



SCOTCH CREEK WILDLIFE AREA 2010 MANAGEMENT PLAN UPDATE

Washington Department of Fish and Wildlife



Land Management Summary

This is an update to the Scotch Creek Wildlife Area (SCWA) Management Plan that provides management direction for the Scotch Creek, Mineral Hill, Pogue Mountain, Tunk Valley, Chesaw, and the Charles and Mary Eder units in Okanogan County. The plan identifies needs and guides activities on the area based on the Washington Department of Fish and Wildlife (WDFW) Mission of “*Sound Stewardship of Fish and Wildlife*” and its underlying statewide goals and objectives as they apply to local conditions.

The long term management goal and specific reason for purchasing the property is to establish a viable sharp-tailed grouse population on and adjacent to the Scotch Creek Wildlife Area. Other management goals for the Scotch Creek Wildlife Area are to preserve habitat 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.

Plans are updated annually as habitat and species conditions change, as new regulations and scientific knowledge develop, as public issues and concerns evolve, and as administration of wildlife areas change. This management plan update also includes 2009 accomplishments, new issues, new land management strategies and performance measures for 2010. For a complete copy of the management plan, and updates, go to:

http://wdfw.wa.gov/lands/wildlife_areas/management_plans/

Updates/Changes in 2009

- Land acquisition. The Department of Fish and Wildlife did not add any new lands to the Scotch Creek project in 2009.

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- The FFY10 budget for Scotch Creek was approved by the Bonneville Power Administration (BPA) in November of 2009. The annual performance period was changed to start on December 1, 2009, and run through November 30, 2010. This work window better reflects the field work performed on Scotch Creek. The dormant grass seeding is completed in November after fall rains have firmed the seedbed and lowered soil temperatures. Riparian plantings are best established in November as well, after dormancy and the winter moisture to settle and pack the soil around the root system. The old performance work period ended September 30, which split these work elements into two different fiscal years. In addition the BPA increased the budget by 2.5% to reflect rising costs of fuel and materials. With this increase and the addition of three grants to work on this year, we were able to hire one, six-month Habitat Technician to help with the additional duties in 2010.

Major Stewardship Accomplishments

- **Restore Scotch Creek Riparian Channel.** After three years of planning and permitting, we were successful this year in completing the construction phase of this project. The low gradient meadow below the headquarters complex, which is primarily reed canary grass, had filled in the existing channel, causing flooding and saturated soils which in turn killed approximately ½ mile of riparian plantings. This area is particularly important to the sharp-tailed grouse recovery since it provides critical winter food and cover. The water birch that grows along Scotch Creek is an important food source for these birds when snows cover their preferred habitat along the ridge tops. We constructed three log floats, 10 x 12 feet, which was used to keep the excavator afloat. By leap-frogging these “islands” we were able to traverse the flooded grass field, and excavate a meandering channel approximately 2 feet wide by 2 feet deep. The result was a series of pool/riffle/runs the entire length of the field. The next phase will be to attempt eradication of the reed canary grass, and planting of riparian vegetation.



Scotch Creek Riparian (before)



Scotch Creek Riparian (after)

- With funding from a Wildlife Habitat Incentives Program (WHIP) grant, we were able to complete 65 acres of **Shrub-steppe restoration in the Coulee Creek** drainage on Scotch Creek. These scattered fields represented the worst, or the most weed infested areas of the drainage, from the north boundary of Scotch Creek to the Hess Lake parking area. The native seed mix included; bluebunch wheatgrass, Sandbergs bluegrass, Idaho fescue, snow buckwheat, yarrow, blue flax, and antelope bitterbrush.
- **Maintenance on over 120,000 seedling trees and shrubs** that have been planted over the years include hand-pulling weeds, mowing to reduce competition, fertilizer applications and installation of rodent guards to insure survival and increased growth rates. These activities take place both in the spring and fall. Approximately 30 acres are maintained and this year included 300 water birch seedlings re-planted along Scotch Creek in the corrals area. These plants were specially grown at the Methow Natives Nursery in Winthrop and were propagated from Sinlahekin Valley seed source in Okanogan County.
- The **irrigation sump, sediment trap repairs** were completed by early summer. This project added ecology blocks to one side of the pond, making maintenance, or excavation of sediment easier in the future. Also 10 years of sediment accumulation was removed, and fill areas seeded with a native grass seed. We also designed and installed a fish ladder on the check dam to enhance upstream movements by resident trout.



- **Riparian Shrub Planting and Deer Fencing.**

The area along Scotch Creek and below the corrals received 300 water birch plants in the fall of 2009. We also installed deer fencing to prevent browsing on these, and other deciduous shrubs planted in this area that is critical to wintering sharp-tailed grouse.

We completed the project “low budget” by using used steel tee posts and trustees labor from the county jail.



- **Eder Unit Pedestrian Easement.** As part of the Eder acquisition in 2008 (Phase 2), the public was granted a 10 foot pedestrian easement across private land. The route was surveyed, and 2,200 feet of stock fence was built on the east boundary of this trail where it crosses the existing agricultural fields. Trail markers were placed to mark the route across Nine-mile creek.

In addition we posted orange Carsonite markers around the entire life estate boundary in an attempt to inform hunters and the public where private and public land boundaries occur.



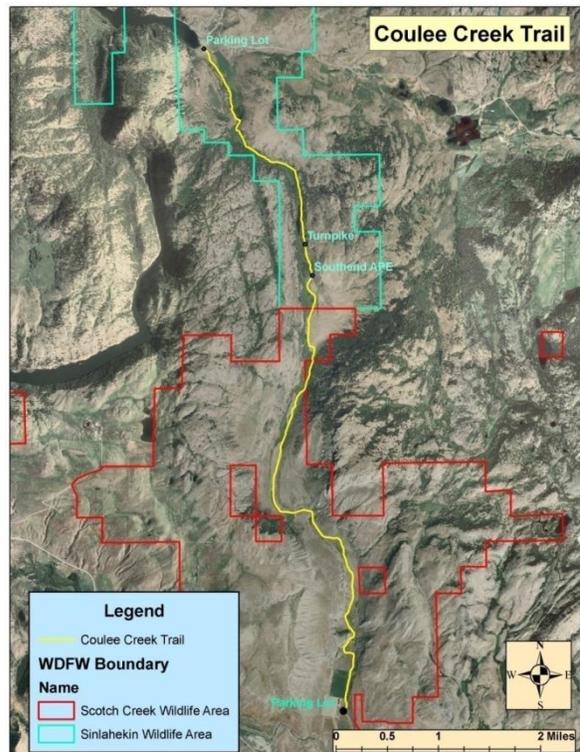
- **Surplus and remove one barn from the Boyce acquisition.** Bids were accepted to remove materials from one residence, and one barn on the Boyce property. Bids were received only on the barn and it was successfully dismantled and all materials removed to a private property location.

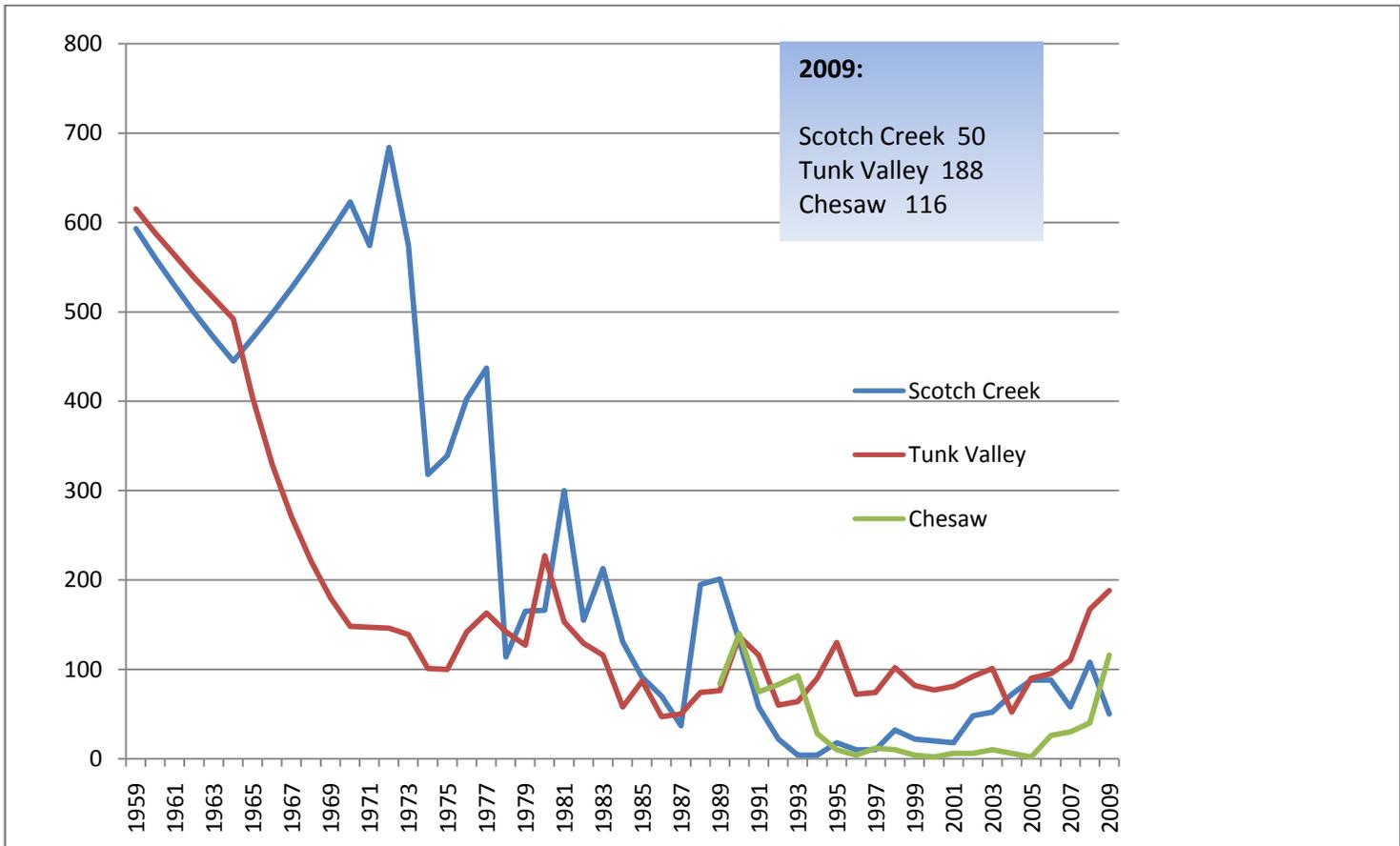


- **Weed control** efforts began in early spring, with the application of pre-emergent herbicides to bare grounds, parking areas and around buildings. Spring applications target annuals and biennials, and applications though late fall target perennial species. As with previous years, control of musk thistle on the Chesaw Unit continues to be challenging and ongoing. Extensive time was spent spot spraying and hand pulling seed heads in remote sections of the unit.

Unit	Site Type	Weed Controlled	Acres Treated	Total Acres with Weed	Control Method	Specify Bioagent or Herbicide	Estimated Control Costs in \$
Scotch Creek	upland	knapweed, Russian	117	300	Chemical	Tordon 22k	\$1,300
Scotch Creek	upland	Kochia	19	30	Chemical	Starane	\$300
Scotch Creek	field, agriculture	General weeds	40	40	Chemical	Velpar	\$300
Scotch Creek	parking areas	General Weeds	2	2	Chemical	Journey	\$200
Scotch Creek	upland	General weeds	3	10	Chemical	Buctril	\$200
Scotch Creek	upland	thistle, Canada	56	70	Chemical	Milestone	\$1,200
Scotch Creek	riparian	reed canarygrass	25	40	Chemical	Razor Pro	\$500
Eder	upland	knapweed, Russian	16	40	Chemical	Milestone	\$400
Scotch Creek	field, fallow	General Weeds	70	70	Mechanical		\$5,000
Scotch Creek	upland	General Weeds	70	70	Cultural		\$4,000
Scotch Creek	upland	General Weeds	100	100	Mechanical		\$1,200
Scotch Creek	upland	General Weeds	100	100	Mechanical		1200
Chesaw	upland	thistle, musk / houndstongue	100	500	Chemical	Tordon 22k	\$7,100
Scotch Creek	upland	General Weeds	25	25	Mechanical		\$700
Scotch Creek	upland	General Weeds	70	70	Chemical	Roundup Pro	\$1,200
Scotch Creek	Upland	Whitetop – hoary cress	20	80	Chemical	Escort	
						TOTAL	\$25,200

- **Recreation Conservation Office (RCO) Coulee Creek Trail Grant:** We started work in 2009 on the Coulee Creek trail grant which will provide new trailhead parking at Fish Lake on the Sinlahekin WLA on the north, and near Hess Lake on the Scotch Creek Wildlife Area to the south. In 2009 we completed cultural resource surveys, and trail clearing and grubbing vegetation, 8 feet wide and 10 feet in height to accommodate equestrian users. This year we will complete the project with trailhead/parking construction, trail tread improvements and signing.





Sharp-tailed Grouse 2009 Population Estimates

Status Report of 2009 Performance Measures

Key performance measures are identified each year to monitor progress and identify any issues that might interfere with planned priority activities. This information will be used to delete, add or alter priority strategies for 2010.

2009 Performance Measure	Status of Performance Measure	Explanation of Progress/ 2010 Related Activity/ Comments
Shrub-steppe restoration. Summer fallow 100 acres and fall dormant seeding of native grasses and forbs on the Coulee Creek acquisition. This is part of the WHIP grant received in 2008 and will be cost shared with the Natural Resources Conservation Service (NRCS). Also includes 1.5 miles of new fence, and 3,000 trees and shrubs planted along Coulee Creek.	Partially completed	Completed 61 acres, and will finish the grass seeding in 2010 with another 62 acres. The fence portion was dropped, and riparian planting will occur in November 2010.
Develop two trailheads and improve 7.5 miles of trail through the Coulee Creek drainage. This is funded with an RCO Non-Highway and Off Road Vehicle Account grant for 2009.	Partially complete	Permitting and cultural resource surveys complete. Clearing and grubbing complete and will finish project in 2010.
Riparian restoration. Maintain all previously planted trees and shrubs to insure a high survival rate. Include 300 new Water Birch transplants (100 each for Scotch Creek, Chesaw, and Tunk Valley). Also includes the development of one ½ acre irrigated shrub planting on the Boyce Property. We will utilize the existing irrigation system, branch off with a drip-irrigated plot, and install deer fence to protect young plants.	Completed with some changes	Plans changed slightly. We planted all 300 water birch along Scotch Creek below the corrals, and added deer fencing in this critical area. Used the Boyce Project funding to complete this section, as this is a more critical wintering area for sharp-tail grouse.
Continue survey and boundary fence repairs on all units. Inspect and repair in early spring as much of the 70 miles boundary fence as feasible on all units. Install or replace wildlife area boundary signs as needed.	Complete	Complete. Included removal of two miles old barbed wire on the Cunningham Acquisition.
Make improvements to the irrigation pond/sediment trap. Place ecology blocks along the south shore to narrow the pond, and allow for more efficient dredging. Also pour small concrete slab around pump station for weed control, and install a fish ladder to allow in-stream passage of brook trout.	Completed	Complete, including cultural resource survey.

Continue with weed management plan. Plans for 2009 include 40 acres of white-top, 200 acres of Russian knapweed, 20 acres Canadian thistle, and 60 acres of general Ag weeds on Scotch Creek. 40 acres of houndstoung and 125 acres of musk thistle on Chesaw. 10 acres of Russian knapweed on Pogue Mountain and 40 acres on Tunk Valley. Also includes 10 acres houndstoung and 20 acres Russian knapweed on the Eder Property.	See weed control summary above.	
Restore proper hydraulic function to Scotch Creek below the Headquarters. Start the construction phase on a new meandering channel to mimic natural conditions, and a 2-year plan to eliminate the reed canary grass invasion.	Completed construction of new channel. See description above.	Construction of new channel complete. Roundup sprays on reed canary grass applied in November 2009, cultivation to occur in 2010.
Survey and post the Life Estate boundaries and critical property boundaries on the Eder Unit to improve public identification of public land boundaries. Carsonite location markers will be used where stock fence is not needed.	Complete	Posted the Life Estate boundary with orange Carsonite markers. Also marked a new pedestrian easement trail across nine-mile creek to the north half of the WLA.
Advertise and surplus to the public, the residence and barn on the Boyce Acquisition.	Complete	No bids were received on the residence. The barn material was successfully dismantled and removed.

2010 Performance Measures

Performance measures for the Scotch Creek Wildlife Area are listed below. Accomplishments and progress toward desired outcomes will be monitored and evaluated annually.

- 1) Administration: Continue office and field management responsibilities, professional development, and insure the wildlife area management/mitigation plan is carried out. Ensure environmental and cultural compliance documentation is complete before any ground disturbing activities take place, and submit status and annual reports to BPA. Coordinate Citizens Advisory Group annual meeting, participate in community educational events when available, ensure Payments In Lieu of Taxes, weed assessment and fire protection contracts.
- 2) Continue maintenance on fences, existing habitat enhancements, reader boards, informational and regulatory signs, roads and parking areas and all facilities on the complex.
- 3) Shrub-steppe restoration. Summer fallow up to 120 acres and fall dormant seeding of native grasses and forbs. This is phase two of the WHIP grant received in 2008 and will be cost shared with the NRCS.

- 4) Fuels treatment on Pogue Mountain. Cost shared with RCO, we will remove small diameter conifers causing overstocked forest conditions and fuel for another wildfire. Fire killed trees from the Salmon Creek Fire in 2008 will also be treated in the fall of 2010. Includes cultural resource surveys, photo plot documentation, and road improvements.
- 5) Plant bitterbrush plugs, and other deciduous shrubs on Pogue Mountain to improve mule deer winter range.
- 6) Collect a native seed source from the Scotch Creek/Eder area to be propagated at a commercial grower and used back on the area for future restoration.
- 7) Develop two trailheads and improve 7.5 miles of trail through the Coulee Creek drainage. This is funded with an RCO grant for 2009/2010.
- 8) Riparian restoration. Maintain all previously planted trees and shrubs to insure a high survival rate. Include 3,000 trees and shrubs to be planted in the Coulee Creek drainage as part of the WHIP grant.
- 9) Continue weed management plan. Weed management activities for the 2010 field season will again focus on the musk thistle problem at the Chesaw Unit. The large area, difficult terrain, and density of infestations make control efforts very time consuming. Efforts may exceed 500 hours to cover the unit twice to treat plants at varying maturity levels. In addition houndstongue and Canada thistle will be treated during the same time period. The Scotch Creek Unit has seen a large influx of Canadian thistle within the last couple of years. A majority of it was treated in 2009. Treated acres for 2010 are estimated to be < 20 acres primarily in the wetter portions of the unit. Russian knapweed infestations on the Scotch Creek Unit continue to remain stable. Approximately 200 acres were treated in 2009. 2010 treatments will focus on the Silver Hill and Honey Lake sections of the unit; treated acres should again exceed 200 acres. White top infestations primarily occur on the most degraded sites within the unit. Infested acres remain stable; approximately 45 acres will be treated in 2010. In addition about 50 acres of general agriculture weeds will be treated and 15 acres of St. Johnswort on Silver Hill. Treatments to the Eder Unit will focus on Russian knapweed and houndstongue. Houndstongue in the Ninemile Creek area will be the primary focus; approximately 10 acres will be treated. The Tunk Valley unit has seen a large expansion in Russian knapweed, treated acres in 2010 should exceed 50 acres. The Pogue Unit still remains inaccessible due to land ownerships. We are working on permanent administrative access to this unit.
- 10) Apply for two Washington Wildlife and Recreation Program grants for funding in 2011. One will be for shrub-steppe and riparian restoration on the Eder Unit, and the other for forest improvements on the Chesaw unit.

Citizens Advisory Group

An Eastern Okanogan County Citizens Advisory Group meeting was held on January 28, 2010 to review Sinlahekin, Driscoll Island, Chiliwist and Scotch Creek Management Plans, management progress and address any new issues or input on existing issues. Those in attendance included:

Dave Sunde	Okanogan Valley Chapter Backcountry Horsemen of Washington
Gail Sunde	Okanogan Valley Chapter Backcountry Horsemen of Washington
Geral Cox	Rancher - neighbor
Mark Williams	Forester, Bureau of Land Management
Kathleen Johnson	Instructor, Wenatchee Valley College North

Dave Swanberg	Okanogan Valley Chapter Backcountry Horsemen of Washington
Brandon Wood	Neighbor
Eric Keane	Small Landowner, Neighbor
Peggy Swanberg	Okanogan Valley Chapter Backcountry Horsemen of Washington
Anne Lyon	Okanogan County Noxious Weed Office/Board
Joe Allemandi	Rancher- Sinlahekin grazing permittee
Jon Shoemaker	Small Landowner, Neighbor
Bob Rothrock	Operations and Maintenance Whitestone Reclamation District
Hugh Jensen	Sportsman and City of Tonasket Public Works Department
John Zabreznik	Sportsman
Rick Lind	Sportsman and USFS Fire Management Officer, Tonasket & Winthrop Ranger Districts
Tim Vugteveen	Highlands District Manager/Department of Natural Resources
John Oakes	Large Landowner – part of property in negotiations for purchase of a Conservation Easement
Cari Haug	Administrative Assistant Okanogan Valley Land Council
Andre Corso	Forester, Sinlahekin Ecosystem Restoration Project; Reforestation Forester - USFS
Tom Jones	Rancher – neighbor and sharecropper
Clare Painter	Large Landowner – neighbor

No input was received from the CAG meeting regarding Scotch Creek units.

BPA Mitigation Project

The Washington Department of Fish and Wildlife and Bonneville Power Administration (BPA) have been partners in mitigating (compensating) the loss of fish and wildlife resources resulting from construction of dams and subsequent inundation of habitat on the Columbia River since the early 1990s. Under the Northwest Electric Power and Conservation Act, BPA has a duty to protect, mitigate, and enhance fish and wildlife and their habitats affected by the development and operation of the Federal Columbia River Power System. WDFW agreed that by funding the mitigation BPA earned credit in the currency of Habitat Units or HUs. BPA applies the HUs it earns against the HUs lost as reflected in habitat loss assessments that WDFW and other wildlife managers developed to estimate and document the impact of the construction of Federal Columbia River Power System dams in Washington.

Mitigation has been accomplished through fee title acquisition of new lands (includes enhancements, etc.) and funding enhancement, protection, and operations and maintenance (O&M) measures on publicly owned lands managed by WDFW and/or Washington Department of Natural Resources (WDNR).

The Scotch Creek Wildlife Area was approved as a wildlife mitigation project in 1996 and BPA funded habitat enhancement efforts to meet mitigation objectives have been underway since the spring of 1997. Scotch Creek is a complex of six separate management units located in Okanogan County in North Central Washington State. The project is located within the Columbia Cascade Province (Okanogan sub-basin) and partially addresses adverse impacts caused by the construction of Chief Joseph and Grand Coulee hydroelectric dams. With the addition of the Eder acquisition in 2008, the total size of all

wildlife area units is 19,860 acres. This is a combination of BPA acquired lands and state purchases through the Washington Wildlife and Recreation Program (WWRP).

The monitoring and evaluation efforts consider the Columbian sharp tailed grouse species first and foremost because this species provided the justification for the acquisition of the wildlife area and its subsequent management. Habitat Evaluation Procedure (HEP) was developed by the U.S. Fish and Wildlife Service (USFWS) to quantify the quality and abundance of available habitat for selected wildlife species. HEP is based on ecological principles and the assumption that habitat for selected wildlife species can be described as a numerical value based on a Habitat Suitability Index (HSI). This value is derived from an evaluation of the ability of key habitat components to supply the resource needs of focal species of fish and wildlife. The HSI values (ranging from 0.0 for no value, to a maximum of 1.0) are multiplied by the area of available habitat to obtain Habitat Units (HUs), which are for mitigation purposes, the 'currency' used to measure/compare habitat losses and gains (Schroeder et al. 2008). Completion of baseline and periodic (preferably at 5-year intervals) HEP is a fundamental requirement for management of the mitigation areas.

Management Activities:

Biological objective 1: Enhance shrub-steppe, riparian and forest habitats.

Work element 1.1: Re-store native shrub-steppe habitat in degraded rangeland, or abandoned agricultural fields.

Methods: The Scotch Creek project has successfully restored over 3,000 acres of agricultural conversion lands back to a native shrub-steppe habitat since the initial acquisition in 1991. These fields are primarily crested or intermediate wheatgrass, and invaded by diffuse knapweed, Russian knapweed, whitetop, St. Johns wort, and other noxious weeds. Restoration begins with Round-up spray to kill all vegetation present. We start the cultivation with deep plowing to bury the weed seeds if the soils are deep, or by disking with a rolling plow when soils are shallow. Continue a summer fallow program throughout the season and finish by packing to get a firm, level and vegetation free seedbed. Dormant seeding occurs in early November with a grass seeding drill to insure that native grass seed is planted in the top 1/2 inch of soil. Where shallow soils are present and absent of native bunchgrasses and forbs, a variety of methods are used to improve habitat conditions. This may include planting plugs, no-till drilling of a native seed mix, aerial seeding or a combination of methods.

Work element 1.2: Riparian tree and shrub planting on all streamside and mesic habitats.

Methods: Plant nursery grown native plant material along stream banks, springs and wet areas on all units. Habitat plantings will occur where irrigation is available. Plants will be placed where mortalities occurred from previous plantings or to increase diversity, this should occur during spring or fall during dormancy. Mechanical planters or planting bars, and the initial maintenance of watering, fertilizing and weed control to insure their survival will be utilized. Fabric weed barriers will be used where competition is intense and/or a 7 feet tall deer fence to prevent browsing damage where needed.

Work Element 1.3: Maintain extant shrub & tree plantings (>100,000), shrub-steppe habitat and herbaceous seeding (>3,000 acres) on all units of the wildlife area.

Methods: Maintain previously developed habitat enhancements by chemical, mechanical or cultural control of undesirable vegetation. To insure success of tree and shrub planting efforts, a continuing annual maintenance schedule will be followed. Insure rodent control by applying tree guards to protect seedlings, and weed control, primarily by hand pulling and mowing, to reduce competition and provide sunlight. Fertilizer and watering applications may be needed to increase survival the first year. Temporary deer fencing or repellent may be used, and replant or reseed as needed. The result will be successful establishment of seedlings and improved habitat condition.

Work element 1.4: Develop up to six ½-acre shrub/tree plots to utilize existing water delivery system on the Boyce Acquisition.

Methods: Plant approximately 600 native trees and shrubs in each of six ½-acre plots over the next three years and utilize the existing water line to develop a drip irrigation system on the new Boyce Acquisition. Protect plant survival with temporary deer enclosure fencing and hand weeding. The preferred method is to use hand augers to excavate the hole. This provides the root systems the ability to expand into loose soil and eliminate any “J” rooting caused by a shallow hole. Rocky soils preclude the use of augers and a hand-planting bar will be used to open the soil. A slow release fertilizer tablet is placed with each plant and soil lightly compacted around the roots. “Tree guards” are placed around the base of each plant to reduce rodent damage.

Work element 1.5: Weed control on all units of the Scotch Creek Wildlife Area complex.

Methods: Undesirable plant removal will follow Integrated Pest Management techniques. Cultural, biological, mechanical and chemical methods will be considered for each species we want to remove and the best method or combination of methods for the particular situation will be used. This is a continuing element to improve habitat quality over the next three years. The strategy outlined in the Okanogan Sub-Basin Plan calls for assisting in long-term development of an implementation of a Comprehensive Weed Control Management Plan in cooperation with local weed boards. We are working closely with the Okanogan County Weed Control Board by participating in their “Coordinated Weed Management Area Plan”. This is a group who meets monthly and is comprised of one representative from each of the state and federal agencies and county government to plan long-term weed control efforts. Weed control strategies include: produce and implement a weed management plan to include weed identification and inventory, risk/threat, control priorities, and monitoring. Coordinate weed efforts with federal, state and local entities to improve efficacy and minimize costs.

Mow Russian knapweed patches in July, and treat with herbicides in November on Scotch Creek and Tunk Valley units. Search and destroy new invaders and “B” designate weed species, including Dalmatian toadflax, scotch thistle, musk thistle, and whitetop on all units. Increase control efforts on houndstouge on Chesaw, Eder and Pogue Mountain units. Continue to use Integrated Pest Management strategies, including biological control, chemicals, mechanical and cultural methods, to control invasive weeds. Continue to control weeds along all roads on the wildlife area - TBD miles of roads to

reduce the spread of weeds. Map all weed locations using GPS to create GIS layers showing locations of weeds and to assist in monitoring weed control efforts. We have successfully obtained a contract with the Okanogan County jail to allow use of trustee work crews to cut and pull weeds.

Work element 1.6: Fuels reduction and habitat enhancements in forested habitats on Scotch Creek, Pogue Mountain and Chesaw units.

Methods: Overstocked Ponderosa pine forests pose a risk of stand replacing wildfires as seen on a portion of the Pogue Mountain Unit in the summer of 2008. For habitat protection and enhancement, all timbered stands on the Scotch Creek Units need thinning of both small commercial and non-commercial timber. A prescription to save and enhance the largest diameter trees will be followed while removing the overcrowded condition of smaller commercial trees to be sold. This will be followed by pre-commercial thinning of small non-commercial conifer trees while protecting woody browse species for mule deer food and cover. This may include labor costs to pile and burn small saplings on steep slopes or inaccessible terrain.

Biological objective 2: Maintain viable Sharp-tailed grouse population

Work Element 2.1: Monitor and Evaluate Mitigation project

Methods: This work element will help fund M&E efforts on all WDFW mitigation projects by collecting habitat and wildlife data on mitigation projects including lek surveys. Data collected will be used to assess effects of habitat maintenance, weed control and enhancement efforts on focal species. Analysis of data will guide adaptive management strategies implemented on wildlife area.

Work Element 2.2: Monitor known existing Sharp-tailed grouse leks on Scotch Creek and Chesaw Units. Also search for new or satellite leks on or adjacent to the wildlife area.

Methods: Male sharp-tailed grouse congregate during the spring on relatively traditional breeding sites, usually referred to as “leks” or “lek complexes”. Females visit these sites during the peak of the breeding season to “select” and copulate with males. These lek surveys are designed to be consistent with similar surveys being conducted on an annual basis in all western states with populations of sharp-tailed grouse. Sharp-tailed grouse leks usually are difficult to observe. Lek counts will consist of a complete count of birds (flushing) at least two times per season on the wildlife area. Counts will be spaced at least 10 days apart between 10 March and 25 May. The peak of activity (female attendance and breeding) is early April in most years. Flushing will be accomplished with at least two observers or one person with a trained dog, as peripheral birds often will not flush if the observer is too far away. Lek counts will be conducted when the weather is good (wind < 10 MPH, no precipitation, temperatures > 20 F, >50% bare ground). Counts that are abnormally low (dropped dramatically from previous year) will be repeated. These counts may be caused by disturbance from predators, people, or unknown factors.

In addition to visiting known lek sites, we will search all adjoining lands and potential sites for sharp-tail use. Lek searches are extremely important because of lek movements, satellite leks, vacant leks, and new leks. The inferences related to populations ultimately will depend as much on the quality of lek searches as on the quality of lek counts. In this pursuit, information about lek absence is equally as important as information about lek presence. Searches will be conducted by “listening” for displaying males at points along roads, trails, ridges, or fence lines. The sound that can be heard best is the low “coo” note produced. Under perfect conditions, this noise can be heard up to 2 km. The listening points will be a maximum of 0.5 miles apart and initiated about 0.75 hours before sunrise and continued for two hours. Listening periods will last at least five minutes at each station. These searches will include private lands when access permission has been granted.

Biological objective 3: Increase Mule Deer use of the project area

Work element 3.1: Forest stands improvement on all units of the Scotch Creek Wildlife Area complex.

Methods: Conduct, in cooperation with the Mule Deer Foundation and others, prescribed fuels treatment, e.g., thinning and logging on all forested habitats within the Scotch Creek Wildlife Area complex to improve mule deer habitat quality. We are currently working on a plan to implement a stand improvement timber sale on about 700 acres of Ponderosa pine forest on Pogue Mountain. This includes salvage logging on about 400 acres that burned in the summer of 2008. The objective is to advance the Ponderosa pine stands to a late seral stage by removing dense stands of young growth pine and increase spacing, and to avoid another stand replacing wildfire. By opening up the forest floor we will promote herbaceous growth and browse species for mule deer food and cover. A tractor mounted wood chipper may be used to thin pole thickets of young Ponderosa pine. May also include slash piling and burning in inaccessible or steep slopes.

Biological objective 4: Implement management activities and schedules

Work element 4.1: Expand and maintain nest boxes.

Methods: Western and mountain bluebirds occupy the grasslands of all Scotch Creek Units. They depend on the primary excavators to create cavities for next building. Fewer natural nest sites are now available because of changing land use and those natural sites being occupied by two aggressive introduced species, the house sparrow and the European starling. Bluebird nest boxes currently in use will be cleaned out of old nest material annually to reduce nest parasites like mites and blowflies. This practice also keeps the level of the nest and young out of the reach of potential nest predators.

Work element 4.2: Equipment/vehicle maintenance and/or replacement.

Methods: To efficiently access and perform habitat enhancement activities, the equipment and vehicles need to be adequately maintained. This includes scheduled fluids changed, chassis lubricated, and worn parts replaced. Vehicles need replaced after reaching expected lifespan to reduce annual maintenance costs. One ½ ton pickup was replaced in 2009.

Work element 4.3: Maintain Informational signs and reader boards.

Methods: Signs are posted to inform users of property boundaries, regulatory items including sharp-tailed grouse hunting closure and vehicle restrictions on road use. Reader boards inform the public about resource needs, the reason for purchase and biological information on sharp-tail grouse biology. These signs and structures need attention and replaced when faded or damaged.

Work element 4.4: Community Outreach.

Methods: Meetings with the SCWA Citizens Advisory Group are held at least annually to inform the public of department activities and report on the progress of the project. Additional meetings are requested with community groups, sportsmen's clubs, and the county weed control board. It is important to include the public and solicit comments when planning activities.

Work element 4.5: Assess Habitat Conditions.

Methods: Photo points and vegetation data collection sites will be established and mapped for each unit. Staff will assess seeding and planting survival success of all enhancement efforts, and collect nested frequency and cover data on key plant species and exotic vegetation. Monitoring and evaluation protocol is being developed for all the wildlife mitigation areas (see M&E section).

Work element 4.6: Administrative duties and professional development.

Methods: Administrative duties are critical to keeping the project on course and meeting timelines. Procurement, budgeting, supervising, planning, monitoring, and reporting are essential for success of the project. Increased knowledge of staff is important through seminars and training for adapting to new techniques and research.

Work element 4.7: Monitor Recreational Use.

Methods: Interview hunters as they exit the area to determine hunter success. It is important to contact as many upland bird hunters as possible before they head into the field to warn them of the closed season for sharp-tailed grouse. Incidental takes while pursuing legal game is a concern of the WDFW. Record all recreational use, including non-hunter use of the area.

Work element 4.8: Maintain Infrastructure.

Methods: Maintain all buildings, wells, fences and gates, spring developments and other infrastructure to safely operate and manage the wildlife area. Well-maintained infrastructure will prolong the life of all structures. Also as soon as conditions allow in the spring, we will survey the entire boundary fence on all units of the wildlife area (60 miles) and repair to prevent trespass livestock use on the area.

Work element 4.9: Maintain existing project roads/parking areas across all units.

Methods: Continued maintenance of graveled road surfaces on the project area with grading, adding gravel and shaping drainage ditches and water bars where needed.

Parking area maintenance includes signs, and fence repair, litter pickup, and grading when necessary.

Biological objective 5: Produce Inventory or Assessment.

Work element 5.1: Assess Habitat Conditions.

Methods: Photo points and vegetation data collection sites will be established and mapped for each enhancement project. Pre and Post data will be collected and photos will be taken. Staff will collect nested frequency and cover data on key plant species and exotic vegetation, and assess seeding and planting survival success of all enhancement efforts.

Work element 5.2: Produce annual update to Wildlife Area Management Plan

Methods: Each winter, an annual update will be prepared and presented at the annual CAG meeting, as well as posted on-line. This is an example of the 2010 annual update.

Monitoring and Evaluation

The Washington Department of Fish and Wildlife strives to manage its wildlife areas to protect and provide habitat to achieve healthy and diverse fish and wildlife populations, and provide compatible recreational opportunities. Effective management of fish and wildlife, and habitats upon which they depend, requires an adaptive approach. The Northwest Power Planning Council has stated, “Management actions must be taken in an adaptive, experimental manner because ecosystems are inherently variable and highly complex. This includes using experimental designs and techniques as part of management actions, and integrating monitoring and research with those management actions to evaluate their effects on the ecosystem.” Monitoring and evaluation are critical in this process because they provide the information necessary to evaluate management activities in the past and to improve management activities in the future.

Because of the large number of wildlife areas and expansive acreage managed by the WDFW, monitoring of habitat will take place on a 5-year rotation, except for reference sites, which will be monitored annually. Breeding bird surveys will be conducted during the same year habitat data is collected, and likely annually, at least until annual variance in numbers is assessed. Small mammal surveys will be conducted every five years, using techniques that have already been established (West et al. 2007). Although surveys of reptiles and amphibians are also possible, our experience so far has been that observations of reptiles are relatively infrequent, and therefore difficult to quantify. Consistency of data collection will be improved by having the same individuals collect data on multiple wildlife areas within a year.

Preliminary surveys have been conducted on many of the wildlife areas enabling a brief assessment of data collected to this point. Not all wildlife areas have been surveyed at this stage, primarily because of the time and money required to initiate surveys. In addition, other techniques have been used that are species-specific, such as surveys of traditional display grounds (leks) of sharp-tailed grouse and greater sage-grouse, aerial surveys of ungulates, counts of pellets, and other miscellaneous surveys (Schroeder et al. 2008). Although these techniques are different than standard breeding bird point counts, they are still standard and well-referenced in scientific literature. A substantial portion of the data has been summarized, including an examination of long-term trends (Schroeder et al. 2008). Habitat data is

generally available only for HEP transects at this stage. Future data analyses will focus on comparison of treatment sites with reference sites and with the probabilistic Jaccard (Chao 2004) as a way of measuring species similarity between sites. The specific list of tasks includes the following:

1. Conduct habitat/wildlife surveys on systematic basis.
2. Monitor habitat/wildlife response due to burns.
3. Monitor habitat/wildlife response to specific restoration efforts.
4. Monitor infestations and treatments of noxious weeds.
5. Compile habitat/wildlife data in databases for subsequent storage and analysis.
6. Analyze habitat – wildlife relationships in reference to management targets.
7. Re-evaluate management direction in terms of updated species-habitat evaluations (adaptive management).

Funding Strategy:

The Scotch Creek Wildlife Area is funded primarily through the BPA mitigation program. The 2009 contract is #39276, and the project is #1996-094-01.

Cost share is provided by WDFW through game surveys, science division expertise, engineering and construction shop help and advice, RMAP compliance, and periodic capital projects.

Grant opportunities are also pursued. For the past three years we have secured habitat money in the Wildlife Habitat Incentives Program (WHIP) to restore shrub-steppe and riparian habitats. RCO grants received include the Scotch Creek Coulee Creek trail project scheduled for 2009, and in 2010 another RCO grant was received to thin overstocked stands of conifers, to promote forest health on Pogue Mountain.

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Want to see the full plan?

Go to -
http://wdfw.wa.gov/lands/wildlife_areas/management_plans/index.htm

