

Hunt Plan

TURNBULL NATIONAL WILDLIFE REFUGE SPOKANE COUNTY, WASHINGTON

For further information, Contact:
Project Leader
U.S. Fish and Wildlife Service
Inland Northwest Refuge Complex
26010 S. Smith Road
Cheney, Washington 99004

Prepared by:
U.S. Fish and Wildlife Service
Refuge Manager
Turnbull National Wildlife Refuge
Cheney, Washington
January 2009

Submitted By:
Project Leader

Lisa Langellin
Signature

1/9/09
Date

Concurrence:

Regional Refuge
Biologist

Fred Pughis
Signature

1/24/09
Date

Division Chief
Natural and Cultural
Resources

Don Kamin
Signature

1/22/09
Date

Refuge
Supervisor

Loretta W. Combs
Signature

1/27/09
Date

Division Chief
Office of Refuge
Law Enforcement

Jon Tracy
Signature

1/27/09
Date

Approved:

Regional Chief,
National Wildlife
Refuge System

Carolyn L. Boker
Signature

1/27/09
Date

Turnbull National Wildlife Refuge Hunt Plan

Table of Contents

I. Introduction

II. Conformance with Statutory Authorities

III. Statement of Refuge Objectives

1. Refuge Objectives Pertinent to the Hunt Program

IV. Assessment

A. Are wildlife populations present in numbers sufficient to sustain optimum population levels for priority refuge objectives other than hunting?

1. Status of Rocky Mountain Elk
2. Status of Waterfowl (Coots, Ducks, Geese)

B. Is there competition for habitat between target species and other wildlife?

C. Are there unacceptable levels of predation by target species on other wildlife forms?

V. Description of Hunting Program

- A. Areas of the refuge that support populations of the target species
- B. Areas to be opened to the public by permit
- C. Species to be taken and hunting periods
 - (1) Elk
 - (2) Waterfowl (geese, ducks, coots)
- D. Justification for permit
- E. Procedures for consultation and coordination with WFWD
- F. Methods of control and enforcement
- G. Funding and staffing requirements for the hunt

VI. Measures Taken to Avoid Conflicts with Other Management Objectives

- A. Biological Conflicts
 1. Threatened and Endangered Species
 2. Other Wildlife & Habitats
- B. Public Use Conflicts
- C. Administrative Conflicts

VII. Conduct of the Hunting Program

- A. Refuge-specific Hunting Regulations
 1. Regulations Common to All Species
 2. Elk Regulations
 3. Migratory Waterfowl Regulations
- B. Anticipated Public Reaction to the Hunt

1. Results of Scoping for CCP/EA
 2. Comments Received during CCP/EA Public Comment Period
 3. Comments Solicited and Received During the Hunt Plan/EA Comment Period
- C. Hunter application and registration procedures
 - D. Description of hunter selection process
 - E. Media selection for announcing and publicizing the hunt
 - F. Description of hunter orientation, including pre-hunt scouting
 - G. Hunter requirements
 1. Age
 2. Allowable equipment (dogs, vehicles, blinds, sporting arms, ammunition)
 3. Use of open fires
 4. License and permits
 5. Reporting harvest
 6. Hunter training and safety

Turnbull National Wildlife Refuge Hunt Plan

I. Introduction

Although archeological evidence suggests that elk may have been fairly widespread in eastern Washington, elk appear to have been eliminated by the time of Euro-American settlement. Elk reintroductions in the early 1900s resulted in expanding herds throughout much of the forested portions of eastern Washington. Elk were first observed on Turnbull Refuge in the late 1950s. It wasn't until the mid 1980's though that a herd established itself in the area. In the twenty plus years since elk were first reestablished in this area the herd has grown annually. A survey conducted in 2008 found over 300 elk on and in the vicinity of the refuge. The refuge has become disproportionately important to the elk as security cover during the fall hunting season. As a result there has been the negative impact of heavy browsing of young aspen and other deciduous shrubs and trees on the refuge. Refuge neighbors have complained of elk damage to their hay, other agricultural crops, fences and ornamental shrubs. Hunting is one of the six priority refuge public uses identified in the National Wildlife Refuge System Improvement Act (NWRISA) of 1997. Because of these reasons plus interest from Washington Department of Fish and Wildlife and other hunting advocates refuge staff decided to propose a special permit elk hunt in the Turnbull NWR Comprehensive Conservation Plan (CCP). A youth waterfowl hunt was also proposed.

The benefits of an annual, limited-entry hunt for elk include providing recreation, population management of the elk sub-herd that uses the refuge, and reduced impacts by elk on aspen and associated shrubs. All of these benefits are consistent with the Refuge Vision and Goals. In addition, an annual limited entry hunt contributes to the Washington Department of Fish and Wildlife goal for the Hangman Creek sub-herd of the Selkirk elk population, i.e. "Maintain elk numbers that are compatible with local agriculture and suburban expansion."

Hunting, along with other priority public uses of the Refuge System, will also be considered on any newly acquired lands.

About the Refuge

Turnbull National Wildlife Refuge is located on the eastern edge of the Columbia Basin in the Channeled Scablands region of Spokane County in eastern Washington. The Refuge is located within a globally unique geological area known as the Channeled Scablands, created by massive scouring from Ice Age floods 15,000 years ago. An extensive complex of deep permanent sloughs, semi-permanent potholes and seasonal wetlands formed in the depressions left in the scoured landscape, while soils only centimeters thick on upland sites, support primarily ponderosa pine intermixed with grasslands (steppe) and exposed basalt cliffs. Aspen is scattered throughout the area. The juxtaposition of all these contrasting habitats in such close proximity is unique to the Channeled Scablands and creates conditions of exceptional wildlife and plant diversity.

Prior to settlement, ducks, geese, and other water birds nested in the area in large numbers. Many waterfowl also used the productive marshes and lakes during the spring and fall migrations. Because of its unique resources, this area was also important to local indigenous cultures. The Northern Plateau peoples frequented this vicinity in spring to dig the roots of camas, bitterroot, wild onion and numerous species of lomatium, and to gather waterfowl eggs. Pioneers arrived in the late 1800s and rapidly began altering the landscape. Many of the marshes were drained to expand crop areas for hay. By the late 1920s few wetlands remained; instead a network of drainage ditches became a common landscape feature. In addition, as in most developing communities, timber was harvested, native plant communities were grazed by livestock, exotic plants were introduced, and fire, a natural part of the ecosystem, was suppressed. The wildlife values of the area would have been seriously compromised if it had not been for the failure of the drained lakebeds to produce crops.

The Refuge was established by President Franklin D. Roosevelt in 1937, through Executive Order 7681, as a refuge and breeding ground for migratory birds and other wildlife. Local activists, sportsmen, and naturalists were instrumental in obtaining the area's designation as a National Wildlife Refuge. The Refuge was named after early settler Cyrus Turnbull, who built a cabin on the north end of Turnbull Slough and lived there with his wife and children from 1880 to 1886.

The goals of the Turnbull National Wildlife Refuge are:

- 1 Contribute to protection of local watersheds so as to maintain adequate water quality and quantity for native Refuge wetland species.
- 2 Provide habitat conditions essential to the conservation of birds and other wildlife within a variety of wetland complexes.
- 3 Restore Refuge aspen and ponderosa forest to a natural distribution of stand structural and successional stages to benefit forest-dependent wildlife.
- 4 Protect and restore the natural distribution and diversity of grassland and shrub steppe habitats to benefit wildlife.
- 5 Support the conservation of threatened and endangered species in their natural ecosystems.
- 6 Support the maintenance of biologically effective landscape linkages and

corridors between the Refuge and other intact areas of vegetation zones representative of this ecoregion.

- 7 Foster appreciation of and support for the Refuge and the Channeled Scablands ecosystem through quality environmental education, interpretation, wildlife-dependent recreation, and outreach compatible with the Refuge purposes and mission.
- 8 Encourage and support research that substantially contributes to our understanding of the Channeled Scablands ecosystem.

II. Conformance with Statutory Authorities

Any use of the Refuge must be compatible with resource protection and conform to applicable laws, regulations and Fish and Wildlife Service (FWS) policies. Recreational use, in this case hunting, is allowed under the Refuge Recreation Act of 1962 (16 U.S.C. 460K, amended), which authorizes the Secretary of the Interior to administer refuges, hatcheries and other conservation areas for recreational use.

The Refuge Recreation Act requires that:

- 1) Any recreational use permitted will not interfere with the primary purpose for which the refuge was established; and
- 2) Funds are available for the development, operation and maintenance of the permitted forms of recreation.

Likewise, statutory authority for FWS management and associated habitat/wildlife management planning on units of the National Wildlife Refuge System (NWRS) is derived from the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 U.S.C. 668dd-668ee). The National Wildlife Refuge System Improvement Act (NWRISA) provided a mission for the NWRS and clear standards for its management, use, planning and growth. The National Wildlife Refuge Improvement Act recognizes that wildlife-dependent recreational uses - including hunting, fishing, wildlife observation and photography, and environmental education and interpretation, when determined to be compatible with the mission of the NWRS and the purposes of the refuge—are legitimate and appropriate public uses of national wildlife refuges. Sections 5(c) and (d) of the National Wildlife Refuge Improvement Act states “compatible wildlife-dependent recreational uses are the priority general public uses of the NWRS and shall receive priority consideration in planning and management; and when the Secretary [of the Interior] determines that a proposed wildlife-dependent recreational use is a compatible use within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable, and appropriate.” The term compatible use is defined as a wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the Director, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge. The U.S Fish and Wildlife Service’s Final Compatibility Policy Pursuant to the Act delegates the responsibility of determining compatibility to the Refuge Manager with concurrence by the Refuge Supervisor. See Appendix A for the Refuge Manager’s Compatibility Determinations in regards to elk and waterfowl hunting on Turnbull NWR.

The purposes for which Turnbull National Wildlife Refuge was established are as follows:

- 1 “...as a refuge and breeding ground for migratory birds and other wildlife...” (Executive Order 7681, dated July 30, 1937)
- 2 “...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” (16 U.S.C. 715d Migratory Bird Conservation Act)
- 3 “...suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species...” (16 U.S.C. 460k-1) and “...the Secretary...may accept and use...real... property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors...” (16 U.S.C. 460k-2 and Refuge Recreation Act 16 U.S.C. 460k-460k-4, as amended).
- 4 “...for the development, advancement, management, conservation, and protection of fish and wildlife resources...” (16 U.S.C. 742f(a)(4)) “...for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude...” (16 U.S.C. 742f(b)(1) Fish and Wildlife Act of 1956).

III. Statement of Refuge Objectives

The Refuge completed a comprehensive conservation plan (CCP) in 2007 (U.S. Fish and Wildlife Service, March 2007). The Turnbull National Wildlife Refuge Comprehensive Conservation Plan outlines goals, objectives, and implementation strategies. In the CCP the FWS proposed opening the Refuge to limited permit elk hunting and a 2-day youth waterfowl hunt. Compatibility Determinations (Appendix A) were completed for both hunts.

For a complete review of all Refuge management goals and objectives, as well as the environmental assessment (EA), see <http://pacific.fws.gov/planning> for Turnbull’s Final Comprehensive Conservation Plan. This hunt plan is considered a “step-down” management plan of the 2007 CCP.

1. Refuge Objectives Pertinent to Hunt Programs

The hunting program would be conducted to meet refuge objectives for providing hunting opportunities, managing target species and assisting the WDFW with achieving and maintaining State game population objectives. The FWS believes these objectives will maintain healthy game populations at levels that will protect the native fish, wildlife, plants and habitats identified in the Turnbull NWR CCP, thereby maintaining the biological integrity, diversity and environmental health of the Refuge. This hunting program also supports the mandate of the National Wildlife Refuge System Improvement Act that refuges provide for priority public uses, including hunting, where compatible. Compatibility determinations are available for review. The objectives of the hunt are:

- 1 Initiate a safe, limited entry (6-8 hunting sites), high quality, low-impact permit youth waterfowl hunt on Upper Turnbull Slough (for 6-16 youths) during the annual State youth hunt weekend in September. Emphasize education, offering a waterfowl identification or natural history class for youths participating in the hunt.
- 2 In cooperation with the State, undertake actions to reduce elk damage to Refuge habitats. In particular, ensure that damage to Refuge aspen groves does not exceed levels above which aspen stands cannot be regenerated or sustained.
- 3 In cooperation with the State, initiate an annual, safe, high quality, walk-in, limited-entry permit elk hunting program in specified portions of the Refuge. Establish annually the number of permits that will be allowed based on habitat response to reduced numbers of elk.

IV. Assessment

The Hunt Plan is consistent with the purposes of the Refuge and sound wildlife management principals. The hunt will implement user and administrative stipulations specified in the Elk Hunting Compatibility Determination. After five years the elk hunting and youth waterfowl hunting program will be thoroughly evaluated to determine if the refuge is meeting its objectives. If there have been no unacceptable impacts to other wildlife populations or to other public use programs, the hunting programs would be continued. At that time the FWS will also consider adding additional hunting areas if appropriate including any newly acquired refuge lands that might support hunting activity. Any reductions in or other changes to the hunt program would be made after that evaluation as well.

A. Are wildlife populations present in numbers sufficient to sustain optimum population levels for priority refuge objectives other than hunting?

Hunting programs need to be based on healthy, sustainable populations of the species hunted. On the Refuge, only Rocky Mountain elk and coots, ducks, and geese will be hunted. A decision to hunt wild turkey could be made in the future following additional research on turkey ecology and better estimates of population size and trends. No recreational or commercial trapping is allowed on the Refuge.

1. Status of Rocky Mountain Elk on the Refuge

Rocky Mountain elk were first observed on the Refuge in the late 1950's. Although increasing numbers were observed on the Refuge and in most of southern Spokane County since their first appearance, dramatic increases did not occur until the mid 1980's. By the late 1980's, the elk population in the Refuge vicinity was estimated at between 60 to 80 animals, based primarily on incidental observations. As the elk population grew in size so did interest in its management. In 1993, the elk of southern Spokane County were designated the Hangman Creek sub-herd by the Washington Department of Fish and Wildlife and managed as part of the Selkirk herd of northeastern Washington.

The first aerial survey of the Hangman Creek sub-herd population was conducted during the spring of 1993. It was a mark-recapture survey using the paintball method. The population size was estimated at 271-384 (95 percent confidence interval) with 60 elk observed on the Refuge. Additional aerial surveys were conducted in ensuing years. These surveys indicated a growing population with high productivity. During an aerial survey conducted by the State in 1997, 93 elk were observed on the Refuge and the estimated population for the sub-herd was between 115 and 219 animals (95 percent confidence interval). This population decrease for the entire sub-herd is likely the result of the any-bull strategy and offering either-sex and antlerless hunts with extended seasons for muzzle loaders and Master Hunters. The most current survey data from 2008 found 327 elk on or near the Refuge (Ferguson 2008).

Table 1. Total Elk observed from aerial surveys at and around Turnbull NWR.

Year	Total	Cows	Calves	Spikes	Rag horns	Adult	
						Male	Unclassified
2004	354	211	106	22	11	3	0
2006	369	207	113	26	12	11	0
2007*	268	140	78	26	13	11	0
2008	327	145	121	31	12	18	0

* Approximately 100 elk were observed south of the refuge during this survey.

Table 2. Composition counts and bull: cow: calf ratios from aerial surveys at and around Turnbull NWR.

Year	Bulls	Cows	Calves	Ratio: 100 Cows		
				Bulls:	Cows	:Calves
2004	36	211	106	17	100	50
2006	49	207	113	24	100	55
2007	50	140	78	36	100	56
2008	61	145	121	42	100	83

This growing elk population is adequate to provide high quality hunting opportunities while maintaining elk on the refuge for other priority public uses. Opportunities for wildlife viewing and photography may actually increase as a result of elk being pushed out of the hunting area into adjacent refuge areas closed to hunting.

2. Status of Waterfowl (Ducks, Geese and Coots)

There is relatively low use of the Refuge and vicinity by waterfowl in the fall. Fall waterfowl populations on the Refuge are fairly irregular as a result of periodic drought and early freeze up that limits the availability of open water. In addition, waterfowl numbers are considerably lower than occurred in this area historically. This is a result of the extensive drainage of many of the permanent and semi-permanent wetlands (70% of historic wetlands in the area have been drained) as well as the development of irrigated agriculture in the arid steppe of Columbia Basin

to the west made possible by Coulee Dam (Columbia Basin Irrigation Project). These changes have shifted much of the fall migration to the farm fields, reservoirs and wasteways of the lower basin. Species that have been observed on the Refuge in September include Canada geese, mallard, pintail, American wigeon, gadwall, green-winged teal, ruddy duck, wood duck, bufflehead, redhead and American coot.

When wetland and weather conditions result in good fall migration habitat, a portion of the southern migration still utilizes the restored wetlands of the Refuge and un-drained deeper water habitats in the refuge vicinity. Refuge waterfowl counts indicate that numbers peak in mid-October in most years. During these good years, peak mallard counts range from 10,000 to 25,000 birds in late October and represent 75% of the fall waterfowl populations. Other duck species peak earlier in October. By mid to late November, Refuge wetlands normally freeze resulting in a forced emigration of most waterfowl with the exception of smaller populations of goldeneye, Canada geese and a few hardy mallards. This relatively narrow window of habitat availability limits waterfowl hunting opportunities in this area.

This population size is adequate to provide opportunities for hunter success during a 2-day youth hunt in late September while maintaining adequate numbers of waterfowl to meet other public use objectives.

B. Is there competition for habitat between target species and other wildlife?

Elk

Research by WDFW and Eastern Washington University indicated that the Refuge is important to the local elk population as a security zone. As a result, there has been heavy browsing of young aspen and other deciduous shrubs and trees on the Refuge. In addition, several neighbors have complained of elk damage to their hay, other agricultural crops, fences, and ornamental shrubs since the early 1990s and feel that the Refuge should take a more active role in limiting elk numbers. Since 1992, two claims have been paid by the State for elk damage to agricultural crops. Complaints have declined since 1999 after several local landowners began leasing their lands for hunting.

Aspen stands typically regenerate themselves after disturbance by producing new shoots called suckers. A high level of elk browse on an aspen stand can ultimately impede the stand's capacity to regenerate and grow into a mature stand. Current literature was reviewed to investigate the issue of how much elk use on aspen is sustainable or in other words, does not impede a stand's regeneration and capacity to grow into a mature stand. A set of management recommendations for regenerating aspen stands, published by Bates et al. (2002) indicates that 4000-5000 well-spaced suckers per acre at age two is adequate for regenerating the stand, though a higher number of suckers per acre is desirable for unexpected losses from disease or injury. Other authors, including Debyle (1985) and Campbell et al. (2001) have recommended retaining at least 500 stems per acre at year 6 or when the aspen clone is approximately 2.5 meters tall. The Refuge maintains twelve study plots in aspen habitat. Albrecht (2003) investigated aspen regeneration under variable elk use on the Refuge and discovered that aspen in areas where elk concentrate are much more intensively browsed. Specifically, he discovered that in areas

categorized as "low-use" by elk, less than 20% of the stems less than 2.5 meters tall received moderate to high intensity browsing. This appeared to be an acceptable level since these stands were showing recruitment of an adequate number of stems per acre. Management that reduces elk densities during the winter by either removal or redistribution can decrease browsing intensity enough to allow aspen escapement and height growth beyond the reach of elk. Hunting can be an effective elk population management strategy. Currently there are limited public elk hunting opportunities in the Refuge vicinity.

Strategies to reduce elk browse damage on refuge aspen communities include identifying a sound indicator for measuring the damage to aspen habitats. Refuge staff will investigate use of percent of current annual growth (CAG) browsed or percent of twigs browsed, using the findings of Albrecht's study (2003) as a baseline. Aspen habitats will be monitored annually using established indicators. Refuge staff will also continue discussions with Washington Department of Fish and Wildlife to share elk information, including herd population estimates, reports of on-refuge and off-refuge damage, and viable methods for reducing elk numbers. Although hunting is our preferred method to reduce elk populations, if hunting is unsuccessful in achieving refuge habitat objectives, a variety of tools could be considered to reduce elk population numbers or damage, including relocation, implant of reproduction inhibiting chemicals, working with private landowners, and other methods. Refuge staff will work with WFWD to monitor and track seasonal shifts in elk populations and distribution on Refuge and will encourage Eastern Washington University to continue supporting Master's level theses dealing with elk/aspen interactions.

By reducing elk damage to refuge aspen habitats and the consequent restoration of healthy stands of aspen other refuge wildlife species such as ruffed grouse and migratory songbirds utilizing this habitat will benefit. Aspen habitats on the refuge provide important foraging and nesting habitat for at least 65 neo-tropical migrant bird species, white tail deer and bats. Aspen is the second most preferred roosting habitat for big brown bats, and important foraging habitat for all bat species that utilize the refuge.

The hunt level will be tied to aspen damage rather than population levels for four reasons: 1) the relationship between aspen damage and elk use on Turnbull NWR has been documented by a recent study by Albrecht (2003); 2) a specific population objective for the Hangman sub-herd has not been defined; 3) the Refuge land area that could accommodate hunting is too small to make a major impact on the sub-herd populations through hunting alone and 4) elk move off and on the Refuge easily and population counts are inherently subject to variation and potentially inaccurate conclusions.

Waterfowl

The limiting factor is not so much competition with other wildlife species but the amount of fall waterfowl habitat available in the area of Turnbull Refuge. Within the upper reaches of the Channeled Scablands where the Refuge is located, fall waterfowl habitat is very limited due to extensive drainage of the large, historically permanent wetland sloughs in the early 1900s. Over 70 percent of the wetlands in this area have been drained. The remaining fall habitat occurs on the Refuge and on several deepwater lakes in the vicinity of the Refuge. These off-Refuge lakes receive intense pressure from the recreating public, primarily anglers, but also from a few