"? Steven Herman</p>	<p>There's no suggestion that eastern brook trout are native. Prairie falcons are seen here sporadically. Priority species (WDFW def.) - <i>Priority species require protective measures for their survival due to their population status, sensitivity to habitat alteration, and/or recreational, commercial, or tribal importance. Priority species include State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., heron colonies, bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.</i></p> <p>Grazing references: <i>Ganskopp, D.C., Svejcar, A.J., Vavra, M. 2006. Improving late-summer and</i></p>

		<p>winter forage quality with livestock grazing. <i>Eastern Oregon Agricultural Research Center. SR1057:57-58.</i></p> <p>Vavra, M. 2005. <i>Livestock grazing and wildlife: Developing compatibilities. Rangeland Ecology and Management. 58:128-134.</i></p>
18	<p>Page 26. Pogue Mountain Unit: A noble and well stated vision. This "plan" needs to be based on a vision like this one!</p> <p>Steven Herman</p>	OK
19	<p>Page 27. Hungarian Partridge AGAIN! And Prairie Falcons but no Redtails! No mention of current grazing, present or absent, or objectives.</p> <p>Steven Herman</p>	<p>Not going to bullet all known species here – See link to species lists, see #12.</p> <p>No grazing permit exists on this unit.</p>
20	<p>Page 28. Does BLM graze this inholding? If so, is it adequately fenced against trespass?</p> <p>Steven Herman</p>	No. BLM does not graze this parcel.
21	<p>Page 30. Water Birch should be capitalized and its standard name should follow the English name. Gray Partridge for the first time? If the unit was burned, why does the photo show intact habitat? No mention of grazing. Here are those Prairies again! No Redtails. Snakes appear for the first time. Shrubsteppe restoration before and after the fire?</p> <p>Steven Herman</p>	<p>Noted.</p> <p>Revised 'Hungarian' to be consistent.</p> <p>Photo pre or post-fire irrelevant.</p> <p>No grazing permit exists on Tunk Valley Unit</p> <p>Shrub-steppe restoration occurred prior to the fire.</p>
22	<p>Page 33. What are the "benefits of a working landscape" to do with wildlife? Ring-necked Pheasant not native! No passerines mentioned here! "diving ducks of all kinds"? What species? Irrigated farming? Why? "bird watching" mentioned!</p> <p>Steven Herman</p>	<p>See comment #14 regarding working landscape.</p> <p>No suggestion that pheasants are native.</p> <p>Ducks – ring-necked, bufflehead, barrow's goldeneye, etc. observed.</p> <p>Irrigation is in place to retain water rights among other benefits.</p>
23	<p>Page 36. What is a "Life estate"? What relevance is Grizzly shot nearby in the 1950's? Chukar is non-native. First specific mention of shrubsteppe</p>	<p>A life estate allows the selling family to occupy a portion of the property until a specific time where said property is transferred to WDFW. No suggestion that chukar are native.</p>

	birds. Additional bird list is welcome! Small mammals and herps also detailed. Steven Herman	
24	Page 38. "Rocky Mountain aspen forest"?? Is this a subspecies of Quaking Aspen? Working landscape again. What does this term mean on this unit?. Steven Herman	That refers to an ecological system not species. See before mentioned Roccio and Crawford, see #14. Refers to the use of permitted grazing.
25	Page 39. This is a professional landscape description. Good fish list, including native "rough fish". Swainson's Hawk is not a shrubsteppe-dependent species. Grazing yes, a single lease. What are the payments and how big is the grazing area? And how does the grazing benefit wildlife? Steven Herman	Swainson's hawk corrected. Grazing area is 1,462 acres. Payments depend on USDA annual rate. See response #17 for grazing benefits.
26	Page 41. "song birds" The word is "songbird". This is the Sinlahekin WA. Steven Herman	Comment noted.
27	Page 42. "preserving cultural heritage." What is that? Steven Herman	Protecting cultural resources. State and federal law require the protection of cultural resources, see page 95.
28	Page 43. By far the most professionally written description, including a URL for details about species (although much of it speculation). Four grazing leases "to manipulate habitat and increase forage for mule deer and other wildlife". And how does grazing accomplish these objectives? "tiger trout"? Written by Justin Haug (also the Manager)? If so, this is a professional piece of work, the kind of responsible description that would be welcome elsewhere in this document. Steven Herman	OK Grazing objectives – see response #17. Tiger trout – sterile hybrid of a brown trout and brook trout.
29	Page 47. Hungarian Partridge is back! Along with "an array of song birds". Redtails mentioned,	Its standard WDFW protocol for service roads to be closed to the public. Access to Forde across Okanogan River is gated. Only staff and ag leasee, to

	generally detailed species list. Pheasant release site, ag operation. Some access limited to ag lessees and staff. Why? Steven Herman	complete the terms and conditions of their lease, are authorized to open. All others must cross via boat or fording the river.
30	Page 50. Why is any of it grazed? This is an interesting (and rare) admission that grazing produces damage that can benefit following its end! Steven Herman	Area grazed within a larger, encompassing permit. At the time of purchase, no fencing existed to keep cattle out. Exclusion of sensitive areas common in all permits.
31	Page 51. I see none of the mentioned DNR or BLM holdings. Why? Steven Herman	DNR is shaded light red on the map. No BLM property is adjacent to unit.
32	Page 53. How does grazing here "improve forage for wintering mule deer"? Good to see "songbird" spelled correctly. Steven Herman	See response to #17 for grazing benefits.
33	Page 54. If these BLM inholdings are grazed, are they also well fenced to exclude cattle from the WLA land? Are they grazed? Steven Herman	The BLM parcels are grazed and incorporated within WDFW pastures.
34	Page 56. "song birds"? It's one word! The bird list is as mysterious as most in this document are. How does this management for commercial activities fit into the WDFW mission? Steven Herman	Comment noted. WDFW Mission: <i>The mission of WDFW is to preserve, protect and perpetuate fish, wildlife and ecosystems while providing sustainable fish and wildlife recreational and <u>commercial</u> opportunities.</i>
35	Page 58. Lovely photograph. But "flora and fauna species"? How about plant and animal species? Steven Herman	Comment noted.
36	Page 59. This species list is as pathetic as most -s few token animals off the top of someone's head, but no details on plants. How would grazing "improve mule deer forage"? The excellent photo is of a WESTERN Meadowlark. Steven Herman	See response #17 for grazing benefits.

37	Page 60. Horse Spring Coulee map. Why do some of these maps have in their legends keys to BLM and DNR lands when there are none present on the area mapped? Steven Herman	Comment noted. Standard legends are used for all maps.
38	Page 62. Here again we have grazing to "improve mule deer forage". Where pray where are data to support this assertion? This is a recurring theme in this document and my question requires and answer. Please. Steven Herman	See response #17 for grazing benefits.
39	Page 63. Chiliwist Unit map. Is this area grazed? Steven Herman	Yes, this unit has a grazing permit.
40	Page 65. Is streamflow influenced at all by the removal of water for irrigation? If so, that goes in the last paragraph here. Steven Herman	Comment noted.
41	Page 66. Really, part of WDFW's mission is "to provide commercial opportunities"? It's nice to see herps mentioned here, but to the near exclusion of birds and mammals, plants? How could it be that "inclusive species lists" are not yet available" on a WLA whose origins go back nearly 80 years? The Sinlahekin list is respectable but in many cases highly speculative. I am finding no support for the claim here that Appendix F contains "Documented species occurrence lists." What am I missing? Steven Herman	Yes. The compiling of species lists for each unit is a goal for each wildlife area (pg. 114 in Appendix A, 2D) . The Sinlahekin species list is meant to act as a substitute for those units yet to have comprehensive lists. Once lists are developed, they will be added to the website.
42	Page 67. Table 1. English, not "common" names, and standard, not "scientific" names! And every word in each English name (except the second half of one hyphenated) should be capitalized. Sad that these lists don't incorporate natural history from	Comment noted.

	<p>on-site observers. These lists could have been confected from regional lists and put together solely at a desk somewhere.</p> <p>Steven Herman</p>	
43	<p>Page 71. "grazing to promote 'leader' growth." This myth has been dead for nearly a quarter century. Go to Google Scholar and type Joy Belsky. And let me know what you find relative to my contention. "subspecies is not hyphenated .Mule deer also have white undertails!</p> <p>Steven Herman</p>	<p>Comment noted.</p>
44	<p>Page 72. What management actions have "improved conditions" here?</p> <p>Steven Herman</p>	<p>Fuels reduction (commercial and non-commercial thinning), prescribed burning and weed control.</p>
45	<p>Page 73. Clicking on the mule deer URL did not take me anywhere productive. Does it work for you?</p> <p>Steven Herman</p>	<p>Link corrected.</p>
46	<p>Page 74. All the "statewide goals for large game mammals" are the same or similar. Why reiterate them with every species? Why are Mountain Goats detailed here if they "don't occur on any of these Wildlife areas?"</p> <p>Steven Herman</p>	<p>Comment noted.</p> <p>Mountain goats have historically used the Sinlahekin Wildlife Area, possibly the Similkameen-Chopaka Unit and may inhabit these units in the future.</p>
47	<p>Page 75. Again, little specific data: "Cougars could occur on any of the wildlife area units," Must this be mostly guesswork?</p> <p>Steven Herman</p>	<p>Many units are relatively new and cougars have not been observed to date.</p>
48	<p>Page 76. Sharp-tailed grouse is not mentioned under "Upland Game Birds!" on p. 76. While it is not purposefully hunted, it still falls under the rubric of "upland game bird". In fact, of course, it is hunted "accidentally", given that upland bird hunting is</p>	<p>Upland game birds in this section refer to those <u>hunted</u> species.</p> <p>WDFW's mission is not limited to native species – see response #34.</p>

	<p>allowed within its small range. Why does this practice persist? And again, if the Department's mission is limited to "native" animals, Gray Partridge doesn't qualify.</p> <p>Steven Herman</p>	
49	<p>Page 77. "SGCN, PHS"? Again, it would be helpful to know more about "shrubsteppe restoration". No mention that allowing upland bird hunting in Sharptail range risks the tiny remnant populations.</p> <p>Steven Herman</p>	<p>Comment noted.</p> <p>SGCN and PHS are defined on page 66 of the plan. Further detail is provided in the framework document, see comment # 3.</p>
50	<p>Page 78. species name in standard name should not be capitalized (map). The standard name of Western Gray squirrel is misspelled. So suddenly there are in text literature citations in the Western Gray Squirrel account. Why not in other species accounts? "Confirmed sightings have been documented"? If they're confirmed aren't they already documented? I'm trying to imagine a Western Gray Squirrel "colliding" with a vehicle" I think they just get run over. "Burns of lower intensity" kill young oaks.</p> <p>Steven Herman</p>	<p>Comment noted.</p> <p>Fire is a natural disturbance removed from the landscape as we suppressed a century of wildfires. It's a natural part of this ecosystem WDFW would like to utilize for the benefit of numerous species.</p>
51	<p>Page 79. Species part of Western Gray Squirrel standard name should not be capitalized, but all three parts of the English name should be.</p> <p>Steven Herman</p>	<p>Comment noted.</p>
52	<p>Page 80. IN text citations again. Laudable to be sure, but why this change of format?</p> <p>Steven Herman</p>	<p>Comment noted.</p>
53	<p>Page 81. And now we have the standard format of standard names following English names. Why not earlier in this document? I'm not seeing a clear statement describing native non-game fish present in the WLA's. Why?</p>	<p>Comment noted.</p> <p>Native, non-game fish can be within the Sinlahekin fish list linked to on pg. 129, website: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/sinlahekin/</p>

	Steven Herman	The plan has been revised to include non-game fish.
54	Page 84. Map 21. What is the standard name for Pygmy W Steven Herman hitefish?	<i>Prosopium coulteri</i>
55	Page 85. As with some game birds, some fish "managed" by the Department fall outside the "native" definition to which the Department claims early in this document to be restricted. Could I have an explanation? Steven Herman	Consistent with WDFW's mission, the agency manages both native and non-native species.
56	Page 86. Where are the descriptions of the Ecological Integrity Assessment and Ecological Integrity Monitoring programs? Again, what definition of Ecological Integrity applies to Department lands? (I know now that the definition -and a decent one- pops up later in the document; it should appear on the first page, with identification of source.) Why not? Steven Herman	See comment #3 above.
57	Page 87. Good definition of Ecological integrity! But where did it come from? The DNR url doesn't work for me. Steven Herman	Comment noted.
58	Page 88. By Dwarf Sagebrush do you mean Low Sagebrush, or is this a legitimate species? If it is, what is its standard name? Steven Herman	The Ecological System was removed from plan.
59	Page 89. WHCWG 2012? The Connectivity Working Group displays the kind of broad representation that should be evident in the creation of this plan! First mention of Tiger Salamander? "Wildlife-unfriendly fencing"? What	Comment noted.

	fencing is wildlife-friendly? (yes, i know about the barbless lower strand, but that's hardly friendly to anything that hangs up on Steven Herman	
60	Page 90. Where is the literature support for the statements about fire regimes, insects, and pathogens? Steven Herman	Fire regime, see: Schellhaas studies on pg. 123.
61	Page 94. Standard name should follow English name and English name, Lady Slipper, should be captialized. Steven Herman	Comment noted.
62	Page 94. Are there examples of successful weed control with chemicals? Good to see standard names here. Steven Herman	Yes. Certain weeds have no effective biological agent for control. Many invasive plant species are controlled via herbicides.
63	Page 95. Quantitative as well as qualitative (before and after photos) data supporting the claim of successful shrubsteppe restoration would be very useful here, because this kind of restoration has been evasive over the extent of shrubsteppe habitats in the American West. Where are the quantitative dat supporting the claim of success relative to burning shrubsteppe? Pygmy Nuthatch? 100 acres restored in 25 years? That's all? Steven Herman	See response to comment #9. See response to comment #7. The pygmy nuthatch inhabits those ponderosa pine and mixed conifer forests restoration efforts target to improve.
64	Page 98. How does the persistence of livestock grazing in 27% of these habitats affect the potential for climate change degradation? Steven Herman	Adaptive management implemented to address potential climate change effects.
65	Page 99. Should be "Bighorn Sheep". Steven Herman	Comment noted.

66	<p>Page 99. No need to say "Hungarian", "chuckar" misspelled. All English names should be capitalized! I don't see any mention of expanding access in future. Why?</p> <p>Steven Herman</p>	<p>Comment noted.</p> <p>See Appendix A, statewide goal #3.</p>
67	<p>Page 100. Protection of shrubsteppe habitats has not included the exclusion of cattle in many WLA's. Cattle continue to degrade these landscapes today. Why?</p> <p>Steven Herman</p>	<p>See response to comment #17.</p>
68	<p>Page 101. Birdwatching became a single word decades ago, and this activity is most appropriately called "birding" in the 21st century. And, while Sharptails may not be hunted, they may be mistaken for other hunted species, including hen pheasants. Why not close all Sharptail habitats to Upland Bird hunting?</p> <p>Steven Herman</p>	<p>Comment noted.</p> <p>Various areas noted for presence of sharp-tailed grouse.</p>
69	<p>Page 103. Just what is an "unauthorized" vehicle? How might I identify one?</p> <p>Steven Herman</p>	<p>Unauthorized vehicle is any non-WDFW vehicle or one not associated with agency business (volunteer, ag leasee or grazing permittee).</p>
70	<p>Page 105. is the stewardship agreement with BLM complete yet? How does it treat grazing? How does grazing of privately owned cattle on over 8000 acres of these WLA's serve wildlife? This is one of my major concerns. And remember, that myth about "leader growth" is as valid as the most recent sasquatch sighting!</p> <p>Steven Herman</p>	<p>The stewardship agreement with BLM is currently in the NEPA process.</p> <p>See response to comment #17.</p>
71	<p>Page 106. The "justifications" for agricultural leases are weak and little supported. "Numerous species of ducks"? I think not. "Succulent forage for deer" ? Huh? And I see here not even an</p>	<p>Comment noted.</p> <p>See response to comment #17.</p>

	attempt at justifying the abusive grazing! Please supply one. Steven Herman	
72	Page 107. 218 miles of fencing? That's enough to frame the freeway from Seattle to Ellensburg! Extraordinary! How much of this is internal fencing and what effect does this fencing have on wildlife? These comments supplement some made earlier. And please provide more detail on the "cooperative maintenance". Steven Herman	The majority is boundary fence. Fences are constructed with smooth wire on bottom to help with crossing and tabs are placed on some segments where sharp-tailed grouse are present. Fences associated with grazing permits are maintained by permittee. Shared boundary fences are maintained 50/50 in some areas.
73	Page 108. Adaptive management/monitoring section needs considerable more detail. How will monitoring be done? What will be monitored and how? What are "associated performance measures"? Have you an example of this method having been used elsewhere on Department lands? Steven Herman	Please see the framework (reference #3) for more information on adaptive management and monitoring: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/ An EIM plan will be developed and added to the management plan. Other things that will be monitored, and associated performance objectives, are already stated in Appendix. A.
74	Page 109. Are these just "references" or are they "References cited". A very modest list, in any case, for a document like this. Certainly much in the document begs for additional support from the scientific literature. Steven Herman	Comment noted.
75	Page 112. Four years just to establish goals? Far too long. What's the story on the riparian fencing need? Too little, too slow Steven Herman	Establishing baseline biotic integrity requires in-field data collection, which will take time when conducted over a large landscape. Our intent was to use that baseline, WDFW priorities and capacity to then develop EI goals. Continued improvement, which includes additional riparian fences, is being made in regards to our grazing permits.
76	Page 113. Much that is detailed here is not mentioned in previous pages. What is the	The feedlot is a 50-acre area where concentrated cattle numbers significantly impacted the site before acquisition.

	"feedlot"? Steven Herman	
77	Page 116. Why not consider restricting upland bird hunting on areas where Sharptail recovery is planned? A few errant shots could cut deeply into this miniscule population. Steven Herman	In an ideal world, that would be considered. In fact, we have had this discussion on numerous occasions. It isn't just the issue of killing sharp-tailed grouse, but also the issue of disturbance to key times of year when habitat is limited. The problem is the political support we have for these areas (already small in some areas of Okanogan County) may further dry up if we add more restrictions. This is why we have placed all the sharp-tailed grouse and sage-grouse signs on our wildlife areas. The goal is to educate the hunters and minimize the risk as much as possible. Another approach, which is used in the lower West Foster Creek area is to have a local closure to everyone to keep people from disturbing and/or shooting the birds in areas that they frequent. A local closure can be small and target a specific area, like the valley along Scotch Creek. In any case, our past experience with radio-marked birds has shown that grouse are not very likely to be shot.
78	Page 117. Canada. not, please not, "Canadian" Geese! Steven Herman	Correction made.
79	Page 119. grazing leases? Steven Herman	Not sure what is requested
80	Page 120. I am pleased to see here at least oblique acknowledgment that grazing is destructive to Sharptail habitat. Getting cows off Sharptail habitat should be very high priority. But the effort here outlined to EXPAND grazing in Sharptail habitat is disturbing to say the least; I will want detail on this terrible idea. The Sharptail Recovery Plan makes the incompatibility of Sharptails and grazing is very,very clear. Why wasn't this prospect mention and described earlier in this "plan"? Steven Herman	This pertains to a recent request by a nearby landowner who asked about the possibility. WDFW is in the process of consulting with WDFW staff and district team to see if we can provide an opportunity.
81	Page 121. Center pivots on WLA's? Terrible idea!	Results in water efficiency at the leasee's expense.

	Steven Herman	
82	Page 123. Forest Plan. Much of this has already been articulated. Repetitious indeed. the negative effects of cattle grazing on Aspen reproduction need to be described and justified where grazing occurs. Steven Herman	Comment noted.
83	Page 124. Forest Plan Map. What is the "Douglas Fir Beetle"? Steven Herman	<i>Dendrochtonus pseudotsugae</i>
84	Page 125. Forest Plan. I see it here! but the standard name should be on the map. Steven Herman	Map utilized from a DNR publication.
85	Page 126. Forest Plan. Do you mean tree mortality? Steven Herman	Yes.
86	Page 126. Forest Plan. Yes, revenues! And thes come from without as well as within Okanogan County. Which is another reason the Advisory Committee should be expanded. Steven Herman	Noted. See response to comment #1.
87	Page 126. Forest Plan. Again, a detailed justification of the grazing leases is needed in this document. It is not enough to blithely say, "It continues to be an integral part of conservation management..." No! Steven Herman	See response to comment #17.
88	Page 128. Forest Plan. Are aspen suckers being eaten by cattle anywhere on these lands. On Hart Mountain NWR cattle prevented aspen reproduction for decades. Aspen flourished following the removal of cattle in the early nineties. Steven Herman	No. Many areas where aspen are present are excluded from cattle. Other areas need additional fencing which is addressed in Appendix A.

89	Page 130. Forest Plan. If there is a discussion of the negative effects (or any effects of grazing on forest landscapes her), I've missed it. Please direct me to it or admit it doesn't exist. I see a bit about access and "rest"; why would these lands need rest from grazing? Steven Herman	It is standard practice to allow an area which has recently burned (prescribed or otherwise) to recover at least 2 growing seasons before allowing grazing to continue.
90	Page 132. Forest Plan. How many acres of the aspens are grazed, and what is the status of aspen reproduction there? Steven Herman	Amount of acreage would need to be analyzed and calculated using GIS. Aspen reproduction is occurring.
91	Page 133. Forest Plan. pressure from browse" By what? Steven Herman	Language corrected.
92	Page 135. Forest Plan. Is there additional information on the Douglas-fir tussock Moth "infestation"? This native insect does not often effect tree mortality. Has this "infestation" been studied, monitored for the native nuclearhydrosis virus that typically controls the insect? Were any of these lands sprayed with DDT in the massive (and useless) spraying in 1974? See Herman and Bulger, Wildlife Monograph 69. Steven Herman	For more info on the tussock moth infestation Google: Palmer Mountain Tussock Moth EA. An assessment completed by the BLM in 2009. We have no records of DDT being sprayed.
93	Page 139. Weed Management Plan. What does "managing livestock use" mean here? Steven Herman	Incorporating known weed concerns within the grazing plan for a specific permit and mitigating for potential impacts.
94	Page 140. Weed Management Plan. Cattle spread weeds, but, oddly, that subject is not treated here under Heavy use and Disturbed Areas. It needs to be discussed. Steven Herman	Comment noted.
95	Page 142. Weed Management Plan. Another good example of the benefits of biological control. Are	See response to comment #8.

	there data on effectiveness here? Steven Herman	
96	Page 143. Red-neckED Grebe. All English names need to be capitalized. How many Preble's Shrews have been documented? Steven Herman	Correction made. Occurrences of Preble's shrew is unknown. Need further surveys to determine.
97	Page 144. Standard names should be included in this table. Steven Herman	Comment noted.
98	Page 150. Cultural Resources Summary. Much repetition here. and why not a "Natural History History" section? The Okanogan Valley (on both sides of the international border) was the subject of much early work, exploratory and otherwise. Steven Herman	The cultural resources summary was condensed for the final plan, do reduce repetition.
99	Page 154. FEWER than.. And "sitting PRESIDENT..." Steven Herman	Edited.
100	Page 155. RESIDENTS", not "residences". Steven Herman	Edited.
	Comments regarding Appendix I Steven Herman	This appendix has been removed from the document (USFWS consultations).
101	Page 199. Water Access Site Inventory. access misspelled Steven Herman	Corrected.
102	Page 202. If this is also an access site, perhaps it should be so labeled. Steven Herman	Corrected.
103	Page 204. Where are these materials? Steven Herman	The summary of public process will be completed after SEPA review is complete.
104	Create more drawing opportunities (quality buck) in wildlife areas due to point creep in the other areas. 1 or 2 permits is not helping people get the chance at getting drawn.	In general there is no way to alleviate the difficulty in drawing high demand special permits by creating more hunts, since we'd have to reduce the permits in an existing hunt to create a new one; it's still the same number of hunters chasing the same number of deer. On the other hand, we may

	Mitchell Dean	explore creating some other limited access opportunities on wildlife area similar to what we have done on the Eder Unit in GMU 204.
105	Your department does a pretty good job of managing wildlife land, and I support your efforts! Ed McConnell	Thank You.
106	If you are taking properties from the tax base, you are crippling the county by eliminating taxes for us to operate. David Mendelsohn	WDFW pays counties In Lieu of Taxes in place of property taxes. Recent payments have been lower due to legislative action reducing what's owed to counties. The Scotch Creek and Sinlahekin Wildlife Areas advocate paying our fair share to Okanogan County. In addition WDFW Lands division employees 11 employees that live in the local community and spend locally. The budget for which these 11 work under, exceeds 1 million dollars of which a majority is spent locally. WDFW also develops multiple small works contracts which are bid on competitively by local contractors, such as harvest contracts and fencing contracts.
107	I lead two Washington Ornithological Society Trips to Scotch Creek every winter to observe Sharp-tailed Grouse in the Water Birch along the creek. One is a scout trip of 4-8 bird watchers, the other is a field trip of 18. We visit area venues and donate free seed to folks with bird feeders. Please continue to conserve our public lands to conserve habitat for Sharp-tailed Grouse. Thank you, Shep Thorp, VMD	Noted. Thank You.
108	I am George Joyner, a member of the Washington State chapter of the Ruffed Grouse Society. I am writing to encourage you to allow the RGS to repair or replace the water guzzlers that were damaged in the Sinlahekin and Scotch Creek fires of late. These guzzlers benefit every species of small wildlife and birds in these areas by providing a source of drinking water during the hot months. The RGS provides partial funds and all the labor of	Guzzlers on the Sinlahekin Wildlife Area damaged during the 2015 wildfires will be replaced in the Spring of 2017.

	<p>placing and repairing these vital wildlife resources.</p> <p>Please include the guzzlers in any Sinlahekin management plan you produce and approve. The wildlife of Washington's forest are stressed enough as is and they need a break. These guzzlers provide just that.</p> <p>Thank you for your consideration, George Joyner</p>	
109	<p>My one comment is concern over increase in future wildfire and weeds. I noticed quite a bit of cheatgrass and some other annual non-native grasses today at Scotch Creek. Parts of Oregon and Idaho have fallen in to the cycle of cheatgrass - fire - more cheatgrass - more fire. I don't think cheatgrass and other invasives are taking over Scotch Creek at this point in time. But they could in the future. I read through the "Weed Management" appendix - so obviously WDFW is aware of this challenge. I did see the planted sagebrush on the bench to the northwest of the parking lot, and that the young sagebrush were coming up pretty good. And I understand the success of any future plantings may be based on luck (i.e. that sagebrush plantings occur during wet years). But I think continued restoration and aggressive action to tackle the weed problem is key - with climate change the fire season window has and will continue to lengthen. And re-occurring fires could exacerbate the weed problem and further degrade sagebrush-habitat. Maybe using tools not often considered - like grazing in the spring to reduce cheatgrass and</p>	<p>WDFW staffs on both the Sinlahekin and Scotch Creek have the same concern over the invasion of cheatgrass and invasive noxious weeds, and work to address the issues as they arise. During fire events staff try and work with Incident management teams to provide logistics in an attempt to minimize this potential. Staffs spend a large part of the field season performing week control activities and work to coordinate efforts with other entities.</p>

	<p>overall fuel loads - could be a tool to combat weeds and reduce fire risks.</p> <p>Thanks for your time.</p> <p>Ryan Niemeyer</p>	
110	<p>Page 49. Would be clearer if this read as - Pittman-Robertson, USFWS; Washington State RCO, WWRP</p> <p>David Leonard, USFWS</p>	Corrected in all unit descriptions.
111	<p>See previous comment related to clarity and would it be possible to include the percent funding from each entity? Given that USFWS provided 94% of the funding for this parcel, it would be difficult for the public to argue against its primary purpose.</p> <p>David Leonard, USFWS</p>	We will consider to include in future wildlife area plans.
112	<p>Page 50. Need to provide a narrative which includes all the species for which the funds were provided.</p> <p>David Leonard, USFWS</p>	USFWS covered species will be added in each unit description.
113	<p>Page 50. Need more information to judge whether this is a compatible use. Given that this property was meant to provide habitat for large carnivores this seems to be inviting conflict.</p> <p>David Leonard, USFWS</p>	At the time of acquisition, very little fencing existed to exclude cattle from surrounding grazing programs, public and private. Staff constructed fences to address potential impacts to Buzzard Lake and surrounding wetlands. A permit was drafted to address incoming cattle to the property to better manage surrounding livestock. WDFW will continue to improve fencing on this unit to address cattle use.
114	<p>Page 50. Wildlife friendly fencing? The primary purpose of this parcel is wildlife conservation not human use and future development needs to be discussed.</p> <p>David Leonard, USFWS</p>	This area was already a popular recreation destination when purchased. The fencing and other improvements were to keep users localized in one location rather than impacting a larger area. The unit is located at the intersection of 3 major ATV routes. Not providing a primitive stop for the recreating public would have produced significantly more resource damage.
115	<p>Page 53. Potentially incompatible. Need to see</p>	A grazing permit and plan were drafted for this unit prior to WDFW

	the grazing plan. David Leonard, USFWS	ownership as part of the acquisition.
116	Page 53. Mule deer are supposed to be for large carnivores. David Leonard, USFWS	Text edited.
117	Page 56. As per the original proposal for E-46 HL-2, these lands were purchased for wide-ranging carnivores. David Leonard, USFWS	Text edited.
118	Page 56. Potentially at odds with purpose of the grant. David Leonard, USFWS	Text edited.
119	Page 66. Would be appropriate to include a narrative regarding the east-west wildlife movement corridor for rare, wide-ranging carnivores as well as north-south movement corridors as per the original Section 6 grant proposals. David Leonard, USFWS	Text added.
120	Page 69. Lynx and Wolverine are included in the original Section 6 proposals. David Leonard, USFWS	Lynx and wolverine species information included in the final plan.
121	Page 71. Length of narratives for games species vs. diversity species may provide a slanted view of the purpose of these lands. David Leonard, USFWS	Comment noted. USFWS covered species information added additional species in the Diversity (non-game) section.
122	Page 77. Wolves, Grizzly Bear, Lynx, Wolverine, Fisher? David Leonard, USFWS	A description of wolves, grizzly, lynx and wolverine have been added to the Diversity Species narrative. Fisher was not identified as a priority species in the Section 6 grant narratives.
123	Page 89. No mention of wide-ranging carnivores. David Leonard, USFWS	Text added.
124	Page 97. An assessments for wide-ranging carnivores - wolverine?	Lynx: none of their critical habitat falls on WDFW property as the wildlife areas are located in drier, lower elevation habitats less suitable for lynx. As a

	David Leonard, USFWS	result, no lynx are expected to reside permanently on the wildlife areas. Wolverine: wolverine habitat across the continent is tightly correlated with areas that retain a significant snowpack well into spring (mid-May). In Washington this limits them to our higher elevation landscapes. As a result, no wolverines are expected to reside permanently on the wildlife areas.
125	Page 98. Less snow pack? David Leonard, USFWS	Noted. Implied by lowered stream flows, increased risk of fire, etc.
126	Page 99. Maybe include a narrative describing that some units / parcels were purchased for the conservation of wide-ranging carnivores and that in these areas human activities are limited. Could include as an additional column in Table 9. Restrictions related to this need to be identified in Table 9. David Leonard, USFWS	Wildlife area plan objectives (Appendix A) recognize species and management activities to be consistent with the original Section 6 grant purpose.
127	Page 104. Include a table which summarizes this information. David Leonard, USFWS	Comment noted. The wildlife area overview section includes a summary of funding sources per each unit.
128	Page 104. This is not accurate. Section 7 only applies to federal agencies; WDFW does not have any Section 7 obligations. David Leonard, USFWS	This section and the corresponding appendix was removed.
129	Page 105. See previous comments re. carnivores. David Leonard, USFWS	Comment noted.
130	Page 114. Maybe include species for which Section 6 properties were purchased to protect? David Leonard, USFWS	See response to comment #124, text has been added in the plan to account for large carnivores. The Diversity Division selects SGCN species to focus on for surveys each year; they tend to focus on species that have a lack of occurrence information documented on the wildlife area.
131	Page 115. and the large carnivores that prey on them? David Leonard, USFWS	Noted.
132	Page 116. This should not be an issue on lands purchased for wolves, i.e., livestock should not be grazed on these parcels.	This is a statewide goal directly from the WDFW wolf conservation and management plan. This goal relates to those units where there are current grazing permits.

	David Leonard, USFWS	
133	Page 117. Building infrastructure that facilitates human use should not be priority on lands purchased with Section 6 funds. David Leonard, USFWS	By not providing primitive facilities in high use areas may negatively affect the surrounding resources by leaving the option of dispersed uses over a larger landscape.
134	Page 120. Building infrastructure that facilitates human use should not be priority on lands purchased with Section 6 funds. David Leonard, USFWS	See above, #133.
135	Page 120. This would be great language to include for wolves ect. David Leonard, USFWS	WDFW has identified a list of potential wolf-livestock conflict prevention measures already used in some areas. These will be evaluated and applied in the future where appropriate on WDFW lands including the Scotch Creek and Sinlahekin Wildlife Areas.
136	Page 122. As appropriate. David Leonard, USFWS	Noted.
137	The table listing noxious weeds present, treated acres, etc is incorrect and does not accurately portray the classification of noxious weeds and acres present on the WLA's. Anna Lyon, Okanogan County Noxious Weed Control Board (OCNWCB)	The table was edited to address this concern.
138	Bladder Senna and Common Mullein are listed on the above referenced table but are not included in the 2016 or 2017 Noxious Weed List. It should be noted that Bladder senna was planted previously by WDFW personnel to provide forage for deer. It has escaped the planting site and is invading nearby habitats. Anna Lyon - OCNWCB	These two weeds are priorities for certain WDFW properties; which may differ from county and state lists/priorities. Correct - Bladder senna was planted by former agency staff on the Sinlahekin Unit for an alternative browse for deer. Current staff is working to eradicate this and other species planted for the same purpose.
139	Because all activities on WDFW lands have the potential to spread or introduce noxious weeds, the Weed Management Plan should be referred to	Edits completed.

	in each activity section, including the Forest Management Plan. Anna Lyon - OCNWCB	
140	Each unit has its own characteristics, and its own noxious weed control issues. These issues should be noted in the descriptions of the areas to increase public awareness, and establish WDFW's commitment to controlling these weeds. Anna Lyon - OCNWCB	Noted. Noxious weed control on these 14 units is number one, if not the top priorities for managing these wildlife areas.
141	Prevention is surely the best management tool for noxious weeds, and WDFW should make it a priority to plant native species when doing site restoration, or providing habitat and forage to the wildlife on its lands. Anna Lyon - OCNWCB	The Scotch Creek and Sinlahekin Wildlife Areas currently use only native species of grasses, forbs and shrubs for restoration efforts. These species are commonly specific bio-types, seed collected and grown out from plants associated with a specific site.
142	OCNWCB would like to see WDFW stand with its Plan and fund control efforts that are performed in a coordinated manner with Okanogan County Coordinated Weed Management Area partners, including BLM, DNR, USFS and OCNWCB. Anna Lyon - OCNWCB	WDFW has and will continue to participate in the Coordinated Weed Management Area process and fund weed control efforts on WDFW properties that affect adjacent federal, state, and private properties.
143	Fire management is noted in this document and WDFW is dependent on outside entities for its fire suppression needs. Activities associated with fire suppression, including on site control, have the potential to spread noxious weeds into newly disturbed areas. OCNWCB recommends that WDFW require a noxious weed wash station on every fire that requires out of county personnel or equipment. This will assist in prevention measures and limit spread of noxious weeds not already present in the county. Anna Lyon - OCNWCB	Noted. The feasibility of a wash station for fire suppression equipment would need to be discussed with the DNR. The wildlife areas will support efforts to address this issue.
144	Funding will always be an issue in addressing	Noted. Funds to control noxious weeds are a part of a biennial budget.

	<p>WDFW weed control efforts. Funds allocated during the purchase of properties are not sufficient to meet the goals of WDFW. The abundance of recreational activities on WDFW lands leads to the need for constant vigilance against newly invading or spread of existing species of noxious weeds. Funds must be available on an annual basis to ensure compliance with RCW 17.10 and control the required noxious weeds.</p> <p>Anna Lyon - OCNWCB</p>	<p>Supplemental funding was made available to control weeds within recent burned areas from the 2014 and 2015 wildfires. Additional funds from Agricultural Lease fees and Grazing Permit fees are utilized each year to purchase herbicides to control weeds.</p>
145	<p>There is no mention of an Early Detection, Rapid Response processes or awareness of the need for such processes.</p> <p>Anna Lyon - OCNWCB</p>	<p>Noted.</p>
146	<p>WAC 16-750 provides an annually updated list of noxious weeds. Class A noxious weeds are required to be eradicated. Known infestations of Class A noxious weeds on these WLA's are limited to Mirabilis. However, another Class A noxious weed (Spurge flax) is present in several areas in close proximity to these WLA's.</p> <p>Anna Lyon - OCNWCB</p>	<p>Noted and referenced in the plan. Eradicating Mirabilis is a very high priority. WDFW will continue to work with the OCNWCB to survey for spurge flax on those units close to know infestations.</p>
147	<p>Class B and C weeds designated for control, by WAC 16-750 and OCNWCB, are also required control. Control for these species means to eliminate spread of all propagative parts. Known infestations occur of Leafy spurge, Hoary alyssum, Musk thistle, Scotch thistle, Plumeless thistle, and Rush skeletonweed. These species, and other designated species, must be controlled to prevent additional spread and funding must be allocated to ensure control to the extent of RCW 17.10.</p> <p>Anna Lyon - OCNWCB</p>	<p>Noted.</p>

148	<p>Weeds that are not designated, or required to be controlled, are also present on these WLA's, including access sites, and campgrounds. WDFW needs to improve the condition of these areas and prevent the spread of these noxious weeds from infested sites to surrounding areas and across the state. To further this goal, educational information should be posted at all public area kiosks, and noxious weed treatments should occur to eliminate accidental transfer of plants, seeds and propagative parts.</p> <p>Anna Lyon - OCNWCB</p>	<p>Noted. WDFW will work with the OCNWCB to produce educational information to best suit recreational sites in regard to noxious weed awareness.</p>
149	<p>Re: DNS 16-071, Scotch Creek and Sinlahekin Wildlife Areas Management Plan</p> <p>The following paragraph has been copied from your statement:</p> <p>"Proposed uses include sharp-tailed grouse protection and enhancement; recreation and wildlife conservation; protection and restoration of shrub-steppe, forest and riparian habitat. There are 10 agriculture leases and 13 grazing leases. The leases provide food and cover for wildlife and as well as revenue. Under the direction of the new plan, management activities will remain as they have over the past 10 years"</p> <p>I have read this paragraph several times, and am left with questions. What exactly is meant by 'recreation and wildlife conservation' in this statement? I understand the sharp-tailed grouse issue.</p> <p>Are the grazing and agricultural leases in jeopardy? I have no issues with either; just want to know if they will remain as they are; since they were mentioned.</p>	<p>Recreation and wildlife conservation' – recreation refers to hunting, fishing, hiking, etc. and the wildlife area's goal to maintain and protect those opportunities for future generations. Wildlife conservation is similar in that the Scotch Creek and Sinlahekin wildlife areas will continue to “. . .preserve, protect and perpetuate fish, wildlife and ecosystems . . . “ as stated in WDFW's mission.</p> <p>No, grazing permits and agricultural leases are not currently in jeopardy. Scotch Creek and Sinlahekin wildlife areas are continuing to improve both types of agreements to benefit local citizens, agency interests and a broad array of species.</p> <p>Big game hunting will still be made available. Certain units such as the Charles and Mary Eder Unit have a permit-only hunt. WDFW is currently working with the USFWS to determine if hunting will continue to be compatible within certain USFWS-funded lands on both wildlife areas.</p> <p>This sentence refers to the general management of these two wildlife areas will remain as it has over the previous decade. The Scotch Creek and Sinlahekin wildlife areas recognize changes in policy, strategy and science and employ and adaptive management approach when necessary. However our general approach to management will remain as it has.</p>

	<p>Will there still be big game hunting? I am a hunter (big game) and wonder if this will remain open for hunting?</p> <p>I have noted that the final sentence in this paragraph states that 'management activities will remain as they have for the past 10 years'. So, what exactly are the changes? Simply what is stated in the first sentence?</p> <p>I appreciate the clarification.</p> <p>Cynthia A. Grabeel</p>	
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20226 Neat Road SE
Yelm, Washington 98597
3 January 2017

SEPA Desk
Washington Department of Fish and Wildlife
600 Capitol Way
Olympia, Washington 98501-1091

What follows here is a cover letter regarding the draft management plan for Scotch Creek and Sinlahekin Wildlife Areas. My detailed comments on the plan have been submitted online to the Department SEPA desk.

I am very disappointed in the draft plan. It is not a professional document. I see evidence that much of it was cobbled together from existing documents, likely to serve the requirements of the State Environmental Policy Act more than anything.

The “plan” looks more like a reinvention of the status quo than a progressive attempt to bring the management of these two areas into the twenty-first century. Evidence of consistent editing is hard to find; various sections of the draft follow disparate styles. While there is a reference section, in-text citations occur only sporadically. English names are not capitalized and standard names infrequently follow them. English names are sometimes those used decades ago, or misspelled.

While it is implied that the Wildlife Areas Advisory Committee has reviewed and edited the draft, there is no evidence of that, and my emails to committee members have gone unanswered.

The first major disappointment is the narrowness of this committee. Almost without exception, the committee is made up of local people –most with a vested financial or related interest in the management. These Wildlife Areas are owned and often cherished by ALL Washingtonians, and the committee composition does not even come close to reflecting that reality.

Perhaps my greatest disappointment concerns the archaic orientation of the document and its authors. This is the twenty first century, not the middle of the twentieth. The document emphasizes big game, and put and take hunting and fishing, to the near exclusion of the non-game wildlife that is fast replacing public interest in hunting. When non-game wildlife is mentioned in the unit descriptions, it is often with clichés like “an array of songbirds”, or “song birds”, or “meadow larks”. The same few species are listed as “seen” over and over again. These include both eagles and Prairie Falcons. These are certainly found on some of the units, but there are other species that might appropriately be mentioned. Okanogan County is a major destination for myriad naturalists seeking unusual birds in particular. Certainly this citizen population is responsible for notable contributions to the economy of the County, but nowhere are they represented on the Committee or elsewhere in the creation of the document.

It is worth noting, I think, that two bird species, Boreal Owl (*Aegolius funereus*) and Boreal Chickadee (*Poecile hudsonica*) are only two of the Washington birds that are narrowly

distributed but present in Okanogan County, and probably on these WLA's. How were they missed in the draft?

As I write this letter, I am looking at a Facebook post by a birder who visits Okanogan County often enough that he has a second home here. His report of birds seen on a recent visit reads in part, "Highlights include: Up to 30 Sharp-tailed Grouse in three locations, a dozen or so Ruffed Grouse, Gray Partridges, and Chukars. Hundreds of Bohemian Waxwings, a few Gray-crowned Rosy-finches, Pine Grosbeaks, Snow Buntings, Tree Sparrows, and Lapland Longspurs." And this man lives in Portland.

In the end, these shortfalls reflect not only ignorance of the natural history of the units, but a lack of interest in the broad spectrum of values for which these areas are allegedly preserved.

I wouldn't really expect an agency to recognize the value of replacing "common" and "scientific" with the name categories "English" and "standard", but the logic of that revision is obvious and another way of recognizing the passage of time and old ways. And capitalizing the English names of all organisms just makes sense. All are proper nouns, and in some cases the bodies that determine the names (e.g. the AOU Committee on Nomenclature) mandate that the (bird) names be capitalized! To do otherwise is to reveal the writer or editor is stuck in a time now expired.

If the claims that shrubsteppe has been restored are true, this is a remarkable accomplishment. Nowhere else (with a single exception, ironically on a WDFW Wildlife Area) has this been accomplished to my knowledge. The photographs included testify to the attempts, but there are no data demonstrating success. Remember that "Shrubsteppe designates communities consisting of one or more layers of perennial grasses, above which there rises a distinct but discontinuous layer of shrubs" (Rexford Daubenmire, 1970). Certainly a major goal in the revision of this document should be proof the restoration of shrubsteppe on these sites is a reality.

Finally, the treatment of cattle grazing is disappointing. Perhaps especially grating is the inane mouthing about grazing "improving mule deer habitat" or "increasing leader length". Neither of these assertions can be supported in the literature, and the latter was first demonstrated false nearly a quarter century ago. As I read the document, some 13,000 of the 48,000 acres (27%) are grazed by privately owned domestic cattle. Near the end of the document is a section lightly detailing the damage grazing does to wildlife habitat (especially true for Sharp-tailed Grouse), but nowhere in the plans do I find evidence of any inclination to reduce grazing over the next decade. Indeed, among the plans is a plea to *increase* grazing! And the incredible 218 miles of fencing associated with grazing these areas is enough to frame the freeway from Seattle to Ellensburg! And fences are not friendly to wildlife, with the exception of when they exclude cattle from wildlife habitat.

My comments in the draft are detailed page-by-page on "sticky notes" that emerge as the page is pulled up. In many cases, my questions were answered later in the document. I have not taken time to edit these as I'd like and should, but in most of those cases, the desired information should have appeared prior to my comment, more testimony to the need to reorganize the document on revision.

Finally, I want to acknowledge that much work went into this document. And I would like to note in particular the photographs and other contributions by Justin Haug. They complement the document and set a bar to which the text revision might aspire.

Steven G. Herman, Ph.D.
Advisory Board Member
Western Watersheds Project

From: [Mitchell Dean](#)
To: [SEPADesk2 \(DFW\)](#)
Subject: Comment on SEPA No. 16071
Date: Tuesday, November 29, 2016 5:09:08 PM

Create more drawing opportunities (quality buck) in wildlife areas due to point creep in the other areas. 1 or 2 permits is not helping people get the chance at getting drawn.

From: [Ed McConnell](#)
To: [SEPADesk2 \(DFW\)](#)
Subject: Comment on SEPA No. 16071
Date: Tuesday, November 29, 2016 7:40:04 PM

Your department does a pretty good job of managing wildlife land, and I support your efforts!

Powered by Cricket Wireless

From: [David Mendelsohn](#)
To: [SEPADesk2 \(DFW\)](#)
Subject: Comment on SEPA No. 16071
Date: Wednesday, November 30, 2016 5:52:12 AM

If you are taking properties from the tax base, you are crippling the county by eliminating taxes for us to operate..

Sent from [Mail](#) for Windows 10

From: SEPADesk2 (DFW)

To: Vigue, Lauri (DFW)

Subject: FW: Comment on SEPA No. 16071

Date: Thursday, December 01, 2016 2:51:46 PM

-----Original Message-----

From: Shep Thorp [<mailto:shepthorp@gmail.com>] On Behalf Of tanwaxlake@comcast.net

Sent: Wednesday, November 30, 2016 7:32 PM

To: SEPADesk2 (DFW)

Subject: Comment on SEPA No. 16071

To Whom it May Concern,

I lead two Washington Ornithological Society Trips to Scotch Creek every winter to observe Sharp-tailed Grouse in the Water Birch along the creek. One is a scout trip of 4-8 bird watchers, the other is a field trip of 18. We visit area venues and donate free seed to folks with bird feeders. Please continue to conserve our public lands to conserve habitat for Sharp-tailed Grouse.

Thank you,

Shep Thorp, VMD

shepthorp@gmail.com

253-370-3742

Vigue, Lauri (DFW)

From: G M Joyner <gmjoyner@integrity.com>
Sent: Wednesday, December 07, 2016 8:14 PM
To: Vigue, Lauri (DFW)
Cc: Bob Olson; Washington Ruffed Grouse Society
Subject: Fire damage repair work in the Sinlahekin

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Hi, Lauri!

I am George Joyner, a member of the Washington State chapter of the Ruffed Grouse Society. I am writing to encourage you to allow the RGS to repair or replace the water guzzlers that were damaged in the Sinlahekin and Scotch Creek fires of late. These guzzlers benefit every species of small wildlife and birds in these areas by providing a source of drinking water during the hot months. The RGS provides partial funds and all the labor of placing and repairing these vital wildlife resources.

Please include the guzzlers in any Sinlahekin management plan you produce and approve. The wildlife of Washington's forest are stressed enough as is and they need a break. These guzzlers provide just that.

Thank you for your consideration,

George Joyner

Kirkland, WA

gmjoyner@integrity.com

Vigue, Lauri (DFW)

From: SEPADesk2 (DFW)
Sent: Friday, December 30, 2016 8:05 AM
To: Vigue, Lauri (DFW)
Subject: FW: Comment: Scotch Creek and Sinlahekin Wildlife Areas Management Plan

Follow Up Flag: Follow up
Flag Status: Flagged

From: Ryan Niemeyer [<mailto:rniemeyer07@gmail.com>]
Sent: Thursday, December 29, 2016 9:08 PM
To: SEPADesk2 (DFW)
Subject: Comment: Scotch Creek and Sinlahekin Wildlife Areas Management Plan

WDFW,

I just realized I missed the 5 pm deadline, but I figure I'll send my feedback anyway. I actually hunted Scotch Creek today (see attached pics) - we only got one hun. I really like the new interpretive signs in the valley (on the Coulee trail). I also saw some fresh cross-country ski tracks - so glad to see multiple uses occurring.

My one comment is concern over increase in future wildfire and weeds. I noticed quite a bit of cheatgrass and some other annual non-native grasses today at Scotch Creek. Parts of Oregon and Idaho have fallen in to the cycle of cheatgrass - fire - more cheatgrass - more fire. I don't think cheatgrass and other invasives are taking over Scotch Creek at this point in time. But they could in the future. I read through the "Weed Management" appendix - so obviously WDFW is aware of this challenge. I did see the planted sagebrush on the bench to the northwest of the parking lot, and that the young sagebrush were coming up pretty good. And I understand the success of any future plantings may be based on luck (i.e. that sagebrush plantings occur during wet years). But I think continued restoration and aggressive action to tackle the weed problem is key - with climate change the fire season window has and will continue to lengthen. And re-accuring fires could exacerbate the weed problem and further degrade sagebrush-habitat. Maybe using tools not often considered - like grazing in the spring to reduce cheatgrass and overall fuel loads - could be a tool to combat weeds and reduce fire risks.

Thanks for your time.

Ryan Niemeyer
former Omak resident
(currently in Seattle)



PANO_20161229_120615.jpg



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

February 27, 2017

David Leonard, Ph.D.
Regional Coordinator - Section 6 Grants
U.S. Fish and Wildlife Service
911 NE 11th Avenue
Portland, Oregon 97232

SUBJECT: USFWS Comments on the Draft Scotch Creek & Sinlahekin Wildlife Area Management Plan

Dear Mr. Leonard:

Thank you for submitting comments on the draft Scotch Creek and Sinlahekin Wildlife Area Management Plan. The Washington Department of Fish and Wildlife (WDFW) has prepared this response to concerns raised by the USFWS.

WDFW is managing Section 6 purchased lands consistent with the grant language included in the Okanogan-Similkameen Watershed – Phase 1 FY 08 (E-46-HL-1) grant contract. The grant contract recognized the target acquisition as supporting wildlife-based recreation and working ranches, both actively supported by the local community. We selected one unit purchased with USFWS Section 6 funds to demonstrate how our management is benefiting wildlife covered under the grant. The Buzzard Lake Unit was purchased with Section 6 funding in 2008. Prior to the acquisition this area was heavily impacted by recreation and grazing. The Buzzard Lake unit is located in an area of intense development pressure. WDFW is meeting the objectives of this grant by removing this area from development and reducing impacts from grazing and recreation across the landscape. Overall management of our lands improves connectivity habitat for wide ranging carnivores (grizzly bear, gray wolf and wolverine). In 2016, the Loup Loup wolf pack has become established near this site.

The Buzzard Lake Unit acquisition was at high risk of development, so the benefits of WDFW acquisition are first and foremost the avoidance of such development. Since acquisition, habitat improvements include the following: construction of 1.7 miles of fencing to reduce impacts from recreation and grazing, this resulted in protecting 225 acres of wetlands and surrounding meadows; control of recreation use by providing rail fencing, gates, controlled camping and signage; abandoning approximately 5 miles of logging roads to stop ORV vehicle use. Major benefits of acquiring Section 6 lands include protection from further degradation; improved

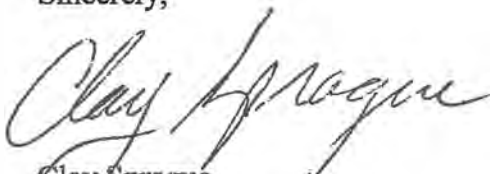
David Leonard, Ph.D.
February 27, 2017
Page 2

habitat condition; and implementing management (planned improvements) activities as part of the new wildlife area management plan.

As grazing permits are renewed on WDFW lands, grazing management plans are developed to meet improved ecological integrity requirements. The grazing permit for the Buzzard Lake Unit is up for renewal in 2017. The new grazing management plan will provide higher standards of ecological integrity by including the following measures: 1) conduct forage analysis to ensure appropriate stocking rates; 2) review timing/duration of grazing to ensure accuracy, compatibility with desired habitat conditions; 3) conduct habitat monitoring to track progress toward ecological integrity objectives. WDFW has identified a list of potential wolf-livestock conflict prevention measures already used in some areas. These and additional measures will be evaluated and applied in the future where appropriate on WDFW lands, including the Scotch Creek and Sinlahekin Wildlife Areas. Additionally, the Okanogan Complex is part of a larger landscape Coordinated Resource Management Strategy in partnership with other landowners, so our work will have benefits for the targeted species beyond just the footprint of our lands.

WDFW is in the process of writing new wildlife area management plans over the course of several years. As new wildlife area management plans are developed, WDFW will send draft versions of the management plans to the USFWS for review in advance of public review. This year we would be happy to host a field trip in Okanogan County this spring to visit these wildlife areas to demonstrate how our management is benefitting Section 6 lands as well as meeting the local community interests. Lauri Vigue will be in contact soon to gather interest and organize this trip.

Sincerely,



Clay Sprague
Lands Division Manager

cc: Marty Acker, USFWS
Cynthia Wilkerson
Matt Monda
Justin Haug
Jeff Burnham
Lauri Vigue

OKANOGAN COUNTY

NOXIOUS WEED CONTROL BOARD

149 3rd N. Rm. 102, PO Box 791, Okanogan, WA 98840

Email noxiousweeds@co.okanogan.wa.us
www.okanogancounty.org/nw
OFFICE 509-422-7165

To: Lauri Vigue

Date: December 29, 2016

Okanogan County Noxious Weed Control Board (OCNWCB) appreciates the opportunity provided to comment on the Scotch Creek and Sinlahekin Wildlife Areas Management plan. Our comments are provided, by section, as follows:

General

- The table listing noxious weeds present, treated acres, etc is incorrect and does not accurately portray the classification of noxious weeds and acres present on the WLA's.
- Bladder Senna and Common Mullein are listed on the above referenced table but are not included in the 2016 or 2017 Noxious Weed List. It should be noted that Bladder senna was planted previously by WDFW personnel to provide forage for deer. It has escaped the planting site and is invading nearby habitats.
- Because all activities on WDFW lands have the potential to spread or introduce noxious weeds, the Weed Management Plan should be referred to in each activity section, including the Forest Management Plan.
- Each unit has its own characteristics, and its own noxious weed control issues. These issues should be noted in the descriptions of the areas to increase public awareness, and establish WDFW's commitment to controlling these weeds.

Prevention

- Prevention is surely the best management tool for noxious weeds, and WDFW should make it a priority to plant native species when doing site restoration, or providing habitat and forage to the wildlife on its lands.
- OCNWCB would like to see WDFW stand with its Plan and fund control efforts that are performed in a coordinated manner with Okanogan County Coordinated Weed Management Area partners, including BLM, DNR, USFS and OCNWCB.
- Fire management is noted in this document and WDFW is dependent on outside entities for its fire suppression needs. Activities associated with fire suppression, including on site control, have the potential to spread noxious weeds into newly disturbed areas. OCNWCB recommends that WDFW require a noxious weed wash station on every fire that requires out of county personnel or equipment. This will assist in prevention measures and limit spread of noxious weeds not already present in the county.

OFFICE STAFF

MANAGER:

Anna Lyon
509-422-7168

Field Supervisor

Janet Nelson
509-422-7295

Asst. Manager

Larry Hudson
509-422-7167

Field Inspector

Joan Mason
509-422-7165

BOARD MEMBERS:

AREA # 1
Connie Humphrey
509-422-5615

AREA # 2
Bonnie Lawrence
Chairman
509-826-3195

AREA # 3
Steve Kieffer
509-429-9900

AREA # 4
Vicki Davis
509-486-2714

AREA #5
Jan Asmussen
509-846-2138

Prioritizing

- Funding will always be an issue in addressing WDFW weed control efforts. Funds allocated during the purchase of properties are not sufficient to meet the goals of WDFW. The abundance of recreational activities on WDFW lands leads to the need for constant vigilance against newly invading or spread of existing species of noxious weeds. Funds must be available on an annual basis to ensure compliance with RCW 17.10 and control the required noxious weeds.
- There is no mention of an Early Detection, Rapid Response processes or awareness of the need for such processes.
- WAC 16-750 provides an annually updated list of noxious weeds. Class A noxious weeds are required to be eradicated. Known infestations of Class A noxious weeds on these WLA's are limited to Mirabilis. However, another Class A noxious weed (Spurge flax) is present in several areas in close proximity to these WLA's.
- Class B and C weeds designated for control, by WAC 16-750 and OCNWCB, are also required control. Control for these species means to eliminate spread of all propagative parts. Known infestations occur of Leafy spurge, Hoary alyssum, Musk thistle, Scotch thistle, Plumeless thistle, and Rush skeletonweed. These species, and other designated species, must be controlled to prevent additional spread and funding must be allocated to ensure control to the extent of RCW 17.10.
- Weeds that are not designated, or required to be controlled, are also present on these WLA's, including access sites, and campgrounds. WDFW needs to improve the condition of these areas and prevent the spread of these noxious weeds from infested sites to surrounding areas and across the state. To further this goal, educational information should be posted at all public area kiosks, and noxious weed treatments should occur to eliminate accidental transfer of plants, seeds and propagative parts.

From: SEPADesk2 (DFW)
To: Vigue, Lauri (DFW)
Subject: FW: DNS 16-071, Questions
Date: Monday, December 05, 2016 1:44:10 PM
From: outdoorslover1@nwi.net [mailto:outdoorslover1@nwi.net]
Sent: Saturday, December 03, 2016 8:35 AM
To: SEPADesk2 (DFW)
Subject: DNS 16-071, Questions

Hello.

Re: DNS 16-071, Scotch Creek and Sinlahekin Wildlife Areas
Management Plan

The following paragraph has been copied from your statement:

"Proposed uses include sharp-tailed grouse protection and enhancement; recreation and wildlife conservation; protection and restoration of shrubsteppe, forest and riparian habitat. There are 10 agriculture leases and 13 grazing leases. The leases provide food and cover for wildlife and as well as revenue. Under the direction of the new plan, management activities will remain as they have over the past 10 years"

I have read this paragraph several times, and am left with questions. What exactly is meant by 'recreation and wildlife conservation' in this statement? I understand the sharp-tailed grouse issue.

Are the grazing and agricultural leases in jeopardy? I have no issues with either; just want to know if they will remain as they are; since they were mentioned.

Will there still be big game hunting? I am a hunter (big game) and wonder if this will remain open for hunting?

I have noted that the final sentence in this paragraph states that 'management activities will remain as they have for the past 10 years'. So, what *exactly* are the changes? Simply what is stated in the first sentence? I appreciate the clarification.

Cynthia A. Grabeel
5685 Squilchuck Rd
Wenatchee, WA 98801
outdoorslover1@nwi.net

Okanogan Valley Wildlife Area Advisory Committee
Scoping Meeting
February 11, 2015

Purpose of the meeting: To review the planning process with WAAC members and identify priority topics the plan should address. Jeanne, Justin and Jim presented information about the planning process and next steps for the plan. They confirmed the Public Scoping meeting:

- Public Scoping meeting
 - 6:00 to 8:00 p.m.
 - Okanogan PUD conference room

Attendees: See list on page 5

The following are the items discussed during the meeting related to the Okanogan Valley Wildlife Areas plan. The first section includes topics that apply to the overall plan. This is followed by topics that apply to individual units and finally a section with suggestions for implementing the plan.

Issues That Apply To the Overall Plan

General

- Build flexibility into the plan for new legislative mandates
- Look at ways to generate revenue for the county
- Need better communication/coordination between agencies for matters such as weed control
- Need to have a robust, sustainable Rx burn program
- Access (5)
 - Would like to see more Motorized/non-motorized access
- Include public access when purchasing conservation easements

Funding

- Funding for post-fire restoration
- Funding to provide feed for upland birds to private citizens
- Increased funding for complex management
- Identify opportunities for funding to benefit wildlife

Grazing

- Management of grazing/timing (3)

Forest Management

- Continued forest restoration/habitat improvements

Weed control & prevention (6)

- Noxious weeds and invasive species prevention
- Better communication on agency weed control efforts to inform the public
- Continue puncture vine control work

Agriculture

- Increase sharecropping/agriculture activities
- Make sharecropping more attractive for lessees
- Grow specific grains for specific birds
- Use cover crops for sharecropping
- Better flexibility on crop harvest (realistic), i.e., taking first cutting of alfalfa after July 1, to avoid sharp-tailed grouse in alfalfa field, results in lower quality hay.
- Incentivize agricultural production

Wildlife

- Issue more White-tail permits to reduce population, because they are expanding their range into mule deer habitat.
- Increase upland bird opportunities/increase populations
- Wildlife protection during logging/burning

Habitat

- Manage for habitat mosaics
- Increase better vegetative structure – reference to minimizing sod forming grasses in favor of bunchgrasses to increase mobility of upland bird chicks

Issues That Apply to Individual Areas

Eder

- Rx Burning big sage/shrub steppe areas for restoration
- Access – look into ways to improve access points

Chesaw

- More share-cropping
- Pursue FSA programs
- Hoary alyssum, it is now a Class B-designate with mandatory control required now, need to watch for it

Pogue Mountain

- Look into access via BLM ownership to the south

McLoughlin Falls

- Needs access only legal/authorized public access is by boat

Buzzard Lake

- Forest health – need pre-commercial thinning and Rx burning

Sinlahekin

- Continue with Sinlahekin Ecosystem Restoration Projects

CWA

- Post-Carlton re-seeding effort

Horse Spring Coulee

- Check on thistle – species unknown

Carter Mountain

- North Pine Creek Access - enlarge

Driscoll-Eyhott

- Access - bridge

Suggestions for Implementation

- Include weed identification module in Master Hunter training
- Put weed ID posters at kiosks
- Sinlahekin/Carter Mountain
 - BCH trail signs
- Education
 - Field trips for school children
 - Senior Projects
 - Fire history
 - QR Scan
 - Weed ID
- Weed Control
 - Volunteers & school kids – weed pulls

The following were suggested as potential additions to the WAAC:

- Okanogan Highlands Alliance (OHA)
- Wild Turkey Federation
- Ruffed Grouse Society
- FNAWS or Wild Sheep Foundation or both– Bighorn sheep
- Oroville Chamber of Commerce
- Okanogan Tourism Council
- Pheasants for Ever

Scotch Creek & Sinlahekin Wildlife Areas Advisory Committee Meeting

Draft Meeting Notes

September 29, 2016

Okanogan PUD Auditorium

1331 2nd Avenue North

2:00-5:00 pm

Attendees

WAAC Members:

Tim Vugteveen, DNR
Greg Bennett, Okanogan Fly Club
Anna Lyon, Okanogan County Noxious Weed Board
Char Schumacher, Okanogan County Planning
Jerry Barnes, Okanogan County Cattleman's Association
Dick Finch, Okanogan Wildlife Council
Dave Sunde, Okanogan Valley Chapter – Backcountry Horseman
Ted Scheer, Okanogan Valley Chapter – Backcountry Horseman
Steve McKing, Okanogan Valley Chapter - Backcountry Horseman
Cher Bower, Okanogan Valley Chapter – Backcountry Horseman
Heather Findlay, North Central Washington Audubon Society
Will Keller, Natural Resources Conservation Service
Stan Janowitz, Natural Resources Conservation Service
Allisa Carlson, Okanogan Conservation District
Matt Marsh, U.S. Forest Service
Tom Windsor, North Central ATV Club of Washington

WDFW Staff:

Justin Haug
Jim Olson
Patricia Jatczak
Shane Belson
Lauri Vigue

Welcome and Introductions

Justin Haug, Sinlahekin Wildlife Area Manager welcomed everyone and introduced WDFW staff. Lauri Vigue, Planning Project Manager, explained the focus of the meeting is to provide a review of the wildlife area planning process and timeline; and to collect comments on the draft wildlife area management plan. Justin sent out the plan in the WAAC meeting announcement on September 14th. Comments are due October 3rd.

Scotch Creek & Sinlahekin WLA Planning and Process

The Okanogan Valley Wildlife Area Advisory Committee was introduced to the wildlife area planning process on February 11, 2015. Jeanne Demorest was the lead planner at that time. The primary purpose of this meeting is to review the outline of the draft plan and collect comments on the draft plan and goals and objectives. This is the third pilot in a series of wildlife areas that have been chosen to develop the wildlife area planning process. The process includes interagency coordination and integrating new internal initiatives. The purpose of the plan is to guide management activities for the next 10 years, includes public and stakeholder participation and ensures lands are managed consistent with WDFW’s mission and funding obligations.

The agency mission and strategic plan were introduced along with the WLA planning framework. The final wildlife planning framing document is available on the agencies website <http://wdfw.wa.gov/publications/01810/>

Timeline:

WAAC comments due	October 3
2 nd Public meeting	Tentatively either November 16 or 17 th
SEPA 30 day review	November – December
WAAC review final plan	December 2016
Final Plan	January 2017

Comments on Draft Plan:

Source	Location	Description	Response
Tim V.	Page 41	Sinlahekin Unit (south) map, the color for DNR needs to be corrected. The WDFW-leased DNR property needs to be better identified.	Will change polygon color accordingly to address issue.
Anna		County roads need to be corrected on the maps	Yes, the maps will reflect current county maps.
Tim V.	Page 56	McLoughlin Falls Unit, is there a future land exchange potential in this area?	Comment noted. Future land exchanges are not planned at this time.
Dave S.	Page?	Land purchased for mule deer winter range, focused on improving habitat for mule deer, and as a result, white-tailed deer populations have increased.	Current habitat restoration projects have improved habitat favorable to mule deer populations.
Tim V.	Page 79	Top paragraph regarding western gray squirrel, add language regarding the current practice of timber harvest and regular burns benefits western gray squirrel and mule deer.	Current ponderosa pine forest restoration projects addresses Priority Habitat and Species recommendations for habitat improvement of western gray squirrel.
Tim V.	Page 80	3rd paragraph, need to address the presence of salmon above the dam, science based	Will consult with Fish Program.

		information.	
Tom W.		Include wolf depredation? Conflict avoidance? Add a study regarding monitoring game populations as a result of depredation – mid-long term issue.	These issues are addressed at a higher level than WLAs. Predator/prey studies originate in academic circles which then involve WDFW.
Matt M.		General prey/predator relationship	This issue doesn't really apply to wildlife area management. We could monitor deer use and wolf presence if it becomes a problem in the future.
Jerry B.		Manage for big horn sheep to reduce domestic sheep conflict. Cougar issues/address problem. Lambs are target.	Past, current and future habitat improvement projects will attract BHS into the WLA. Wildlife conflict is addressed through specific personnel.
Tim V.		Address the timing of grazing on the Similkameen – Chopaka unit, affects nesting waterfowl (DNR wildlife biologist).	The effect of grazing on waterfowl nesting in the Similkameen – Chopaka unit is unknown. I propose a spring survey in 2017 to determine species that might be affected and the extent of the problem, if any. Mitigation may include adding nest structures, changing the plan rotation, or avoidance. The answer will be in the first WLA plan update. Objective 3G, added to the plan, Appendix A.
Tim V.		What will be the effects on salmon, upland birds and waterfowl on the Driscoll Island bridge? Potentially from increased traffic, hunting pressure especially during high flows (DNR wildlife biologist).	Increased traffic would impact these populations. However, increased hunting and fishing opportunities addresses our mission and an important goal for WDFW.
Tom W.		Regarding new acquisitions on the wildlife areas, do we have the staff to accomplish everything we want to do? General operations and maintenance concerns.	Funding and staff limitations impact management on the wildlife areas. Acquisitions have been placed on hold in Okanogan County. In the past the agency has been able to leverage additional funding continued operations and maintenance (O&M). Future O&M on the newer

			acquisitions has to be absorbed into the annual budget. BPA funded WLA's (Scotch Creek) receives a cost of living increase periodically, to help with increased O&M costs.
Tim V.		Page 118, neighboring landowner concerns - regarding commercial harvest and prescribed fire, harvesting in winter is problematic due to ponderosa pine slash – influences the life cycle of the beetle. Why can't we harvest in the summer? Compaction to the soils (glacial till) will have no impact. Mortality near Forde Lake (commercial & non-commercial).	<p><i>Ips pini</i>, or pine engraver, is usually the beetle being referred to that benefits from slash created from December to June.</p> <p>Currently we conduct all harvesting on snow and/or frozen ground to reduce ground disturbance and soil compaction. While of the operating areas may not be as susceptible to compaction, it is still susceptible to erosion and rutting. Cultural resource protection plans and surveys were also developed to account for winter logging, and associated ground disturbing activities.</p> <p>However, we are utilizing a harvester-processor that will leave slash scattered throughout the unit where it will dry faster, and expose it to direct sunlight to make it unsuitable for beetle development in the spring. There will also not be the typical large landing slash piles that create a desirable breeding and development ground for <i>Ips Pini</i>. By thinning to 40-60 sq.ft./ac. basal area, we are increasing the stand vigor and decreasing susceptibility to beetle outbreak. Long term, the stands on the WLA will be less susceptible to beetle outbreaks.</p>
Dave S.		Address slash on trails (near Blue Lake).	The foresters will scatter slash away from trails in the future.

Dave S.		Concern over McLoughlin Falls Unit access. Provide future reasonable access for recreation.	The railroad won't allow access to property. A land trade with DNR in the future may help.
Dave S.		Road maintenance standards, are they included in the plan?	Road management is discussed on page 102. Road maintenance standards are not included in the plans.
Dave S.		Horse Spring Coulee Unit, provide access for horse trailers.	See objective 7D, in Appendix A.

Goals and Objectives Comments:

Ecological Integrity

Tim V. (2b) Loon nesting, improve diversion at Sinlahekin Creek; good opportunities to improve. Collaborate with Okanogan County, BLM, DNR, DOE. Coordinate with fish biologists for loon nesting and fish production.

Dave S. Upland bird habitat, grain fields in SWLA, opportunities to improve.

Tim V. Augmenting sharp-tail grouse populations – effects on adjacent landowners. Negative effects on neighbors.

Response I assume the concern here is if the listed species moves across boundaries and that may potentially result in land use restrictions for the adjacent property owner. This will only happen if the bird lands on the federal threatened or endangered species list. The Columbian sharp-tailed grouse has been petitioned for listing to the USFWS twice. Both times the service declined to list the sharp-tail based on the healthy portions of the population in Idaho, but also because the states are proactive in recovering the population. Washington State has acquired land, enhanced habitat and augmented sharp-tails since 1990 and these efforts have increased numbers. The best insurance that all landowners (including WDFW) have to avoid restrictions on land use is to increase the population levels to self-sustaining levels. Augmenting grouse from other states and provinces is helping achieve those goals. Language was added to objective 4A tasks, coordinate with local landowners, future re-introductions.

Recreation

Tom W. (7J) Bridge to Driscoll Island, need assurance that aquatic species will be protected.

Response Hydraulic Project Approval (HPA) and Corp permits will be required prior to construction.

Dick F. (7G) Access to Pogue Mtn – work with federal and state agencies regarding junction of Salmon Creek and Spring Coulee, old wagon wheel trail, entirely on federal land.

- Response Scotch Creek personnel are currently working on trail access to Pogue Mountain. The grant will be proposed to RCO in November 2016. We appreciate the comment and have already initiated communication with Dick to help with the best access route at this time.
- Tim V. (7M) Shooting range, local fire suppression concerns, Sinlahekin a bad location. Need to look closer to the valley near irrigated lands. DNR has also been conducting public outreach regarding shooting ranges on their lands.
- Response Staff will pursue numerous options as it pertains to developing future a shooting range.
- Dave S. What is the status of the Carter Mountain Trail? Back Country Horseman received a grant (\$8,000). SEPA requires that non-motorized equipment for tree clearing.
- Response SEPA and cultural resources survey and report completed. WDFW is waiting for groups and volunteer coordination to begin project.
- Jerry B. WDFW needs to do its part with shooting ranges.
- Response WDFW making shooting ranges a priority. WDFW staff is watching a current shooting range proposal underway Wenas WLA to determine if it will be successful or not. It has implications to other wildlife areas in the state.
- Steve M.? Horse friendly camping opportunities along Hwy 97, needs a source of water.
- Response Water at certain access sites would not be cost effective. Some sites already have access to water. WDFW could make this amenity more publicized in the future.
- Dave S. Provide improved outreach information for people interested in camping. Lack of stock water in camping areas. See response above.
- Tom W. Access management on Eder unit.
- Response The Eder unit is open to the public for all non-motorized access at this time. Only during the deer season is it closed to the general public. The purpose is to provide a quality hunting experience for individuals selected for an access permit to hunt on the unit. At other times the area is open for hunting other game species in accordance with the WDFW pamphlet regulations, and for other wildlife oriented recreation. The unit is surrounded by private property on three sides, and Canada to the north. Public access to the unit is limited due and currently possible at only three sites, where WLA lands adjoin public roads.
- Dave S. Horse Spring Coulee unit emergency grazing pasture, when was it last used?

- Response More than 10 years ago
- Will K. (9b) Page 10. There is a need for a center pivot at Scotch Creek.
- Response Scotch Creek will look into funding possibilities to improve on the irrigation systems for water efficiency and productive sharecropping opportunities.
- Tim V. DNR will provide edits in the DNR fire resources appendix G.
- Matt M. Work with other agencies to establish a local Washington Conservation Crew in Okanogan (to help with fence building and weed control).

Scotch Creek Wildlife Area Report (Jim Olson)

Fire recovery is going well, with forbs, water birch and bunchgrass returning. It will take Scotch Creek 10-15 years for the water birch habitat to fully recover for sharp-tailed grouse wintering habitat. Where bitterbrush was lightly burned, approximately 20% is re-sprouting. Where it was heavily burned, 0% is showing signs of recovery. Annual weeds have increased (mustards, sweet clover and knapweed).

Federal Emergency Management Administration (FEMA) damage assessment and repairs are continuing to take place. Fencing contracts will be out for bid next spring and will be in shorter sections than after the 2014 fire. 4-5 miles will allow smaller fence contractors to bid and completed sooner. 19 miles of dozerlines have been repaired.

Sharp-tail grouse – previously 116 documented on the Scotch Creek unit, only 22 documented after the fire. Monitoring will occur in spring 2017. Relocations are planned next year with emphasis on Scotch Creek and Tunk Valley units. WDFW received a Recreation Conservation Office grant for habitat restoration on 375 acres. Operations and maintenance is covered by funding from BPA. Statewide only 6 small populations of sharp-tail grouse remain.

Sinlahekin Wildlife Area Report – Justin Haug

New species identified on the wildlife area include the sage thrasher and blue jay.

The wildlife area is still recovering from the after effects of two large fires. 20 miles of fencing was lost, a hay barn at McLoughlin Falls, and various signs will need to be replaced. We have a supplemental budget for some of these repairs and are currently working with FEMA for the partial reimbursement of various damages. The focus on management on the Driscoll Island unit is Russian knapweed and controlling the plumeless thistle infestation.

Horse Spring Coulee – grazed for six weeks from a leasee that had been impacted by the fire.

Carter Mountain – Backcountry Horseman and Mule Deer Foundation funds provided funding for improvement of the parking area. The pine creek parking area was improved using existing dollars. Funding was obtained through the National Fish and Wildlife Foundation to restore sagebrush steppe habitat.

McLoughlin Falls, 80% burned. The hay barn will need to be replaced.

Buzzard Lake, nearly 100% burned - mixed intensity fire.

Sinlahekin, 51% burned. Forest restoration project phase III is ongoing. Prescribed burns and fuels reduction activities planned over the next two years. WDFW was ranked #4 in an RCO Facilities Improvement Category grant for camping improvements on the Sinlahekin. Annual Dave Brittell hike will occur 1st Saturday in June. Good turnout this year, 40-50 individuals.

Chiliwist, Scotch thistle continues to be a challenging noxious weed. Russian skeleton weed present and becoming an increasing problem, also occurs on Carter Mountain now.

Wrap-Up:

- The WAAC will have an opportunity to review and provide comment on the final plan in December.
- The next WAAC meeting will occur in February 2017.

**Okanogan Valley Wildlife Areas Management Plan
Public Scoping Workshop Summary
March 11, 2015**

Introduction

The Washington State Department of Fish and Wildlife (WDFW) hosted a public scoping workshop on Wednesday, March 11, 2014, from 6:00 to 8:00 p.m. at the Okanogan PUD. The purpose of the workshop was to share information about the wildlife area (WLA) planning process and to solicit public and stakeholder input.

The workshop begins the planning process for developing a new Okanogan Valley Wildlife Areas (Sinlahekin & Scotch Creek) Management Plan, one of 33 plans the department will revise over the next six to eight years. Plans are updated every two years to reflect changes in landscape and management priorities. The current plan for Sinlahekin was developed in 2006, and was updated in 2007, 2008, 2009, 2010 and 2012. The current plan for Scotch Creek was also developed in 2006, with updates in 2007, 2009, 2009, 2010 and 2012. These plans and updates are available at: http://wdfw.wa.gov/lands/wildlife_areas/management_plans/

In this process, these plans will be expanded to include new agency initiatives, progress towards goals identified in earlier plans, and new WLA priorities. These plans will consider the interests and impacts of stakeholders and user groups; set goals for assessing and monitoring ecological integrity; outline forest management priorities; identify appropriate public use, recreation area and facility improvements; as well as weed control and other operations and maintenance activities.

Attendance

Thirty-six people attended and signed in at the workshop including interested parties from Okanogan County communities of Tonasket, Okanogan, Omak, Conconully, Oroville, Riverside, and from Vashon Island, and Wenatchee. Stakeholder groups included Trout Unlimited, Washington Water Trust, Oroville Sportsmen's Club, Rocky Mountain Elk Foundation, Okanogan County, Back Country Horsemen, and Audubon. Other participants included other federal and state agency representatives, ranchers, neighbors, as well as fishing and hunting enthusiasts.

Workshop Format

The workshop was designed in a combination open house/presentation format. Maps of the wildlife areas were posted, and participants were encouraged to share specific and general feedback after the presentation and at the map locations.

Staff presentation

Melinda Posner, Planning, Recreation & Public Outreach Section Manager and facilitator for the meeting welcomed the group and introduced the following staff members:

- Jim Olson, Scotch Creek WLA Manager
- Justin Haug, Sinlahekin WLA Manager
- Scott Fitkin, District Wildlife Biologist
- Connie Iten, Habitat Biologist
- Jim Brown, Region 2 Director
- Jeanne Demorest, Planning Project Manager
- Clay Sprague, Lands Division Manager
- Rod Pfeifle, Forester
- Jeff Burnham, Range Ecologist
- Dale Swedberg, Okanogan Lands Operations & Prescribed Burn Program

Melinda emphasized the early stage in the planning process and the desire to hear from the public and stakeholders about interests, issues, and potential priorities for these WLAs areas. She noted multiple methods for providing comments including written comment sheets that can be turned in at the end of the meeting or emailed to okanoganvalleyplan@dfw.wa.gov. Staff are also available to answer questions and receive comments:

Jeanne Demorest: jeanne.demorest@dfw.wa.gov or (509) 457-9313

Jim Olson: jim.olson@dfw.wa.gov or (509) 826-4430

Justin Haug: Justin.haug@dfw.wa.gov or (509) 223-3358

Melinda reviewed the department's overall process for updating all state wildlife area plans. She noted the following new topics the plan will consider:

- Forest Management
- Recreation Management
- Expanded public outreach including public workshops, information materials and Wildlife Area Advisory Committee meetings

She summarized the planning process for the Okanogan Valley Wildlife Areas; staff expects a draft plan by the fall of 2015, and the final plan by the end of the year. Melinda introduced Jim Olson, Wildlife Area Manager for Scotch Creek Wildlife Area. Jim described the purpose, acquisition and funding requirements, and current activities at each of the seven wildlife area units he manages. Jim introduced Justin Haug, Sinlahekin Wildlife Area Manager. Justin described the purpose, acquisition and funding requirements, and current activities at each of the seven wildlife area units he manages.

Scotch Creek

Acquisition & Funding

- First acquisition in 1991 with grant funds from the Washington Wildlife and Recreation Program. The need to protect critical habitat for Sharp tails was popular with this new funding source and nearly 15,000 acres were purchased in the first biennium of this program.
- After acquisition in 1991, these were originally managed as part of the Sinlahekin Wildlife Area.
- In 1996 the Bonneville Power Administration (BPA) identified these areas as eligible for mitigation funding, in part to compensate for wildlife losses related to construction of dams on the Columbia River. At this point these areas were separated from the Sinlahekin Wildlife Area and Scotch Creek Wildlife Area was established. This funding continues today and supports all of the operating and maintenance work at Scotch Creek.
- This is why the wildlife areas are intermixed within the Okanogan Valley.

Current Activities

- Okanogan County has some of the last sharp-tail populations in the state. There are currently populations in the Scotch Creek Basin, Tunk Valley and Chesaw, lands that were protected by the 1991 acquisitions.
- Sharp-tails require pristine shrub-steppe habitats for nesting and raising their young and healthy Riparian areas for their winter habitat. Restoring those habitats has been the focus of work on Scotch Creek.
- Over 2,000 acres of old agricultural fields across the complex have been restored back to a native grass/forb/shrub mix. A lot has changed since the early days and today we have much better equipment to work with, and quality seed in the form of locally adapted, source identified native seed mixes. This has improved the success of establishing both grasses and forbs in a single seeding.
- Over 200,000 trees and shrubs have been planted across to enhance the riparian habitat that the grouse depend on in the winter. After a heavy snow fall the birds will move downslope to the valley bottoms and feed on the buds and catkins of deciduous trees and shrubs. During the winter months you can see these birds foraging in the tops of the trees along Scotch Creek in the Conconully area.
- Sharp-tailed grouse were trans-located onto the Scotch Creek unit in the late 90's, primarily from Southeast Idaho. These transplants have helped diversify the genetic mix of the local birds and they have responded favorably.
- In 2015 population estimates are holding right at 100 birds. More are doing well in the Tunk Valley and the rolling hills around Chesaw.

Sinlahekin

Acquisition & Funding:

- The Sinlahekin Wildlife Area was the first property purchased by the former Game Department in 1939 using Pittman-Robertson Act (PR) funding for the protection of Mule Deer winter range.
- The Sinlahekin Complex is approximately 21,500 acres and is home to diverse populations of flora and fauna species.
- The Sinlahekin currently has 3 full-time employees and is home to the North Central Washington Prescribed Fire Team.
- Operational funding is provided thru PR funds, state dollars, and grant funding.

Current Activities:

- In 2008 and 2010 the wildlife area received funding through the Recreation and Conservation Office to perform fuels reduction and prescribed burning. These funds were used to thin and commercially harvest nearly 600 acres and implement prescribed burns on approximately 2000 acres.
- The benefits of prescribed burning within a fire-dependent ecosystem are many (healthier forests, germination of fire-dependent species, reduced risk of catastrophic wildfire, etc.)
- Plans are to continue implementing fuels reduction and conducting prescribed burning in the years to come.
- Recreation opportunities include hunting, fishing, camping, horseback riding and wildlife viewing.
- Management activities on the wildlife area include: facility & infrastructure maintenance, developing recreational opportunities, environmental education, ecosystem monitoring, weed control, and restoration activities.

Comment Sheets – Combined Responses

Interests & Issues

- Sharp-tail grouse management
- Mule deer management
- Wildlife habitat protection
- Public access
- Maintain hiking and rock climbing opportunities as well as wildlife and viewing/photography
- Geology
- WDFW's inability to purchase conservation land in the County any more
- Aspen damage from grazing on N. Pine creek & grazing on Driscoll Island

- Birders parking along roads and setting up tripods causes traffic hazards
- Trail and habitat damage from motorized vehicles and horses - some trails should be restricted to (human) foot traffic only
- Weed control, grazing, controlled burns, logging and pesticide, herbicide and other chemical applications during vulnerable periods for wildlife
- Noxious weeds
- Management of game bird populations
- Make restoration a priority

Recreation Pursued at these WLAs

- Hiking/Physical fitness
- Rock climbing
- Wildlife & wildflower viewing
- Photography
- Hunting
- Camping
- Horseback riding
- Rock hounding
- Birding
- Butterfly watching
- Bicycling
- Fishing

Recommendations

- Allow spring and fall grazing of cattle in Sharp-tail areas
- Manage predators in Sharp-tail areas
- Provide and/or improve signs along trails and at parking areas
 - show roads/trails
 - loop trails
 - Add interpretive signs
 - More signs for parking and along boundaries with private land
- Provide more trails and/or more maintenance of existing trails
 - Complete trail from Sinlahekin HQ to Hess Lake
 - Construct an equestrian/hiking trail to the top of Pogue Mtn.
- Make information on these areas more available (brochures) for tourism
- Provide more public events in the Sinlahekin valley (marathons, bike races)
- Continue use of fire for management
- Use timber sale dollars to fund habitat improvement
- Allow rock collecting in WLAs (Scotch Creek)

- Establish better access at Pogue Mtn.
- Repair Zachman road in the Sinlahekin
- Allow grazing at Pogue Mtn.
- Consider using grazing instead of fire for habitat management
- Support habitat protections during sensitive seasons for birds (nesting, breeding, fledging)
- Provide picnic tables

Additional Feedback

- Use microphone for meetings, have staff stand in front when introduced
- Sell the agency better – present benefits to wildlife and people, letter writing to deflect criticism
- Appreciate that the areas are open and easily accessible for all to enjoy
- These are great places to hike, camp and do photography. It's great to enjoy the natural vegetated areas, native plants, shrub steppe and forests.

Meeting Materials

- Agenda
- Scotch Creek Wildlife Area Fact Sheet
- Sinlahekin Wildlife Area Fact Sheet
- Workshop Postcard
- Scanned comment sheets

Summary of Response to Public Input results from Public Scoping Meeting March 11, 2015

Public Comment	Response	Rationale
Sharp-tailed grouse management	Addressed in the plan	This is a major theme in the plan and is a priority for management of these wildlife areas.
Mule deer management	Addressed in the plan	Plan to implement WDFW mule deer management plan into Scotch Creek and Sinlahekin Plan.
Wildlife habitat protection	Addressed in the plan	Various actions being taken to preserve and perpetuate fish, wildlife and their habitats.
Public access	Addressed in the plan	Current and pending access improvement projects in plan.
Maintain hiking and rock climbing opportunities as well as wildlife viewing & photography	Wildlife viewing, hiking and photography are addressed in the plan and are allowed on all the units	WDFW does not actively manage for rock climbing activities. 'Leave No Trace' practices apply to this and all activities.
Geology	Addressed in the plan	Interpretive opportunities and non-traditional activities are supported within the plan.
WDFW's inability to purchase conservation land in the county	Considered during plan development	This was considered during planning, but is not something WDFW is able to pursue at this time.
Aspen damage from grazing on North Pine Creek and grazing on Driscoll island	Addressed in the plan	Protection of priority habitats are addressed in grazing management plans for both Carter Mountain and Driscoll-Eyhott Island units. Aspen stands in these units will be protected from future damage.
Birders parking along roads and setting up tripods causes traffic hazards	Considered during plan development	This was considered during planning, and where possible the agency will work to remedy this situation. However most of the issue is along county roads and would require a significant investment by the county to remedy (developing pullouts). Also, in many areas it would be disruptive to listed species to invite additional public use along these roads.
Trail and habitat damage from motorized vehicles and horses – some trails should be restricted to (human) foot traffic only	Considered during plan development and addressed in the plan	Seasonal closures of certain roads are addressed in the plan for road management and habitat/species protection.
Weed control, grazing, controlled burns, logging and pesticide, herbicide and other chemical applications during vulnerable periods for wildlife	Considered during plan development and addressed in the plan	Efforts are made to minimize negative impacts from these management practices on wildlife, fish, and habitat. Concerns are expressed and addressed during coordinated resource management meetings.
Noxious weeds	Addressed in the plan	See the Weed Management Plan in the Appendices.
Management of game	Addressed in the plan	Food plots continue to be planted on the Sinlahekin

bird populations		unit, and guzzlers and upland bird feeders are maintained for these birds.
Make restoration a priority	Addressed in the plan	Restoration is a priority on these wildlife areas. Ponderosa pine forest and shrub-steppe habitats are actively being restored on multiple units.
Allow spring and fall grazing of cattle in Sharp-tailed grouse areas	Addressed in the plan	The Recovery Plan does not allow for grazing during critical nesting and breeding periods.
Manage predators in Sharp-tailed grouse areas	Considered during plan development	Recovery efforts are ongoing and adaptive and if/when predation becomes an issue management actions will be implemented to support recovery efforts.
Provide and/or improve signs along trails and at parking areas	Considered during plan development	There is an ongoing effort to post current information and improve existing signage where possible.
Provide more trails and/or more maintenance of existing trails	Addressed in the plan	Annual maintenance of the Dave Brittell Memorial Trail and Coulee Creek Trail are currently done. Additional trails will be considered as projects are brought forward.
Make information on these areas more available for tourism	Considered during plan development	Maps are currently available for the Sinlahekin Unit and distributed for tourism. Additional funding is need for development and printing of maps and other information for all units.
Provide more public events in the Sinlahekin Valley (marathons/bike races)	Considered during plan development	There is an event on National Trails Day on the Dave Brittell Memorial Trail. The Mule Deer Dash fun run may be returning and become an annual event. Future events will always be considered.
Continue use of fire for management	Addressed in the plan	Phase 3 of the SERP has been fully funded and future grants for continued use of prescribed burning will be sought. Allocated funds for a dedicated prescribed burn crew for WDFW are needed.
Use timber sale dollars to fund habitat improvement	Addressed in the plan	Timber sales associated with restoration grants (SERP) have been used to help offset restoration costs in the past. Profitability had been difficult with haul costs and recent timber market.
Allow rock collecting on the wildlife areas (Scotch Creek)	Considered during plan development	Potential permits needed.
Establish better access at Pogue Mountain	Addressed in the plan	
Repair Zachman road in the Sinlahekin	Addressed in the plan	Existing wildlife area staff and CAMP crews routinely maintain roads. Major repairs are done by CAMP crews when their involvement is warranted.
Allow grazing at Pogue Mountain	Considered during plan development	
Consider using grazing	Considered during plan	Fire provides byproducts grazing alone cannot. While

instead of fire for habitat management	development	grazing may provide habitat benefits in place of fire, prescribed burning brings fire-dependent ecosystems closer to their historic condition.
Support habitat protections during sensitive seasons for birds (nesting, breeding, fledging)	Considered during plan development	Species-specific protection measures are initiated when needed. Grazing permits take into account different species' requirements.
Provide picnic tables	Addressed in the plan	Funding is currently be sought to provide picnic tables and developing day-use areas on the Sinlahekin Unit.

Sinlahekin and Scotch Creek Wildlife Areas



We want your input!

Plan to attend:

WHAT: Public workshop to learn about the wildlife area planning process and share your ideas about habitat management and public use.

WHEN: 6 to 8 p.m., March 11

WHERE: Okanogan PUD
1331 Second Ave. N., Okanogan, WA 98840

CONTACT: Jeanne Demorest – (509) 457-9313
Jeanne.Demorest@dfw.wa.gov





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wdfw.wa.gov





Scotch Creek Wildlife Area

Scotch Creek wildlife area management plan

The Washington Department of Fish and Wildlife is developing a new management plan for the Scotch Creek Wildlife Area and the nearby Sinlahekin Wildlife Area in north central Washington.

The plan, called the Okanogan Valley Wildlife Area Complex plan, will provide management direction for nearly 48,000 acres in the region.

The Scotch Creek Wildlife Area encompasses 23,980 acres in central Okanogan County. It was established in 1991 as a site to support recovery of the region's sharp-tailed grouse population.

The new management plan will address the status of wildlife species and their habitat, ongoing restoration efforts and public recreation opportunities at both Scotch Creek and Sinlahekin wildlife areas.

Scotch Creek includes seven different management units:

Scotch Creek is the largest continuous unit in the wildlife area with 8,694 acres. Shrub steppe dominates the landscape, along with some conifer forest and riparian habitat. Eighty acres remain in cultivation but most of the 1,500 acres of old dryland agricultural fields have been restored to native shrub steppe habitat, providing diversity and nesting cover for sharp-tailed grouse. More than 100,000 trees and shrubs have also been planted in wet draws, north slopes, and irrigated areas to provide critical winter habitat for sharp-tailed grouse.

Chesaw is a 4,351-acre unit in northwest Okanogan County, four miles south of the Canadian border. The major habitat type is shrub steppe, with patches of conifers at higher elevations. There are several lakes and man-made ponds as well as Mary Ann Creek. Chesaw has one sharp-tailed grouse lek site. It also supports mule and white-tailed deer, various upland game birds, bald and golden eagles, peregrine and prairie falcons, northern goshawks, Lewis woodpeckers, and loggerhead shrikes.

Pogue Mountain consists of 1,196 acres northwest of Omak. The mountainous property is predominately shrub steppe and scattered conifers, with tall stands of mature big sagebrush along the lower elevations. The unit is managed as mule deer winter range. However, there are historical accounts of sharp-tailed grouse use on the lower elevations. Public access is difficult but there are camping, hunting and fishing opportunities available at this unit.

Tunk Valley unit's 1,399 acres are mostly north-facing and have a gentle topography. It includes about two miles of Tunk Creek and its riparian trees and shrubs as well as several springs and one man-made pond. Most of the habitat is shrub steppe, with a small stand of timber near the center of the property. Sharp-tailed grouse have been observed along Tunk Creek. The area also supports mule



For more information:

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wdfw.wa.gov



and white-tailed deer, ruffed grouse, California quail, hawks, owls, and many species of songbirds. Tunk Creek has rainbow and brook trout.

Similkameen – Chopaka encompasses 1,139 acres west of Oroville along the Chopka road. The Similkameen River forms the eastern boundary and is lined with cottonwoods, aspen and alder. Stands of conifers in this area include ponderosa pine, and Douglas fir. The wildlife unit is known for trophy white-tailed buck deer. Other big game animals include bighorn sheep and mountain goats on the slopes of Chopaka Mountain, black bear and cougar. Upland birds include ring-necked pheasant, chukar and mourning dove. Each spring, the ponds and oxbows are filled with Canada geese, dabblers and diving ducks of all kinds and trumpeter swans.



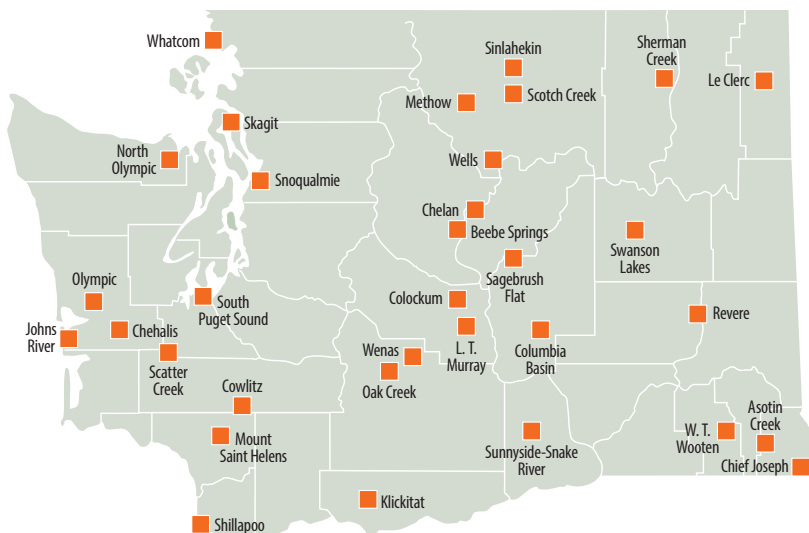
Charles and Mary Eder unit consists of 5,739 acres east of the town of Oroville and Osoyoos Lake. The previous owner has lifetime agreement with the department to farm 748 acres at the center of the unit. The unit’s lands are predominately shrub-steppe habitat, with riparian habitat along Nine-mile and Tonasket creeks. The low elevation, 1,200 to 2,800 feet, and relatively mild winters attract large numbers of migratory deer, raptors and other wildlife.

Ellemeham consists of 1,462 acres on Ellemeham Mountain. The unit is predominately sagebrush-steppe with some aspen. There is some scattered ponderosa pine in the southwestern portion of the area that is associated with small ponds and intermittent streams. The north slope of Ellemeham is excellent quality bunch grass/forb community with bluebunch wheatgrass. The unit is known for good mule deer hunting.

WDFW developing new plans for 33 wildlife areas

WDFW manages nearly 1 million acres of land, divided into 33 wildlife management areas. Each year these areas attract about 4 million visitors who hunt, fish and observe wildlife in their natural environments.

Each area is guided by a management plan that addresses the status of wildlife species and habitats, public recreation, habitat restoration, operations and maintenance (such as weed management and facility improvements), and other activities to meet the



department’s mission of preserving, protecting and perpetuating fish, wildlife and ecosystems. Plans are revised periodically to reflect current conditions and the progress of past activities, and to identify new management priorities.

WDFW involves citizens on advisory committees that help develop each management plan and provide feedback throughout the planning process.

For more information about the multi-year wildlife area planning effort, please contact Lauri Vigue at (360) 902-2549 or lauri.vigue@dfw.wa.gov.



Sinlahekin Wildlife Area

Sinlahekin wildlife area management plan

The Washington Department of Fish and Wildlife is developing a new management plan for the Sinlahekin Wildlife Area and the nearby Scotch Creek Wildlife Area in north central Washington.

The plan, called the Okanogan Valley Wildlife Area Complex plan, will provide management direction for nearly 48,000 acres in the region.

The Sinlahekin Wildlife Area encompasses 23,384 acres in central Okanogan County.

The new management plan will address the status of wildlife species and their habitat, ongoing restoration efforts and public recreation opportunities at both the Sinlahekin and Scotch Creek wildlife areas.

Sinlahekin includes seven different management units:

The **Sinlahekin** unit is located south of Loomis and consists of 14,314 acres, including roughly 3,300 acres owned by other government agencies. The Sinlahekin lies within the Sinlahekin Valley, a deep, glaciated canyon with steep rock sidewalls rising from a broad valley floor. The property is within both the Sinlahekin Creek and the Coulee Creek watersheds. Natural lakes, ponds and manmade impoundments offer a variety of fishing and recreational opportunities. Shrub-steppe, wetlands and dry forest are the main habitat types with 40 acres that are currently being farmed to increase wildlife forage.

The **Buzzard Lake** unit consists of approximately 840 acres located 12 miles west of Okanogan. Steep hillsides surround a broad valley bottom where the 12-acre Buzzard Lake rests on the edge of a large meadow. The dominate habitat in the area is a mixed coniferous forest with scattered patches of sagebrush-steppe. The property was purchased in 2009 for critical mule deer wintering habitat. Grazing is being used within the wildlife unit to improve mule deer forage. Buzzard Lake supports a variety of wildlife including black bears, moose, waterfowl, cougars and song birds. Trout fishing draws the highest number of visitors to this property.

Carter Mountain unit includes 2,000 acres located 7 miles south of Tonasket. An additional 240 acres of land owned by the Bureau of Land Management are located within the unit's boundaries. The terrain varies from broad valleys to rugged, rocky hillsides. Habitat types include shrub-steppe, dry grassland, and dry-mixed conifer forest. Agriculture and grazing have been used to improve vegetation for mule deer. The property was purchased in phases from 2008 through 2012 for mule deer wintering habitat. The unit supports a variety of wildlife including black bears, migratory birds, cougars, bobcats and golden eagles. Mule deer draw hunters to this unit each fall.



For more information:

Justin Haug
509-223-3358
justin.haug@dfw.wa.gov

wdfw.wa.gov



The **McLoughlin Falls** unit was established by WDFW in May 2012 through jointly funded grants from the Salmon Recovery Funding Board and the U.S. Fish and Wildlife Service. This 165.5-acre property was purchased to enhance riparian and big game habitats. The unit is located about 6 miles south of Tonasket along the Okanogan River. Elevation in the unit ranges from 860 feet to over 1,600 feet.

Horse Spring Coulee unit consists of approximately 850 acres located 3.5 miles west of Tonasket. The terrain is mostly sagebrush-steppe with rock outcroppings scattered throughout. Narrow, rocky valleys run north-south through the middle of the unit and eroded sandstone hills can be found in the northeast corner of the property, which is also the unit's highest point at 2,200 feet. Habitat types include sagebrush-steppe and dry grasslands – no trees are found in this unit. The property was purchased in 2008 primarily for critical mule deer wintering habitat. The unit provides habitat for a variety of wildlife including whitetail deer, song birds, various raptors, coyotes, badgers and numerous reptiles.



The **Driscoll-Eyhott Island** unit consists of about 325 acres of mostly riparian and wetland habitat located one mile south of Oroville, at the confluence of the Similkameen and Okanogan rivers. The unit experiences floods during high water events in spring and early summer due to precarious position between two rivers. The unit was initially established in 1974 to provide goose nesting and foraging habitat. Hay and grain production continues to enhance forage for upland game birds and provides cover for a variety of species. River channels surrounding Driscoll Island provide migration and spawning habitat for steelhead, fall chinook salmon and Osoyoos sockeye salmon.

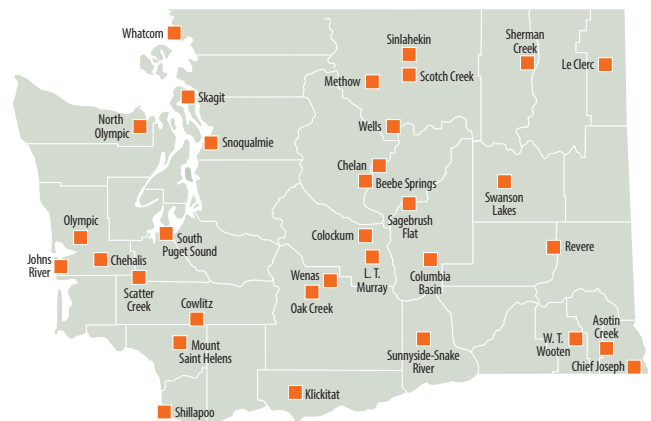
The **Chiliwist** unit encompasses roughly 4,890 acres, located west of the town of Malott. The Bureau of Land Management owns an additional 760 acres within the wildlife unit's boundaries. Chiliwist Creek runs west to east through the unit, which has an elevation ranging from 1,000 feet to nearly 3,100 feet on the top of Chiliwist Butte. Habitat types include shrub-steppe, wetland, riparian, and dry forests. An agricultural lease and grazing permit are used to improve mule deer forage. The Chiliwist was purchased in 1977 primarily for critical mule deer wintering habitat. The Chiliwist also provides habitat for white-tailed deer, black bears, migratory birds, cougars, badgers and coyotes. Upland gamebird hunting is a popular activity on the wildlife area, where forest grouse, Hungarian partridge, chukar, quail and turkey can be found. In July 2014, the Carlton Complex Fire burned through the entire Chiliwist unit. Roads and infrastructure were significantly damaged and it will take years to rebuild what was lost.

WDFW developing new plans for 33 wildlife areas

WDFW manages nearly 1 million acres of land, divided into 33 wildlife management areas. Each year these areas attract about 4 million visitors who hunt, fish and observe wildlife in their natural environments.

Each area is guided by a management plan that addresses the status of wildlife species and habitats, public recreation, habitat restoration, operations and maintenance (such as weed management and facility improvements), and other activities to meet the department's mission of preserving, protecting and perpetuating fish, wildlife and ecosystems. Plans are revised periodically to reflect current conditions and the progress of past activities, and to identify new management priorities.

WDFW involves citizens on advisory committees that help develop each management plan and provide feedback throughout the planning process.



For more information about the multi-year wildlife area planning effort, please contact Lauri Vigue at (360) 902-2549 or lauri.vigue@dfw.wa.gov.



Okanogan Valley Wildlife Areas Management Plan Comment Sheet

Please share your thoughts about the Okanogan Valley Wildlife Areas Management Plan by answering the questions below and adding any other comments or questions.

Return to WDFW staff at the workshop, email to: okanoganvalleyplan@dfw.wa.gov or mail to: Jeanne Demorest, Planning Project Manager, WDFW, 1701 S 24th Ave., Yakima, WA 98902-5720

1. What interests you about the Okanogan Valley Wildlife Areas?

The geology of the Scotch Creek area,

2. Please check the boxes that correspond to the areas you visit and indicate how often you visit.

Areas Visited		# visits per year
<input checked="" type="checkbox"/>	Scotch Creek	50+
<input type="checkbox"/>	Pogue Mountain	
<input type="checkbox"/>	Similkameen-Chopaka	
<input type="checkbox"/>	Ellemeham	
<input type="checkbox"/>	Chiliwist	
<input type="checkbox"/>	McLoughlin Falls	
<input type="checkbox"/>	Carter Mountain	

Areas Visited		# visits per year
<input type="checkbox"/>	Chesaw	
<input type="checkbox"/>	Tunk Valley	
<input type="checkbox"/>	Charles & Mary Eder	
<input type="checkbox"/>	Sinlahekin	
<input type="checkbox"/>	Driscoll-Eyhott Island	
<input type="checkbox"/>	Horse Spring Coulee	
<input type="checkbox"/>	Buzzard Lake	

3. What recreation activities do you pursue at these wildlife areas? (Please check the box to the left of activity).

Check box		Check box		Check box		Check box		Check box	
<input type="checkbox"/>	Hunting	<input type="checkbox"/>	Fishing	<input type="checkbox"/>	Birding	<input type="checkbox"/>	Butterfly watching	<input type="checkbox"/>	Other wildlife viewing
<input type="checkbox"/>	Wildflower viewing	<input type="checkbox"/>	Camping	<input type="checkbox"/>	Hiking	<input type="checkbox"/>	Photography	<input type="checkbox"/>	Bicycling
<input checked="" type="checkbox"/>	Other (write in): <i>rock hounding</i>	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other

4. What changes or improvements would you like to see on these wildlife areas? (Please indicate specific wildlife areas and be specific.)

Rules that would allow rock collecting in wildlife areas, specifically Scotch Creek.

5. What particular species, habitats or land management activities are you most interested in or concerned about?

6. Provide any additional feedback: Questions, suggestions or other input about the Okanogan Valley Wildlife Areas and/or the planning process.

Surface collection of rocks/mineral is harmless and should be allowed. please include more activities for collectors.

7. If you would like to be added to the mailing list, please provide your name and email or mailing address.

Name: Jennifer Swayne

Email Address rjswayne@hotmail.com

Address: 597A Salmon Creek Rd OR Mailing Address:

City: Okanogan WA 98841 Zip Code: 98840

For more information visit http://wdfw.wa.gov/lands/wildlife_areas/management_plans/okanoganvalley/index.html

Washington State Department of Fish and Wildlife

1111 WASHINGTON ST SE, 600 CAPITOL WAY NORTH, OLYMPIA, WA 98501-1091



Okanogan Valley Wildlife Areas Management Plan Comment Sheet

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1. What interests you about the Okanogan Valley Wildlife Areas?

Hunting fish

2. Please check the boxes that correspond to the areas you visit and indicate how often you visit.

Areas Visited	# visits per year
Scotch Creek	
Pogue Mountain	
Similkameen-Chopaka	
Ellemeham	
Chiliwist	
McLoughlin Falls	
Carter Mountain	

Areas Visited	# visits per year
Chesaw	
Tunk Valley	
Charles & Mary Eder	
Sinlahekin	
Driscoll-Eyhott Island	
Horse Spring Coulee	
Buzzard Lake	

3. What recreation activities do you pursue at these wildlife areas? (Please check the box to the left of activity).

Check box	Check box	Check box	Check box	Check box
<input type="checkbox"/>	Hunting	<input type="checkbox"/>	Fishing	<input type="checkbox"/>
<input type="checkbox"/>	Wildflower viewing	<input type="checkbox"/>	Camping	<input type="checkbox"/>
<input type="checkbox"/>	Other (<i>write in</i>)	<input type="checkbox"/>	Other	<input type="checkbox"/>

Check box	Check box	Check box	Check box
<input type="checkbox"/>	Birding	<input type="checkbox"/>	Butterfly watching
<input type="checkbox"/>	Hiking	<input type="checkbox"/>	Photography
<input type="checkbox"/>	Other	<input type="checkbox"/>	Other

Check box	Check box
<input type="checkbox"/>	Other wildlife viewing
<input type="checkbox"/>	Bicycling
<input type="checkbox"/>	Other

ZACHMAN RD
OF STALDER

4. What changes or improvements would you like to see on these wildlife areas? (Please indicate specific wildlife areas and be specific.)

Better access to POGUE

Reopen Zachman Rd of STALDER in the Smilkeles

5. What particular species, habitats or land management activities are you most interested in or concerned about?

6. Provide any additional feedback: Questions, suggestions or other input about the Okanogan Valley Wildlife Areas and/or the planning process.

This is an addendum to my 1st

7. If you would like to be added to the mailing list, please provide your name and email or mailing address.

Name: C. Root

Email Address: _____

OR Mailing Address:

Address: _____

City: _____

Zip Code: _____

For more information visit http://wdfw.wa.gov/lands/wildlife_areas/management_plans/okanoganvalley/index.html

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Okanogan Valley Wildlife Areas Management Plan Comment Sheet

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1. What interests you about the Okanogan Valley Wildlife Areas?

2. Please check the boxes that correspond to the areas you visit and indicate how often you visit.

Areas Visited	# visits per year
<input checked="" type="checkbox"/> Scotch Creek	
<input checked="" type="checkbox"/> Pogue Mountain	
<input type="checkbox"/> Similkameen-Chopaka	
<input type="checkbox"/> Ellemeham	
<input type="checkbox"/> Chiliwist	
<input type="checkbox"/> McLoughlin Falls	
<input type="checkbox"/> Carter Mountain	

Areas Visited	# visits per year
<input type="checkbox"/> Chesaw	
<input type="checkbox"/> Tunk Valley	
<input type="checkbox"/> Charles & Mary Eder	
<input checked="" type="checkbox"/> Sinlahekin	
<input type="checkbox"/> Driscoll-Eyhott Island	
<input type="checkbox"/> Horse Spring Coulee	
<input checked="" type="checkbox"/> Buzzard Lake	

3. What recreation activities do you pursue at these wildlife areas? (Please check the box to the left of activity).

Check box	Check box	Check box	Check box	Check box	Check box
<input type="checkbox"/> Hunting	<input type="checkbox"/> Fishing	<input type="checkbox"/> Birding	<input type="checkbox"/> Butterfly watching	<input type="checkbox"/> Other wildlife viewing	
<input type="checkbox"/> Wildflower viewing	<input type="checkbox"/> Camping	<input type="checkbox"/> Hiking	<input type="checkbox"/> Photography	<input type="checkbox"/> Bicycling	
<input type="checkbox"/> Other (<i>write in</i>)	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	

4. What changes or improvements would you like to see on these wildlife areas? (Please indicate specific wildlife areas and be specific.)

I would like to see the Pogus Mt Area opened to grazing of cattle

5. What particular species, habitats or land management activities are you most interested in or concerned about?

6. Provide any additional feedback: Questions, suggestions or other input about the Okanogan Valley Wildlife Areas and/or the planning process.

Burning underbrush is great for forest management but have you considered grazing cattle to reduce the underbrush?

Butler Signage for parking & private land border signs

7. If you would like to be added to the mailing list, please provide your name and email or mailing address.

Name: Stacey Woodward

Email Address: slwclaisy15@hotmail.com

OR Mailing Address:

Address: 144 Woodward Rd

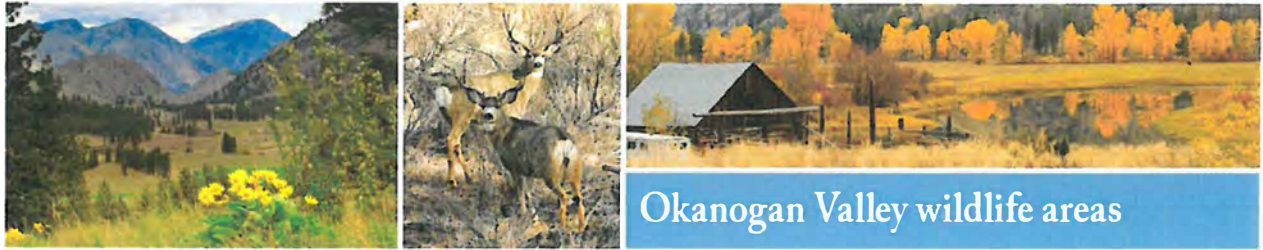
City: Okanogan, WA

Zip Code: 98840

For more information visit http://wdfw.wa.gov/lands/wildlife_areas/management_plans/okanoganvalley/index.html

Washington State Department of Fish and Wildlife

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Okanogan Valley Wildlife Areas Management Plan Comment Sheet

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1. What interests you about the Okanogan Valley Wildlife Areas?

Access to wildlife, in particular birds. Great places to hike, camp, + do photography. It's great to enjoy the naturally vegetated areas, native plants, shrubsteppe + forests!

2. Please check the boxes that correspond to the areas you visit and indicate how often you visit.

Areas Visited		# visits per year
<input checked="" type="checkbox"/>	Scotch Creek	3
<input checked="" type="checkbox"/>	Pogue Mountain	3
<input checked="" type="checkbox"/>	Similkameen-Chopaka	3
<input checked="" type="checkbox"/>	Ellemeham	3
<input checked="" type="checkbox"/>	Chiliwist	3
<input checked="" type="checkbox"/>	McLoughlin Falls	1
<input checked="" type="checkbox"/>	Carter Mountain	1

Areas Visited		# visits per year
<input checked="" type="checkbox"/>	Chesaw	6
<input checked="" type="checkbox"/>	Tunk Valley	6
<input checked="" type="checkbox"/>	Charles & Mary Eder	1
<input checked="" type="checkbox"/>	Sinlahekin	12
<input checked="" type="checkbox"/>	Driscoll-Eyhott Island	1
<input checked="" type="checkbox"/>	Horse Spring Coulee	6
<input checked="" type="checkbox"/>	Buzzard Lake	6

3. What recreation activities do you pursue at these wildlife areas? (Please check the box to the left of activity).

Check box		Check box		Check box		Check box		Check box	
<input type="checkbox"/>	Hunting	<input type="checkbox"/>	Fishing	<input checked="" type="checkbox"/>	Birding	<input checked="" type="checkbox"/>	Butterfly watching	<input checked="" type="checkbox"/>	Other wildlife viewing
<input checked="" type="checkbox"/>	Wildflower viewing	<input checked="" type="checkbox"/>	Camping	<input checked="" type="checkbox"/>	Hiking	<input checked="" type="checkbox"/>	Photography	<input checked="" type="checkbox"/>	Bicycling
<input type="checkbox"/>	Other (write in)	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other

4. What changes or improvements would you like to see on these wildlife areas? (Please indicate specific wildlife areas and be specific.)

5. What particular species, habitats or land management activities are you most interested in or concerned about?

Sharp-tailed Grouse, Great Gray Owl + other birds; support of habitat, protections especially during breeding, nesting + fledging seasons. Concern re weed control, grazing, controlled burns, pesticide herbicide + other chemical applications during vulnerable periods for wildlife. and logging

6. Provide any additional feedback: Questions, suggestions or other input about the Okanogan Valley Wildlife Areas and/or the planning process.

I have concerns about trail ^{and habitat} damage due to motorized vehicles and horses. I think some trails should be restricted to foot traffic only (by people!)

7. If you would like to be added to the mailing list, please provide your name and email or mailing address.

Name: Heather Findlay

Email Address: heather@eaglesun.net (already on your list +

OR Mailing Address:

member of ~~the~~ group
the WAAC.

Address: _____

City: _____

Zip Code: _____

For more information visit http://wdfw.wa.gov/lands/wildlife_areas/management_plans/okanoganvalley/index.html

Washington State Department of Fish and Wildlife

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Okanogan Valley Wildlife Areas Management Plan Comment Sheet

Please share your thoughts about the Okanogan Valley Wildlife Areas Management Plan by answering the questions below and adding any other comments or questions.

Return to WDFW staff at the workshop, email to: okanoganvalleyplan@dfw.wa.gov or mail to: Jeanne Demorest, Planning Project Manager, WDFW, 1701 S 24th Ave., Yakima, WA 98902-5720

1. What interests you about the Okanogan Valley Wildlife Areas?

Hunting, fishing, hiking, mountain biking

2. Please check the boxes that correspond to the areas you visit and indicate how often you visit.

Areas Visited		# visits per year
<input checked="" type="checkbox"/>	Scotch Creek	20
<input type="checkbox"/>	Pogue Mountain	
<input type="checkbox"/>	Similkameen-Chopaka	
<input type="checkbox"/>	Ellemeham	
<input checked="" type="checkbox"/>	Chiliwist	1
<input checked="" type="checkbox"/>	McLoughlin Falls	1
<input type="checkbox"/>	Carter Mountain	

Areas Visited		# visits per year
<input type="checkbox"/>	Chesaw	
<input type="checkbox"/>	Tunk Valley	
<input type="checkbox"/>	Charles & Mary Eder	
<input type="checkbox"/>	Sinlahekin	20
<input type="checkbox"/>	Driscoll-Eyhott Island	5
<input type="checkbox"/>	Horse Spring Coulee	
<input type="checkbox"/>	Buzzard Lake	

3. What recreation activities do you pursue at these wildlife areas? (Please check the box to the left of activity).

Check box		Check box		Check box		Check box		Check box	
<input checked="" type="checkbox"/>	Hunting	<input checked="" type="checkbox"/>	Fishing	<input type="checkbox"/>	Birding	<input type="checkbox"/>	Butterfly watching	<input type="checkbox"/>	Other wildlife viewing
<input type="checkbox"/>	Wildflower viewing	<input type="checkbox"/>	Camping	<input checked="" type="checkbox"/>	Hiking	<input type="checkbox"/>	Photography	<input checked="" type="checkbox"/>	Bicycling
<input type="checkbox"/>	Other (write in)	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other

4. What changes or improvements would you like to see on these wildlife areas? (Please indicate specific wildlife areas and be specific.)

Picnic tables

5. What particular species, habitats or land management activities are you most interested in or concerned about?

noxious weeds
game bird populations

6. Provide any additional feedback: Questions, suggestions or other input about the Okanogan Valley Wildlife Areas and/or the planning process.

7. If you would like to be added to the mailing list, please provide your name and email or mailing address.

Name: Charles Root

Email Address: CSROOT@NORTHCASCADES.NET

OR Mailing Address:

Address: 34 WOODS

City: OMAK

Zip Code: 98841

For more information visit http://wdfw.wa.gov/lands/wildlife_areas/management_plans/okanoganvalley/index.html
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**Scotch Creek and Sinlahekin Wildlife Area Management Plan
Public Meeting – December 8th 2016**

Attendees:

Kevin Cunningham, Greg Barnett, Stan Somers, Jay Babb, Tom Windser, Buzz Berney, Jean Berney, Joe and Debbie Philleo, Alice Thompson, Joe Berney, Chuck Root, Rhonda Daslie, John Arterburn, Dale Swedberg.

WDFW Staff: Jim Brown, Justin Haug, Jim Olson, Jamie Bass

Public Comments

Question: Anonymous (did not sign in) – What is the status of the Wildfire Recovery Assistance program for controlling noxious weeds near the Chiliwist? **Response** (Justin) – The program is administered through the Okanogan County Noxious Weed Office. We have been targeting areas vulnerable to noxious weed infestations within the burn perimeters of the Carlton and Okanogan Complex Fires.

Question: Chuck Root (User) – Are guzzlers going to be replaced on the Scotch Creek Wildlife Area? Where have all the quail gone? **Response** (Jim O.) – Guzzlers damaged as a result of the Okanogan Complex Fires will be replaced on the Sinlahekin Wildlife Area. In areas occupied by sharp-tailed grouse (Scotch Creek and Tunk Valley units), WDFW biologists recommend not replacing the guzzlers due to the possibility of transmitting West Nile Virus, a deadly disease to gallinaceous birds that is transmitted by mosquitoes. The water quality in these guzzlers is poor, possibly contributing to breeding mosquitoes. Some literature suggests the guzzlers are not beneficial to upland bird and other wildlife species and may create a vector for transmitting disease. Regarding quail, (Justin) – certain areas seem to have a reduced number of quail while other locations contain larger covies.

Question/Comment: Jay Babb (User) – Is WDFW going to continue to use barbed wire fence? Seems to be the better than using all smooth wire like what's on Palmer Mnt. near Washburn Lake. **Response** (Justin) – The Sinlahekin and Scotch Creek wildlife area will continue to use 4-wire fence - 3 barbed on top and smooth on the bottom. There may be instances where smooth wire can be used more on fences where little cattle pressure is present.

Comment: Buzz Berney (Scotch Creek Neighbor and Rancher) – Moved to the area in the 1950s where family ranched on Silver Hill. Family put up hay and farmed the area where water holes were plentiful and sharp-tails (called prairie chickens at the time) blacked the sky when flushed. The family planted spring and fall wheat which were utilized by the grouse. The family also grazed cattle on the property. Since WDFW acquired the property, grazing has stopped. Sharp-tails began to get predated on by other birds and various predators. Lack of grazing reduced the sharp-tail grouse population. New forests began to encroach within areas previously grazed or farmed. These forests are shelters for many predators which impact the

sharp-tails. He has seen the biggest decline in deer populations since the 1950s. Grazing is important to sharp-tail grouse. **Response** (Jim O.) – Research suggests that sharp-tail hens choose uniform stands of vegetation of at least 12 inches high or patches of vegetation at least 14 inches high for nest placement. This cover also reduces losses to predators and competes with noxious weeds. Livestock grazing is not compatible with these objectives within the sharp-tail grouse management zone and therefore is not recommended. Sharp-tail numbers have increased steadily since acquisition in 1991. From a low of 8 – 12 birds, the population estimate in 2015 was 116. Habitat protection and enhancement along with supplementation of sharp-tails from other states has worked well on Scotch Creek.

Question: Chuck Root – Are there going to be future acquisitions? **Response:** (Justin) – I don't know. (Jim B) – I don't know.

Comment: John Arterburn (User) – See attachment. **Response to Question #1** (Justin) – The lake, wetlands and adjacent meadow area within the Buzzard Lake Unit were excluded from the grazing permit in 2010. Following the Okanogan Complex Fire, fences were compromised and neighboring cattle wandered onto the area. Repairs to the fences are scheduled to be completed this spring which should solve the issue. The Sinlahekin office appreciates user observations and notifications to staff so we can potentially contact the owners of the cattle and have them removed from the area. **Response to Question #2** (Justin) – Certain fields are planted each spring on the Sinlahekin Unit, plus periodic grain plantings associated with some of our agriculture leases. Areas are indicated on maps within various agricultural leases and maps can be produced showing those planted fields on the Sinlahekin. **Response to Question #3** (Justin) – WDFW releases pheasants during the fall on the Bureau of Reclamation sites but does not perform any management activities on the areas. Bird feeders are not filled by WDFW.

Comment: John Arterburn (User) – It would be nice to see separate Goals and Objectives for each of the units within those specific sections. A prioritized list of objectives would also be useful. **Response:** Thank you for your comment. Future wildlife area plans will incorporate objective highlights under the unit descriptions.

Comment: Buzz Berney (Scotch Creek Neighbor and Rancher) – It seems WDFW plants Triticale wheat exclusively. Sharp-tails don't eat triticale which is a cross between a wheat and rye grass. **Response:** (Justin) – We've planted beardless barley recently and it seemed to do pretty well. (Jim) – Triticale has been the choice of the lessee on Scotch Creek to provide the volume desired for grain hay production. We have noticed wide spread use of the grain by deer, Hungarian partridge, and pheasants over the years. You are correct; we have not observed sharp-tailed grouse utilizing these fields. I have observed sharp-tails fly over grain fields and land in shrub-steppe on the hillsides (preferred habitat). Food plots specifically for sharp-tails are not intended or recommended by our research biologists.

Comment: John Arterburn (User) – In the plan you mention irrigation improvements which are potential investments in irrigation infrastructure. This suggests a commitment to and perpetuation of the agricultural production program. **Response:** (Justin) – Our goal is to have

the most efficient irrigation system as possible, such as center-pivots, to reduce water consumption.

Comment: John Arterburn (User) – Squawfish is currently called Northern Pikeminnow (or Columbia River Dace). **Response:** (Justin) – We will make those changes in the plan.

From: [Public Affairs \(DFW\)](#)
To: [DFW DL WDFW Staff](#)
Subject: WDFW seeks comments on management plan for Scotch Creek and Sinlahekin wildlife areas
Date: Tuesday, November 29, 2016 3:21:19 PM

NEWS RELEASE

Washington Department of Fish and Wildlife
November 29, 2016
Contacts: Lauri Vigue, (360) 902-2549;
Justin Haug, (509) 223-3358;
Jim Olson, (509) 826-4430

WDFW seeks comments on management plan for Scotch Creek and Sinlahekin wildlife areas

OLYMPIA – The Washington Department of Fish and Wildlife (WDFW) is seeking public comments on a draft management plan for the Scotch Creek and Sinlahekin wildlife areas in north central Washington.

WDFW also will host a public meeting next month to discuss the plan. The meeting is scheduled from 6 to 8 p.m., Dec. 8, at the Okanogan PUD Auditorium, 1331 N. Second Ave., Okanogan.

The two wildlife areas are located in Okanogan County and cover a combined total of nearly 48,000 acres. Over the past year, WDFW staff has worked with a citizen-based advisory group to develop a draft management plan that addresses the status of wildlife species and their habitat, forest management, restoration efforts and public recreation on the wildlife area.

"Wildlife areas are public lands, so it is critical for us to have public input to inform management," said Clay Sprague, WDFW lands division manager.

The plan is now available for review on WDFW's website at http://wdfw.wa.gov/lands/wildlife_areas/management_plans/scotch_creek/.

The public can submit comments online through Dec. 29 at http://wdfw.wa.gov/licensing/sepa/sepa_comment_docs.html. Comments can also be submitted at the Dec. 8 meeting.

The public comment period will be conducted under the State Environmental Policy Act, which is designed to ensure that Washington citizens can participate in governmental decisions that could affect the environment.

The department is revising management plans for the state's 33 wildlife areas to reflect current conditions and identify new priorities. WDFW is currently updating plans for Oak Creek Wildlife Area in Yakima County and Snoqualmie Wildlife Area in King and Snohomish counties.

Scotch Creek and Sinlahekin Wildlife Areas



We want your input!

Plan to attend:

WHAT: Public meeting to discuss the draft management plan for these two wildlife areas. Public comments will be accepted at the meeting and online through December 29, 2016.

WHEN: 6 to 8 p.m., December 8

WHERE: Okanogan PUD Auditorium
1331 Second Ave. N., Okanogan, WA 98840

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