

# CHAPTER 2

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## Alternatives, Goals, Objectives and Strategies



*Elk cow and calf. Photograph by Nancy J. Curry*

## 2.1 ALTERNATIVES

### 2.1.1 CONSIDERATIONS IN THE DESIGN OF ALTERNATIVES

In drafting the alternatives for this long term conservation plan, the Service reviewed and considered a variety of resource, social, economic, and political aspects important for managing the Refuge. These background conditions are described more fully in Chapter 3. As is appropriate for a National Wildlife Refuge, resource considerations were fundamental in designing alternatives. Aquatic species at Turnbull depend on water, so careful consideration was allotted to hydrology, especially the delineations of watersheds providing surface water to the Refuge. After planning began and several members of the public mentioned water quality as an issue, the Service commissioned a water quality study to provide information on current stream water quality parameters. In addition, the team consulted groundwater specialists, to estimate groundwater movements, and the team identified a groundwater "area of influence" - i.e. an area within which groundwater withdrawals, recharges, and/or contamination would be most likely to affect Refuge wetlands.

The planning team utilized aerial photo interpretation to map and rate the quality of all of the terrestrial habitat within the Study Area. The team utilized National Wetlands Inventory data to locate all Study Area wetlands and identified each wetland as drained or undrained. The team considered the potential for wetland restoration especially with regard to wetlands crossing multiple property ownerships. The team considered habitat connectivity and areas inhabited by threatened and endangered species. The team also consulted with Washington Department of Fish and Wildlife to get the latest information on elk herd sizes and locations frequented by elk within the area. The team reviewed scientific reports and studies to better understand ecosystem trends and the latest

scientific recommendations for species and habitats.

The team reviewed State reports on outdoor recreation trends and catalogued nearby recreation opportunities. The team used surveys, meeting questionnaires, and comments to try to determine the kinds of experiences desired by Refuge visitors.

The Service met with local, State, and federal agency staffs and elected officials to ascertain priorities and problems as perceived by others. Refuge staff met with neighbors, Refuge users, non-profit groups, and community organizations to ensure that their comments and ideas were considered during CCP development.

Finally, the planning team held a workshop attended by approximately three dozen local citizens to review our preliminary alternatives. Based on the input received at that workshop and further internal review, the Service refined the CCP alternatives to the four presented below.

### 2.1.2 ALTERNATIVES CONSIDERED BUT NOT DEVELOPED

The planning team considered the possibility of creating a Wetlands Management District within the full extent of the Channeled Scablands. Such districts occur in other regions similarly rich in wetlands, such as the Prairie Potholes region in the northern prairie states or the Central Valley in California. However, the team felt that establishing a Wetlands Management District in the Channeled Scablands region is outside the scope of the Turnbull NWR CCP. The team recommends, however, that the Service consider this idea in some depth at a regional level in the future.

The planning team considered the possibility of offering a white-tailed deer hunt. Deer are present on the Refuge and in the surrounding area. White-tailed deer populations are

periodically reduced by a virus which causes Epizootic Hemorrhagic Disease (EHD), also known as blue-tongue. The disease is transmitted by biting gnats and usually occurs in the driest part of the year when animals are congregated at watering holes. The disease does not appear to be density-dependent, meaning that major outbreaks can occur, sharply reducing the deer population regardless of the number of the deer in any particular area. All ages appear to be affected. The result is generally an unpredictable supply of deer and low numbers in most years. For these reasons, the planning team did not include a white-tailed deer hunt in any alternatives.

**2.1.3 ALTERNATIVE DESCRIPTIONS**

*Features Common to all Alternatives*

All alternatives contain some common features. These are presented below to reduce the length and redundancy of the individual alternative descriptions.

- *Implementation Subject to Funding Availability*

**Actions will be implemented over a period of 15 years as funding becomes available. Implementation priorities are designated in Appendix F.**

Under each alternative, actions will be implemented over a period of 15 years as funding becomes available. Project priorities are designated in Appendix F, Implementation.

- *On-Refuge Habitat and Fire Management*

Habitat management actions will continue to be guided by the direction set forth in the Refuge Habitat Management Plan (USDI 1999). This

plan was analyzed and publicly reviewed under an Environmental Assessment released in 1999. Fire management was similarly analyzed and a Fire Management Plan was finalized in 2001.

- *Inholdings*

The Fish and Wildlife Service will continue to seek ways for acquiring interest in private lands within the existing Approved Refuge Boundary, from willing landowners. This interest could be secured through management, easements, exchange or purchase of the approximately 5,171 acres of inholdings (this includes lease and agreement lands) within the boundary. Outside the Approved Refuge Boundary, small acquisitions from willing sellers may be completed consistent with national policy.

- *Leases*

The Refuge will continue to maintain mutually agreed upon leases on 2,018 acres of lands within the Approved Refuge Boundary. Under these leases, two adjacent landowners agree to prevent hunting from occurring on their property. Another area is managed under a year to year agreement for the same purpose. The leased properties are fenced and carry Refuge signs. These leases were set up to protect waterfowl and to minimize public safety concerns adjacent to the Refuge’s Public Use Area. The leases do not incur a cost to the U.S. government.

- *Easements*

The Service manages two conservation easements: Wildrose in northern Spokane County, and RD Smith in Whitman County. Both areas contain riparian habitat that is managed to exclude livestock.

- *Maintenance of Existing Research Natural Areas (RNA)*

Two existing Service designated Research Natural Areas (RNAs) on the Refuge will be maintained and restored for the values for which they were established in 1966. In practice, this means that they will be managed similarly to other Refuge habitats as described in the Refuge Habitat Management Plan. Research activities may occur within the RNAs, but will not be confined to these areas.

Active management within both RNAs will continue with the objective of returning both RNAs to a more natural stand condition. After an initial thinning, Pine Creek RNA will be maintained with regular underburning. Turnbull Pines will be managed as a control area until the completion of all other uplands habitat management units, and then it may be restored in the same manner as other forested areas of the Refuge.

- *Tribal Coordination*

Increased regular communication with Native American Tribes who have an interest in the Refuge will be common to all alternatives. The Spokane Tribe, Coeur d'Alene Tribe, Kalispel Tribe, and the Confederated Tribes of the Colville Reservation are four local Tribal groups the Service will work with regarding issues of shared interest. Currently, the Service allows Tribal members to gather roots and tubers in appropriate locations on the Refuge and seeks their assistance in interpreting traditional Native American lifeways as part of the Refuge's environmental education program.

- *State Coordination*

Similarly, under all alternatives, the Service will continue to maintain regular discussions with the Washington Department of Fish and Wildlife. Key topics of discussion will be

coordination on elk management strategies and law enforcement.

- *Volunteer Opportunities and Partnerships*

Volunteer opportunities and partnerships occur in all alternatives. These are recognized as key components of the successful management of public lands and vital to implementation of Refuge programs, plans, and projects.

- *Refuge Revenue Sharing Payment*

Annual payments to Spokane County will continue according to the established formula and subject to payments authorized by Congress. The total payment made to Spokane County in 2002 was \$53,185. If lands are acquired and added to the Refuge, the Service's annual payment will increase accordingly.

- *Firewood Cutting by Permit*

The firewood cutting permit system remains the same under all alternatives. The number of permits issued, cords allowed, and locations will vary from year to year based on slash produced by forest management practices.

- *Maintenance and Updating of Existing Facilities*

Periodic maintenance and updating of Refuge buildings and facilities will be necessary regardless of the alternative selected. Periodic updating of facilities is necessary for safety and accessibility and to support staff and management needs.

- *Protection and Management of Cultural Resources*

The Service will continue to uphold federal laws protecting cultural resources, including the National Historic Preservation Act (NHPA), Archeological Resources Protection Act, and

Native American Graves Protection and Repatriation Act. These laws also require consultation with Native American tribes, the State Historic Preservation Office, and other preservation partners. The NHPA requires all projects that use federal funding, permitting, or licensing to be reviewed by a cultural resource professional to determine if there is the potential to affect cultural resources. If needed, an inventory must be conducted and appropriate actions to mitigate effects must be identified, prior to implementation of the project. A site specific determination is needed for all of the HMP, FMP and CCP projects including:

- new or expanded Refuge management and public use facilities and activities
- elk management actions
- federal easements, cooperative agreements, and other stewardship projects off the Refuge.

- *Management of Minor Recreational Uses*

Minor recreational activities are occasionally pursued on the Refuge. Other recreational activities not specifically addressed in this document may be allowed on Refuge lands if the Refuge Manager finds they do not conflict with wildlife or habitat objectives.

### ***Alternative 1 - No Action Alternative***

This alternative, required by the National Environmental Policy Act, is the no action alternative, and provides a baseline for which to compare the action alternatives (Alternatives 2, 3, and 4). This alternative would continue Refuge management practices already underway or funded. No significant changes would be initiated by the Service. A detailed description of current Refuge management programs is found in the Affected Environment section of this EA (Chapter 3). In brief, a low to moderate level of recreational services and activities would be provided. An active Environmental Education program would continue, but could fluctuate without a stable staff base. Most

casual Refuge users would find short trails with little or no interpretive material. No visitor contact center would be built. Hunting programs would not be initiated

Habitat and fire management practices on the Refuge would continue as described under the Habitat Management Plan and the Fire Management Plan.

The Service would actively encourage stewardship practices of adjacent Refuge neighbors within a 21,396-acre Stewardship Area as outlined in the Habitat Management Plan. The intent of the Stewardship Area would be to encourage voluntary conservation and restoration of habitats with the goal of providing mutual benefit to local aquatic resources and upland habitats. However, no additional staff for stewardship or outreach would be added. The Approved Refuge Boundary would remain the same.

Other than routine maintenance, no further work is anticipated for public access roads. However, should there be an unanticipated change in visitation or other reason for reconfiguring road designs, a future Refuge road project may be programmed to address the situation.

### ***Alternative 2 - Moderate Recreation Increase***

This alternative focuses on the non-consumptive, wildlife dependent recreational uses that have traditionally occurred at Turnbull NWR. The Environmental Education program would be moderately expanded, and additional opportunities for wildlife observation, photography, and interpretation would be available. An additional four miles of trail would be made available to the public and most viewpoints would be supported with interpretive signs. A small visitor contact point would be added to the current office space. The EE program facilities would be enlarged at their current location.

The Refuge would offer elk hunting annually, contingent upon approval of a Hunting Plan and publishing rules in the Federal Register. Hunting season length, number of permits, and/or seasons offered would vary according to the level of aspen damage by elk observed on the Refuge each year. The elk hunt would be managed as a high quality, limited entry opportunity, in cooperation with the State. Other tools to reduce elk population numbers or damage would be considered, including: relocation, biobullets (implant of reproduction suppression chemicals), facilitation of State technical assistance, and other methods. The Refuge would continue to coordinate with the State on all elk management tools and elk population information.

For the future, turkey population trends would be monitored and a turkey hunt program could be initiated if their populations reached excessive levels.

The Service would actively encourage conservation within a Stewardship Area of approximately 44,536 acres surrounding the Refuge. This area includes the 5,171 acres

**The Stewardship Area would function as an informally designated conservation zone surrounding the Refuge. Within the Stewardship Area, the Service would encourage voluntary conservation and restoration of habitats, to benefit wetlands, water, and wildlife habitats. No additional regulatory burden would fall on landowners within this informally designated area.**

within the current Approved Refuge Boundary not acquired in fee. The Stewardship Area would function as an informally designated conservation zone surrounding the Refuge. The intent of the Stewardship Area would be to encourage

voluntary conservation and restoration of habitats with the goal of providing mutual benefits to local aquatic resources and upland wildlife habitats. In keeping with this stewardship emphasis, the Refuge would provide frequent outreach activities and information sharing about conservation practices, technical and financial assistance programs offered by various agencies, and contact lists for conservation easements and other land status commitments. No additional regulatory burden would fall on landowners within this informally designated area.

No changes would be made to the Approved Refuge Boundary, and the Refuge would not acquire properties outside the existing Approved Refuge Boundary.

Habitat and fire management practices on the Refuge would continue as described under the Habitat Management Plan and the Fire Management Plan.

Some additional staff would be added to manage the habitat, facilities, and public use improvements described above.

Other than routine maintenance and completion of paving of the entrance road, no further work is anticipated for public access roads. However, should there be an unanticipated change in visitation or other reason for reconfiguring road designs, a future Refuge road project may be programmed to address the situation.

***Alternative 3. Recreation with Aquatic and Biodiversity Stewardship (The Service's Preferred Alternative.)***

This alternative creates new opportunities for the non-consumptive, wildlife dependent recreational programs and uses that have traditionally occurred at Turnbull NWR. It also incorporates a more strategic plan for the stewardship and protection of the lands and waters surrounding the Refuge.

The Environmental Education program would be expanded, with greater numbers of students both on and off Refuge offered the opportunity to learn about the wildlife and ecology of the Channeled Scablands and Turnbull NWR. Additional classroom space would be added, allowing the Refuge to accommodate two classes at the same time. The trail network would be expanded by approximately four miles and six additional viewpoints would be added. Existing and new viewpoints would be supported with interpretive signs. A small visitor contact point and interpretive area would be established inside new office space. A designated bike trail would be established along Cheney-Plaza Road to link the Columbia Plateau Trail with the Public Use Area, using the old highway roadbed along most of its route.

Elk hunting and other elk management would be offered as described under Alternative 2.

A pilot youth waterfowl hunt would be added, after preparation of a Hunting Plan and publication of rules in the Federal Register. The hunt would occur during the State special season for youths, now occurring in mid-September. The new waterfowl hunting program would emphasize education, possibly requiring a waterfowl identification or natural history class for youths participating in the hunt. The Refuge would consider expanding the waterfowl hunt in the future once more fall waterfowl habitat has been restored in the vicinity of the Refuge.

For the future, turkey population trends would be monitored and a turkey hunt program could be initiated if their populations exceeded acceptable levels.

The Service would actively encourage conservation within a Stewardship Area, as described under Alternative 2. No additional regulatory burden would fall on landowners within this informally designated area.

In addition, the Service would seek to protect, as part of the National Wildlife Refuge System, up to 12,000 acres by fee, easement, or agreement from willing sellers on priority lands within the Stewardship Area.

As described in Appendix A (Land Protection Plan), priority lands include those adjoining lands that are most critical for protection of Refuge water quality and quantity; have the highest quality steppe, pine, and wetland habitat; and provide the best opportunities for wetlands restoration.

Habitat and fire management practices on the Refuge would continue as described under the Habitat Management Plan and the Fire Management Plan.

Additional staff would be added to support the programs that form the core of this alternative.

Other than routine maintenance, completion of paving of the entrance road, pulloffs associated with viewpoints, and bike lane work, no further work is anticipated for public access roads. However, should there be an unanticipated change in visitation or other reason for reconfiguring road designs, a future Refuge road project may be programmed to address the situation.

#### ***Alternative 4. High Conservation and High Recreation Opportunities***

This alternative is similar to Alternative 3 for the opportunities created in the non-consumptive, wildlife dependent recreational programs and for elk management tools and hunting. Alternative 4 includes the most comprehensive plan of the four alternatives for protection of the lands and waters surrounding the Refuge. This Alternative would also incorporate a 3-day per week recreational waterfowl hunt during the State's general duck season.

The Environmental Education program would be expanded, with greater numbers of students both on and off Refuge offered the opportunity to learn about the wildlife and ecology of the Channeled Scablands and Turnbull NWR. The trail network would be expanded by approximately four miles and six additional viewpoints would be added. Existing and new viewpoints would be supported with interpretive signs. A new moderately-sized visitor center and interpretive center would be built or leased, and designed in concert with a new expanded environmental education facility. A designated loop bike trail would be established through the Refuge to link the Columbia Plateau Trail with the Public Use Area, using the old highway roadbed along Cheney-Plaza Road for the western link, and using a bike lane along Cheney-Spangle Road for its eastern link. This bike trail would be established in cooperation with partners.

Elk hunting would be offered as described under Alternative 2, and other elk management tools would be explored as described under Alternative 2. Waterfowl hunting would be offered on Upper Turnbull Slough and West Tritt Lake during the State's general duck season.

Under Alternative 4, the Refuge would also consider the possibility of turkey hunting during the next 15 years, depending on turkey population trends.

The Service would actively encourage conservation within a Stewardship Area of approximately 44,536 acres surrounding the Refuge, as described under Alternative 2. No additional regulatory burden would fall on landowners within this informally designated area.

In addition, the Service would seek protection of up to 25,000 acres within the National Wildlife Refuge System by fee, easement, or agreement from willing sellers on priority lands within the

Stewardship Area. Priority lands include those adjoining lands that are most critical for protection of Refuge water quality and quantity, have the highest quality steppe, pine, aspen, and wetland habitat, and provide the best opportunities for wetlands restoration.

Habitat and fire management practices on the Refuge would continue as described under the Habitat Management Plan and the Fire Management Plan.

Additional staff would be added to support the programs that form the core of this alternative.

Other than routine maintenance, completion of paving of the entrance road, pulloffs associated with viewpoints, and bike lane work, no further work is anticipated for public access roads. However, should there be an unanticipated change in visitation or other reason for reconfiguring road designs, a future Refuge road project may be programmed to address the situation.

Insert Map 3- Alt 1



Insert Map 4 - Alt 2



Insert Map 5 - Alt 3



Insert Map 6 - Alt 4



Table 2-1. Comparison of Alternatives

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION INCREASE</i>	Alternative 3 <i>(Preferred alt.) RECREATION WITH AQUATIC &amp; HABITAT STEWARDSHIP</i>	Alternative 4 <i>HIGH RECREATION AND HIGH CONSERVATION</i>
<b>ON- REFUGE HABITAT MANAGEMENT</b>				
<b>Management of Refuge Pine Forests, Wetlands, Aspen, and Steppe Habitats</b>	Continue implementation of Habitat Management Plan (1999) and Fire Management Plan (2001) . See Appendix B for HMP summary and objectives; see Appendix C for Fire Management Summary.			
<b>ELK MANAGEMENT</b>				
<b>State Coordination</b>	Continue discussions with State to share information on elk, including herd population estimates, reports of off-Refuge damage, viable methods for reducing elk numbers, etc. Conduct annual elk population survey together with State.			
<b>Elk Hunting</b>	No	Allowed, after preparation of a Hunting Plan and publication of Federal Register notice. Length of season, number of permits issued and/or seasons offered would vary based upon the level of aspen damage observed on the Refuge each year. Hunt would be managed as a high quality, limited entry opportunity, in cooperation with State.		
<b>Use of Other Tools to Reduce Elk Numbers</b>	No	Other tools to reduce elk population numbers or damage will be considered together with State. Potential tools to consider include: Relocation, biobullets (implant of reproduction suppression chemicals), facilitation of State technical assistance, and other methods.		
<b>WATERFOWL AND GAMEBIRD HUNTING</b>				
<b>Waterfowl Hunting</b>	No	No	Youth hunt one weekend each year, in conjunction with educational program. Additional areas could be designated if Refuge were to acquire additional lands.	High quality hunt, opening day till freeze-up; 3 days/week during State duck season. Hunt blinds at South side of West Tritt Lake and Upper Tumbull Slough. New areas could be designated if the Refuge were to acquire additional lands.
<b>Other species</b>	No	Maintain possibility of permitted turkey hunt depending on turkey population trends. Encourage research to investigate turkey ecology on Refuge.		

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>OFF- REFUGE LAND CONSERVATION FOCUS AND TOOLS</b>				
<b>Land Conservation Goals</b>	Mainly, to ensure greater protection of the Refuge's water quality and quantity by protection of surface and ground watersheds.	<ul style="list-style-type: none"> <li>- To ensure greater protection of the Refuge's water quality and quantity by protection of surface and ground watersheds.</li> <li>- To ensure greater protection and conservation of the critically endangered Palouse steppe habitat</li> <li>- To enhance and restore the outstanding wetland resources of the Channeled Scablands</li> <li>- To provide greater connectivity to other ponderosa pine habitats and to ensure greater protection for aspen habitats.</li> </ul>		
<b>LAND CONSERVATION TOOLS</b>				
<b>Stewardship Area / Partnerships</b>	The Stewardship Area is an informally designated conservation zone surrounding the Refuge. Within this area, the Service would actively work with partners and neighbors for voluntary, cooperative activities that protect habitat and water resources. Key tools include but are not limited to conservation easements, enrollment in the Wetlands Reserve Program, well casing, and technical assistance programs. Key partners include but are not limited to: Inland Northwest Joint Venture, Ducks Unlimited, Spokane County Parks and Recreation Dept, Spokane County Conservation District, Washington Dept. of Fish and Wildlife, U.S. Bureau of Land Management, U.S. Natural Resources Conservation Service, Avista Corporation, U.S. Farm Services Agency, Inland Northwest Wildlife Council, Inland Northwest Land Trust, Friends of Turnbull National Wildlife Refuge, Spokane Audubon Society, and The Nature Conservancy.			
<b>Stewardship Area Size</b>	21,396 acres	44,536 acres		
<b>Protection Under the National Wildlife Refuge System</b>	No additional acres outside the existing Approved Refuge Boundary	Protection of up to 12,000 acres by fee, easement, or agreement from willing sellers on priority lands within the Stewardship Area	Protection of up to 25,000 acres by fee, easement, or agreement from willing sellers on priority lands within the Stewardship Area	

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>PUBLIC USE AREA</b>				
<b>Size and Location</b>	2200 acres	3190 acres ( hunting would occur annually on an additional 5,000 plus acres outside the Public Use Area)		
<b>Accessibility Times and Areas</b>	Open year round. Off trail foot use permissible.	Open year-round. Off trail use not permissible.		
<b>WILDLIFE OBSERVATION / WILDLIFE PHOTOGRAPHY</b>				
<b>Location of Viewpoints and Pulloffs</b>	Public use area ; Columbia Plateau Trail		Public use area; Columbia Plateau Trail; Cheney-Plaza Road; Cheney-Spangle Road; Mullinix Road	
<b>Designated Viewpoints</b>  <b>(Viewpoint defined as a point designed expressly for observation: usually supported by an auto pulloff or parking area, sometimes a short access trail to scenic overlooks, photo blinds and areas with single interpretive panels. Does not include short - medium interpretive trails with multiple viewpoints.)</b>	<p>19 designated viewpoints - only some with interpretive signs. Most supported with pulloff or parking area</p> <p><u>Along Auto Tour route:</u>                      30 acre lake                      30 acre lake north                      Pine restoration area                      Camas meadow                      N. Blackhorse lake                      East Blackhorse lake                      Swan Pond Structure                      Aspen Grove                      Wheeler Memorial                      North Bluebird Trailhead                      Kepple Overlook                      Kepple Peninsula                      Kepple Structure                      Headquarters / Pine Creek                      Riparian EE                      Winslow Pool</p> <p><u>Along Columbia Plateau Trail:</u>                      Long Lake, Ballinger Lake,                      North end Col. Plateau Trail,                      South end Col. Plateau Trail</p>	<p>21 viewpoints (19 existing viewpoints plus 2 new sites). Most/all viewpoints to include interpretive sign.</p> <p>New sites developed in the following areas.</p> <p><u>From Cheney-Plaza Road:</u></p> <p>Upper Turnbull Slough (elevated platform)</p> <p><u>Other locations:</u></p> <p>Stubblefield Lake (elevated viewpoint)</p>	<p>25 viewpoints (19 existing plus 6 new sites). Most/all viewpoints to include interpretive sign.</p> <p>New sites developed in the following areas.</p> <p><u>Within existing P.U. area:</u></p> <p>Cheever Lake</p> <p><u>From Cheney-Plaza Road:</u></p> <p>Upper Turnbull Slough (elevated platform)                      McDowell Lake (elevated platform)</p> <p><u>Other locations:</u>                      Helms Marsh from Mullinix Road                      Stubblefield Lake (elevated platform),                      Pulloff on Cheney-Spangle Road where there is view of Stubblefield Lake and steppe.</p>	

<b>THEMES</b>	<b>Alternative 1 NO-ACTION</b>	<b>Alternative 2 MODERATE RECREATION</b>	<b>Alternative 3 RECREATION AND STEWARDSHIP</b>	<b>Alternative 4 HIGH</b>
<b>Photo Opportunity Blinds</b>	Pine Lake (not accessible to persons with disabilities)	Pine Lake (not accessible to persons with disabilities), Kepple Peninsula (accessible), East side of Blackhorse (accessible), Long Lake, but only in conjunction w/ Long Lake bypass ( accessible).		
<b>Visitor Welcome Areas</b>	Reception area in office.	Interpretive panels overlooking Winslow Pool (4 panels)  Small information center; volunteer staffed as needed. Add on to existing office space and have joint reception area.	Interpretive panels overlooking Winslow Pool (4 panels)  Staffed visitor contact point together with small interpretive exhibit area, included in new office space.	Interpretive panels overlooking Winslow Pool (4 panels)  Staffed visitor center together with larger interpretive exhibit area. Design new facility in concert with design of new office space.
<b>ENVIRONMENTAL EDUCATION PROGRAM ON REFUGE</b>				
<b>Degree of Facilitation</b>	Sometimes facilitated, depending on funding. Non facilitated classes are guided by teachers and scheduled in advance.	All visiting classes and groups facilitated by volunteers, with limited facilitation by Refuge staff.	All visiting classes and groups facilitated by Refuge staff, teachers, volunteers, or other partners.	
<b>Teacher Support</b>	Two or fewer teacher workshops annually	Two or fewer teacher workshops annually	Two to four teacher workshops annually	Four or more teacher workshops annually
<b>Number of Students Served Annually</b>	3,000-8,000	4,000-8,000	8,000-10,000	8,000-12,000
<b>Coordinator Status</b>	Seasonal/ temporary or volunteer coordinator (sometimes student interns) coordinate all EE activities.	Seasonal Environmental Education Specialist	Year round Environmental Education Specialist	
<b>Target Audience Emphasis</b>	Local students from schools up to 50 miles away	Local students from schools up to 50 miles away	All ages, (students and non-students) diverse backgrounds and affiliations, inner city kids, at risk kids and seniors. From schools and other groups up to 150 miles away.	
<b>Field EE Sites</b>	Four sites - one in rest at all times. Each site used 4 days per week or less.	Four hardened sites- one in rest at all times. Each site used 4 days per week or less. Piers established into wetlands to facilitate aquatic studies and diminish shoreline impact. Add fifth site if needed.		

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>ENVIRONMENTAL EDUCATION PROGRAM OFF REFUGE</b>				
<b>Materials</b>	EE supplies, videos and displays loaned out as needed.			
<b>Number of individuals served</b>	500 - 1,500 (20-60 classes/year)	1,200 - 1800 (48-72 classes/year)	3,000 - 4,500 (120-180 classes or groups/year)	4,000 - 7,000 (160-280 classes or groups/year)
<b>Percent facilitated</b>	0	10	25	25
<b>Links to Other EE Programs</b>	none	to others in Greater Spokane Area	member of (State-wide?) consortium	
<b>Depth of programs</b>	seasonal more local Refuge orientation	year-round more local Refuge orientation	year round Eastern Washington ecosystems emphasis	year round Eastern Washington ecosystems emphasis
<b>Target Audience Emphasis</b>	Local students	Local students	All ages, diverse backgrounds and affiliations, inner city kids, at risk kids and seniors	All ages, diverse backgrounds and affiliations, inner city kids, at risk kids and seniors
<b>ENVIRONMENTAL EDUCATION FACILITY</b>				
<b>EE Facility</b>	Existing - no additions or expansions	Expand existing classroom Could also consider having a presence (as a participant, not a lead) at a regional center if one is ever established.	Add second classroom to existing facility. Role of center is to serve as a regional environmental education center.	New constructed or leased facility. Role of center is to serve as a regional environmental center, one of the state visitor center "destinations"
<b>Number of Persons that the EE Classroom Facility Accommodates</b>	35 people - existing classroom at Headquarters.	50 people - existing classroom at Headquarters expanded.	Add on to existing classroom at Headquarters. Facility will have 2 adjoining classrooms accommodating 50 people each; can be combined to create multipurpose presentation room seating 100.	2 adjoining classrooms accommodating 50 people each; can be combined to create multipurpose presentation room seating 100. New facility at Headquarters, designed in concert with visitor contact center and interpretive exhibits.

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>TRAILS</b>				
<b>Trail mileage and location</b>	Total 11.5 miles: (6.75 miles in Public Use Area 4.75 miles on Columbia Plateau Trail)	15.25 miles (4.75 miles CPT, 10.5 miles in public use area, including new Stubblefield loop)	15.25 miles. Additional trail miles may be added in the future if opportunities arise through acquisition of properties contiguous to Public Use Area. Stubblefield trail will terminate in elevated viewing platform. No off trail use.	
<b>Surface Type and Accessibility</b>	Most dirt surfaces. One wheelchair accessible boardwalk. Bark on EE site short trails. Two trails (Kepple Peninsula Trail and Pine Lake Loop Trail) with accessible surfaces, 48" widths, appropriate grades for accessibility, and accessible trailheads. These trails will traverse each major habitat type.			
<b>Boardwalk</b>	Fix or replace	Replace to meet standards of updated accessibility guidelines		
<b>Trail Lengths</b>	same as current; no trail > 2 miles in length except for Columbia Plateau Trail.	Stubblefield trail added with length of 3.7 miles.	Stubblefield trail added with length of 3.7 miles. In future, should additional trails be added on newly acquired properties, trails could be longer.	
<b>Loop trails</b>	Auto Tour Route (pedestrians share w/ autos - 5 miles) Pine Lakes Loop (1 mile)	Loop trail of up to 5.3 miles (Pine lakes / Headquarters / Stubblefield loop), pedestrians only.	Loop trail of up to 9.6 miles (Pine lakes / Headquarters / Stubblefield loop / bike loop).	Loop trail of up to 12.1 miles (Pine lakes / Headquarters / Stubblefield loop / bike loop).
<b>Bike Trails</b>	No designated bike trail		A designated 2.7 mile bike trail connecting Public Use Area to one point on the State Columbia Plateau Trail. Bike Trail would follow the old Cheney Plaza Highway roadbed inside the Refuge (adjacent to CheneyPlaza Rd.) Consider packed gravel to cut the dust.	A designated 6.2 mile bike loop trail that loops with links from the Columbia Plateau Trail to the Public Use Area along both Cheney-Spangle Hwy and Cheney Plaza Road, along old highway bed. Work with County for bike lanes on the highways.

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>COLUMBIA PLATEAU TRAIL</b>				
<b>Interpretive signs and facilities</b>	Four interpretive sites 1 vault toilet north of Ballinger Lake 4 benches		Existing signs and facilities, plus: Sign-in book at Refuge entry points? More benches Support State Parks initiative to develop public facilities in the vicinity of the Refuge for the Columbia Plateau Trail.	
<b>Monitoring</b>	Ad hoc monthly monitoring. Experimental manipulations with EWU class Monitoring of visitation frequency	Ad hoc monthly monitoring. Experimental manipulations with EWU class Monitoring of visitation frequency	Systematic monitoring of recreational use, including: visitor numbers, trespass occurrences, and wildlife disturbance utilizing pre-established scientific protocol. Experimental manipulations with EWU class plus study of real-time actual use and disturbance correlations over 1-2 nesting seasons. Monitoring of visitation frequency	
<b>Minimize Disturbance to Long Lake and Other Sensitive Areas</b>	None		Consider planting hawthorne to prevent trespass and minimize disturbance near Long Lake Consider possibility of developing a bypass trail to reduce disturbance along sensitive parts of the CPT. Consider education, concentrating use, or seasonal closures as other tools	

THEMES	Alternative 1 <i>NO-ACTION</i>	Alternative 2 <i>MODERATE RECREATION</i>	Alternative 3 <i>RECREATION AND STEWARDSHIP</i>	Alternative 4 <i>HIGH</i>
<b>INTERPRETATION</b>				
<b>Interpretive Trails</b> (Generally short trails designed especially for the educational benefit of casual or new visitors; trails have multiple interpretive signs or markers supported with brochure)	Boardwalk (5 signs) Kepple Peninsula Trail (project underway - trail features markers with interpretive brochure)	Boardwalk (5 signs) Pine Lake Loop Trail (4 signs) Kepple Peninsula Trail (markers with interpretive brochure)	Boardwalk (7 signs) Pine Lake Loop Trail (4 signs) Kepple Peninsula Trail (markers with interpretive brochure)	
<b>Interpretive Services (naturalist)</b>	None	Occasional, volunteer	Day, evening, and weekend programs.	
<b>Number of Wheelchair Accessible Points / Trails</b>	Boardwalk Trail Kepple Peninsula Trail Pine Lake Loop Trail		Boardwalk Trail, Kepple Peninsula Trail, Pine Lake Loop Trail, and Turnbull Slough. Most interpretive signs would follow ADA guidelines.	
<b>Space for Non-Profit Gift Store</b>	Provide space in EE classroom for Friends of Turnbull NWR store		Provide space in Visitor Center for Friends of Turnbull NWR store	
<b>CULTURAL RESOURCE EDUCATION AND INTERPRETATION</b>				
<b>Education materials</b>	Earth and Sky Curriculum	artifact replica kit, additional hands-on activities and curriculum		
<b>Interpretive materials</b>	None	pamphlets, signs, exhibits		
<b>Number of individuals served and Target Audience</b>	Fall EE Classes targeted at local students.	proportional to on and off Refuge EE programs. Target audience would be Refuge visitors as well as local students.		
<b>CULTURAL RESOURCE MANAGEMENT AND PROTECTION</b>				
<b>Data management</b>	Use existing maps		Develop GIS layer with appropriate locks for sensitive information	
<b>Partnerships</b>	n/a	Develop partnership with the Tribes for cultural resources inventory, evaluation, and monitoring		
		n/a	Work with educational institutions, historical societies, and other preservation partners for inventory, evaluation and monitoring	