

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SPOKANE DISTRICT, WASHINGTON STATE**

ENVIRONMENTAL ASSESSMENT TITLE PAGE

ENVIRONMENTAL ASSESSMENT NO. OR-134-00-03	SERIAL NUMBER WAOR 53911	DATE OF REPORT 04/09/2001
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RESOURCE AREA Wenatchee Resource Area, Spokane District	COUNTIES Chelan, Douglas, Grant, Kittitas, Klickitat, Okanogan, Yakima
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TYPE OF ACTION Central Washington Assembled Land Exchange (CWALE)

APPLICANT'S NAME Clearwater Land Exchange, Inc.	ADDRESS (Include zip code) P.O. Box 1621 Orofino, Idaho 93544
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DATES OF FIELD EXAMINATION Numerous field exams during 1997-2000
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LANDS INVOLVED

Township	Range	Meridian	Section	Subdivision	Acres
	See	Appendix for	Legal	Descriptions	

PURPOSE OF REPORT:

To examine the feasibility of completing an assembled land exchange, using Clearwater Land Exchange, Inc. as the facilitator.

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Table S-1: Summary Comparison of Alternatives				
Element	Alternative 1 (Preferred)	Alternative 2	Alternative 3	Alternative 4 (No Action)
Federal Exchange Lands (# parcels & # acres)	66 parcels 5,332 acres	71 parcels 5,929 acres	60 parcels 4,649 acres	Subject to proposals on a parcel by parcel basis
Non-federal Exchange Lands (# parcels & # acres)	6 parcels 9,668 acres	6 parcels 9,668 acres	6 parcel 9,668 acres	Subject to proposals on a parcel by parcel basis
Shrub Steppe: Acquisition - Disposal -	9,294 acres 4,170 acres	9,294 acres 4,170 acres	9,294 acres 3,746 acres	N/A
Forest Lands: Acquisition - Disposal -	374 acres 1,161 acres	374 acres 1,758 acres	374 acres 902 acres	N/A
Forest Lands with Late Seral Characteristics transferred out of public ownership	65 acres	65 acres	50 acres	N/A
Parcels with identified Cultural Properties Acquisition - Disposal -	16 23	16 23	16 20	N/A
Perennial Stream: Disposal - Acquisition -	0.625 mile 0.85 mile	0.625 mile 0.85 mile	0.375 mile 0.85 miles	N/A
Legal Access: Disposal - Acquisition - (tracts or ownerships with existing legal road access)	14 tracts/1,983 ac. 4 ownerships/ 8,131 ac.	16 tracts/2,180 ac. 4 ownerships/ 8,131 ac.	9 tracts/1,267 ac. 4 ownerships/ 8,131 ac.	No tracts or acres with legal access would be disposed and none acquired
Change in Property Line Determination (decrease in net amount of BLM/non-federal property line)	Decreased 96.5 miles	Decreased 104 miles	Decreased 84 miles	No Change

I. INTRODUCTION

A. Background Information

This environmental assessment (EA) analyzes a proposed land exchange between the Bureau of Land Management (BLM) and Clearwater Land Exchange, Inc. (CLE). The BLM and CLE have agreed to consider the exchange of up to 71 separate parcels of federal lands encompassing approximately 5,930 acres for up to approximately 9,665 acres of non-federal lands in 6 separate ownerships. The lands would be exchanged value for value, with acreage ratios determined by fair market appraisal and negotiation over tract combinations. This proposal is considered an “assembled exchange,” where several federal and non-federal tracts of land would be combined and exchanged in one or more transactions over time. In this report, the BLM-administered lands called “BLM,” “federal” or “public” lands, and Clearwater Land Exchange, Inc., is referred to as Clearwater or CLE.

An "agreement to initiate a land exchange" between the BLM and CLE was signed July 29, 1999. A feasibility report for the proposal was completed on November 5, 1998 and approved by the Oregon/Washington State Director on November 12, 1998. The BLM Washington, D.C. office concurred with the proposal by memo dated December 3, 1998.

Although this is the first time Clearwater and the BLM Wenatchee Field Office have entered into an exchange proposal, Clearwater has facilitated other land exchanges with the Border Resource Area of the BLM Spokane District. Clearwater has also acted as a facilitator for BLM in other western states, including Oregon and Montana. Clearwater is currently assisting the Border Field Office with a separate assembled land exchange in eastern Washington.

Discussions between BLM and Clearwater on the subject exchange, referenced as the Central Washington Assembled Land Exchange (CWALE), began in the summer of 1996. Two other options were initially looked at: an exchange using BLM lands in western Washington, and a combined exchange with the State of Washington Department of Natural Resources (DNR). Although these two proposals have merit, the subject proposal was determined the most feasible. A primary reason for pursuing the subject exchange is the existence of an inventory of BLM managed public lands throughout central Washington that had been considered for, or included in, previous land exchanges or public sale offerings, yet not disposed. Through these previous land exchange and sale considerations, some inventory work and analysis had already been done. For example, except for one tract, all of the BLM-administered lands north of the Confederated Tribes of the Colville Reservation selected for this proposal were previously included in the BLM Palmer Mountain Exchange (WAOR 50466), processed from 1993-1998. However, the value of these lands was not needed to complete that exchange, and it therefore seemed reasonable to include them in this proposal. Additionally, the current land use plan supports land exchanges for central Washington BLM-administered lands. For these various reasons, then, these lands were considered over BLM lands in western Washington, where inventory and land use planning, to date, is limited. Although discussions about a joint exchange with the Washington Department of Natural Resources and Clearwater were started, DNR is currently pursuing other priorities and is unable to work on a proposal.

B. Need for the Proposal

The land exchange is needed to consolidate scattered and isolated tracts of public land and also to improve the public land ownership pattern and management in the Moses Coulee, Okanogan and Saddle Mountains Management Areas. All public lands identified for disposal are located in BLM's Scattered Tracts Management Area. The Spokane Resource Management Plan (RMP) guidance for these areas allows disposal unless public resource values justify their retention.

The BLM believes this assembled land exchange is an efficient way to meet the identified need of improving the public ownership pattern in central Washington, for the benefit of the public and the BLM. The benefit to the public is in relation to more acres of public land available for recreation and other uses. The benefit to the BLM of disposing of scattered and isolated tracts lacking public value would be increased management efficiency and reduced costs in property line determination and trespass resolutions. Another administrative improvement for the BLM with the land exchange would be a reduced number of custodial grazing allotments. In addition, for those BLM-administered lands in areas being developed, disposal of these lands would eliminate the workload and processing of future rights-of-way, other use authorization requests, and trespass cases, as well as noxious weed treatments. Most of the Wenatchee Resource Area realty use authorization and trespass workload involves small tracts, many of which have few public values, but are valued or needed for other reasons by adjoining landowners. Even if BLM can legally access the lands, the effectiveness of weed control on federal lands depends on cooperative and consistent weed control by surrounding owners.

Small and isolated tracts are prone to trespass due to their remoteness and infrequent BLM site visits. In addition, boundary surveys for processing trespasses of adjoining landowners can be costly. For example, more than 10 trespasses exist on public lands proposed in this exchange. It is difficult to justify spending \$5,000 to \$10,000 to survey a 40-acre tract to resolve one specific problem. In most cases, the small parcels are not useable by the public for recreation, because they lack legal access or are of a size or configuration that makes them difficult to locate or undesirable for recreational or other use.

The BLM is limited in its ability to manage livestock grazing on scattered and isolated tracts. These tracts of public lands are often fenced in with larger blocks of private land and represent a small portion of the total pasture. Many are grazed only incidentally with the larger blocks of private land due to their distance from livestock water sources or steep terrain. The large number of scattered tracts across the Resource Area is a management challenge, as it is near impossible to effectively monitor grazing use.

Lands proposed for acquisition are expected to benefit BLM programs and improve public land manageability, which in turn would benefit the public. The improvements are specific to wildlife habitat, plant community potential and fisheries values, along with values for public recreation. Because they interlock and block up existing tracts of public land, the offered non-federal lands do not possess the management problems inherent in the small federal tracts described above. Property line determination decreases, and even if lands do need to be surveyed, there is a much better cost/benefit ratio. Noxious weed control also becomes less of

an issue. Because BLM presently has weed control projects on blocks of adjacent public lands, it would be a simple matter to integrate acquired lands into this program. Of the six parcels of non-federal land identified, five are located in areas where BLM already has partly consolidated ownership through previous land exchanges. The sixth tract (along Salmon Creek) is in an area where public land ownership is fragmented due to numerous mineral patents issued in the early 1890s. Acquisition of the non-federal lands here would aid in consolidating public land.

Five of the six parcels of non-federal lands are characterized as shrub-steppe, which is an endangered ecosystem in eastern Washington. Because of conversion to agriculture, only 40 percent of the historic 10.4 million acres remains (Dobler et al. 1996). Of this, only 12 percent exists as functional ecosystems, and less than 1 percent is protected in a form similar to the original vegetation (Rex Crawford, Plant Ecologist, DNR Natural Heritage, personal communication). The shrub-steppe type is critical to numerous wildlife and plants that rely partly or wholly on it. For instance, 14 species of birds, 8 mammal species, 4 reptiles and amphibians, and 38 species of plants known to inhabit shrub-steppe lands are listed as special status. Because of past and continuing conversion of shrub-steppe lands to other uses, there is a distinct need to acquire and protect shrub-steppe habitat. This goal is strongly supported by the Washington State Department of Fish and Wildlife.

The sixth parcel of non-federal lands includes a portion of Salmon Creek, as well as adjacent forested land. Historically, prior to construction of an irrigation dam, steelhead and spring chinook salmon used Salmon Creek. Because fish passage has recently been provided at the dam, the stream could again serve as habitat for steelhead and spring chinook salmon. Steelhead and spring chinook salmon in the upper Columbia River region have both been federally listed as endangered under the Endangered Species Act.

The lands identified for potential acquisition have recreation values. The BLM would be trading an assemblage of mostly 40 and 80-acre tracts, many without access, for lands that have continuity with other public lands, thereby providing large expanses comprising thousands of acres of land with access. With the proposed acquisitions, many more acres of land would be available for use by the public for hiking, hunting, bicycling, bird and wildlife watching, camping, solitude, photography and other uses. The prevalence of developed private land in central and eastern Washington makes these lands unique; they would complement the few *shrub-steppe* public land areas available for recreation. Four of the subject non-federal land tracts (the majority of the acreage) are within easy driving distance of Wenatchee, being only about 20 miles distant.

According to Section 206 of the Federal Land Policy and Management Act of 1976, as amended, when weighing the public interest, BLM shall give full consideration to "better Federal land management and the needs of State and local people, including needs for lands for the economy, community expansion, recreation areas, food, fiber, minerals, fish and wildlife." Also, BLM must find that "the values and the objective which Federal lands or interests to be conveyed may serve if retained in Federal ownership are not more than the values of the non-Federal lands or interests and the public objectives they could serve if acquired."

C. Conformance with Land Use Plan

The Proposed Action (Alternative 1) is in conformance with the land tenure adjustment policy in the Spokane Resource Management Plan (Spokane RMP), as amended December 1992. Public lands identified in this proposal are located in the Scattered Tracts Management Area established by the RMP. According to the amended RMP (pages 13 and 14), BLM's highest land tenure adjustment priority in the Spokane District is consolidation of public land through land exchanges between and within the district's management areas. Under land transfer actions, private exchanges are third in priority behind state lieu and grant selections and the state land exchanges. The original Record of Decision for the RMP states in part (page *i*), that the District's goal is to "conduct land tenure adjustments to consolidate or otherwise promote efficient management of the public land resources, protect and improve valuable wildlife habitat, enhance recreational opportunities and provide access to public lands."

D. Relationship to Existing Statutes, Regulations or Other Plans

The BLM land exchanges are authorized by Section 206 of the Federal Land Policy and Management Act of 1976, (FLPMA) as amended by the Federal Land Exchange Facilitation Act of 1988 (FLEFA; 43 USC 1716). Among other requirements, these laws stipulate that 1) a determination be made that the public interest would be well served by making an exchange, 2) lands to be exchanged be located in the same state, and 3) exchanges must be for equal value; differences may be equalized by payment of money by either party. The proposed exchange does not conflict with zoning regulations of the counties where the public and non-federal lands are located.

The proposed land exchange considered the scientific information and draft EIS and plan for the Interior Columbia Basin Ecosystem Management Project (ICBEMP).

E. Public Involvement

During 1998 and 1999, before an agreement to initiate a land exchange was signed with Clearwater, BLM performed informal scoping to identify issues regarding specific federal tracts. BLM contacted the Okanogan and Wenatchee National Forests, Washington State Department of Fish and Wildlife, Northwest Ecosystem Alliance (NWEA), Kettle Range Conservation Group (KRCG), North Central Washington Audubon Society, and Confederated Tribes of the Colville Reservation (Colville Tribe). Most contacts involved personal visits or meetings; however, later on, BLM also conducted a field tour to the proposed acquisition parcels in the Moses Coulee area. This visit was attended by NWEA and Audubon members, and occurred during the public notice comment period (see below), on October 18, 1999.

Shortly after the agreement to initiate a land exchange was signed, BLM issued an official public notice announcing the proposal. Beginning on the 15th of September, 1999, a "Notice of Exchange Proposal" was published on four consecutive Wednesdays in the Yakima Herald-Republic and Wenatchee World. Press releases of the exchange were provided to the aforementioned two newspapers, as well as the Ellensburg Daily Record, Columbia Basin Herald, Grant County Journal, Douglas County Empire Press, Okanogan Valley Gazette, Okanogan County Chronicle, Lake Chelan Mirror, and Goldendale Sentinel newspapers.

Copies of the notice were sent to interested members of the public; parties holding use authorizations on the subject public lands; county, state, and federal government entities; Indian tribes; and members of the BLM Resource Advisory Council. Copies also went to each member of the Eastern Washington and Yakima Province Advisory Committees. A notice and an additional letter about the proposal were also sent to livestock grazing lessees and Indian tribes. Prior to issuing the official notice, BLM held meetings in 1999 with county commissioners to explain the proposed exchange. Those meetings were as follows: Douglas County (Aug. 25), Grant County (Sept. 7), Kittitas County (Sept. 8) and Okanogan County (Aug. 24).

The purpose of the notice was to provide an opportunity for public comment prior to writing this environmental assessment (EA). In response, BLM received 15 letters during the 45-day official comment period, and another letter arrived shortly after the comment period closed. The comment letters reflected a variety of interests and issues. Separate letters received from four conservation groups (Sierra Club-Cascade Chapter, Northwest Ecosystem Alliance, Kettle Range Conservation Group, and North Central Washington Audubon) provided similar comments regarding the scope of the EA.

All four conservation groups who responded indicated support for BLM efforts to block up federal ownership in key areas. In addition, the groups expressed like concerns that BLM carefully consider values of public lands to be exchanged and retain tracts having high ecological values, such as unique plant communities, riparian, and old-growth or virgin forest. They recommended that BLM also consider retaining public tracts adjacent to other federal or state holdings, especially National Forests. Three groups encouraged BLM to manage acquired lands to maintain or improve their condition, not allowing the lands to decline because of livestock grazing or recreation use. Two groups wrote that the EA should include more data on vegetation, wildlife, land uses and management, and likely future use of federal tracts to be traded. Recommendations were given by three of the groups for retaining tracts C2, C3, C4, C5, O2, O14, O16-O19, O22 and O25 in federal ownership. A major reason given for advocating retention was the tracts' location adjacent to either National Forest or State DNR land. Other reasons given were perceived wildlife habitat or biological corridor value and proximity to National Forest roadless areas. Two letters noted that tract O2 has value as a bald eagle roost.

Remaining comment letters addressed other values. Two letters from government entities recommended protecting existing powerlines and roads; three letters were from individuals interested in acquiring public lands; and two letters were from brothers concerned about impact to their grazing operation from proposed disposal of an adjacent tract of public land.

F. Consultation with Native American Tribes

The BLM recognizes its federal trust responsibilities to Native American Tribes through agency efforts to involve Native American tribal governments in the identification of tribal interests and concerns on public lands proposed for exchange. BLM will consider the reserved rights for hunting, fishing, and gathering and will continue to consult, government-to-government, with the affected Native American Tribes throughout the land exchange process, consistent with the Presidential Memorandum of April 29, 1994 (*“Government-to-Government Relations with Native American Tribal Governments”*).

The geographic area includes traditional use areas of the Yakama, Klickitat, Columbia, Wanapum, Wenatchi, Methow, Chelan, Kittitas, Nespelem, and Spokane tribes and bands. A number of tracts proposed for exchange lie within the ceded lands of the Yakama Nation and the Colville Confederated Tribes. The Colville Confederated Tribes retain reserved hunting, fishing, gathering and water rights in the former North Half of the Colville Indian Reservation.

During 1998 and 1999, BLM provided informal scoping to the Colville Tribe, the Spokane Tribe, and the Yakama Nation through meetings and personal contacts, with subsequent field tours of identified exchange parcels. Copies of the official “Notice of Exchange Proposal” were sent to the Colville and Wanapum Tribes and the Yakama Nation.

Consultation letters were sent to the Colville Confederated Tribes, the Spokane Tribe, the Confederated Tribes of the Umatilla Reservation, the Wanapum Tribe, the Confederated Tribes of the Warm Springs Reservation, and the Yakama Nation on September 28, 1999. In addition, maps of the proposed exchange areas were mailed to these tribes on October 15, 1999.

Comment letters were received from the Spokane and Colville Confederated Tribes (CCT). The Spokane Tribe Historic Preservation Officer requested that BLM note the abundance of food plants on the lands to be traded. In a second letter dated November 9, 1999, the Spokane Tribe stated that, subject to knowledge gained in the future, they concurred with the exchange proposal.

In letters dated October 29, 1999 and April 20, 2000, the CCT wrote to express concern about the potential disposal of BLM lands in the ceded area (former North Half) of the Colville Reservation. The CCT is primarily interested in maintaining treaty hunting and fishing rights on north half lands, so that the land base now available to them is not diminished. A letter response to the CCT was sent to Colleen Cawston, Chair of the Business Council, on May 22, 2000. A field tour of a number of the tracts in the former North Half of the Colville Reservation was conducted on May 24, 2000.

II. DESCRIPTION OF THE ALTERNATIVES

This chapter describes the four alternatives considered in this EA, project design features applicable to the first three alternatives, and a discussion of other alternatives considered but rejected. The BLM is considering four separate alternatives for the proposed exchange: the Proposed Action (or Preferred Alternative) and three others, including No Action. Maps and legal descriptions of all federal and non-federal land tracts referenced in the alternatives are provided in Appendices 1 and 2.

A. Alternatives Analyzed in this Environmental Assessment

Alternative 1 (Proposed Action or Preferred Alternative)

The BLM proposes to exchange the surface and mineral estate of all tracts of public land identified in Appendix 1a, except for certain parcels located directly adjacent to National Forest lands. The BLM would retain tracts C2, C3, C5, C6 in Chelan County, and most of tract O2 in Okanogan County (a small portion of this tract north of the highway could still be disposed). If approved, this alternative would dispose up to 5,332 acres of public land for an equal value portion of the surface and mineral estate of approximately 9,668 acres of non-federal lands in six ownerships. The priority order for acquiring the non-federal lands would be: Billingsley, Mittelstaedt, Gerard, WDFW, Weiss and Hazzard. The ratio of the federal/non-federal lands exchanged would be determined by a market appraisal of each property. Federal land value in excess of the amount needed to acquire the six non-federal tracts would be used by BLM to acquire additional suitable non-federal lands. The resource values of any additional non-federal lands would be analyzed via environmental assessment.

The non-federal lands acquired would be managed for multiple use under the authority of the Federal Land Policy and Management Act of 1976, in conformance with decisions in the Spokane Resource Management Plan (RMP) and Record of Decision (ROD). Under multiple use guidelines, leasing of acquired lands for livestock grazing could be authorized. The level of grazing use would depend on allowable forage and current condition of the range.

Alternative 2

Using this alternative, BLM would exchange all 5,929 acres of public lands identified in Appendix 1a, to acquire an equal value portion of the surface and mineral estate of approximately 9,668 acres in six tracts of non-federal lands described in Appendix 1b. Acquisition priority would be the same as the Preferred Alternative (Alternative 1). The post exchange land management and livestock grazing described in Alternative 1 would also apply to this alternative.

Alternative 3

In this alternative, BLM would exchange public lands identified in Appendix 1a, retaining those public tracts identified in Alternative 1 (Preferred Alternative) and certain other

tracts that appear to have values for wildlife, fisheries, rare plants or plant community values, cultural resources, or other resources. Under this alternative, the following federal tracts would be retained: C2, C3, C5, C6, K10, O1, most of O2, O15, O21, O25 and Y1. The BLM would exchange 4,649 acres of federal land to acquire an equal value portion of the surface and mineral estate of the non-federal lands described in Appendix 1b. The priority order for acquiring non-federal lands would be the same as Alternative 1. The post exchange land management and livestock grazing described in Alternative 1 would also apply to this alternative.

Alternative 4 - No Action

This alternative represents continuing the existing situation, where the CWALE would not be completed and no change in BLM's land ownership pattern would occur. Future land exchange requests for the subject public lands would be considered by Spokane District on a case-by-case basis, using criteria in the Spokane RMP.

B. Project Design Features/Management Actions Common to Alternatives 1, 2 and 3

- *Threatened or Endangered Animal Species:* The U. S. Fish and Wildlife Service and National Marine Fisheries Service would be consulted about the effects of the land exchange on threatened or endangered species.
- *Cultural Resources:* Any unsurveyed federal parcels would receive Class III archaeological inventory before transfer. In consultation with the Washington State Office of Archaeology and Historic Preservation (OAHP) and consulting tribes, "Determinations of Eligibility" would be prepared for all known cultural sites on BLM lands proposed for exchange, as well as any additional cultural sites located during Class III inventory work. The criteria of adverse effect would be applied to all sites determined eligible for the National Register of Historic Places. In consultation with the OAHP, consulting tribes, interested public, and possibly the Advisory Council on Historic Preservation (ACHP), mitigation would be conducted for the significant cultural properties adversely affected by the exchange. Mitigation would likely include site documentation and data recovery prior to exchange. Parcels containing significant cultural properties may be removed from the exchange.
- *Native American Values:* In accordance with BLM's federal trust responsibility, BLM would conduct government to government consultation with affected Native American Tribes consistent with the Presidential Memorandum of April 29, 1994, styled, "Government-to-Government Relations with Native American Tribal governments."
- *Treatment of Noxious Weeds:* Any noxious weed treatments on lands acquired through this exchange would be consistent with the Spokane District Resource Management Plan, the Final Environmental Impact Statement (FEIS) for Vegetation Treatment on Bureau of Land Management Lands in Thirteen Western States (dated May 1991); the Oregon/Washington Record of Decision for Vegetation Management FEIS, dated July 1991; and the Spokane District Noxious Weed Control Environmental Assessment.

- *Grazing*: Livestock grazing on previously grazed acquired tracts would be authorized in accordance with the Spokane District RMP and BLM regulations, including the Standards and Guidelines for Rangeland Health for Eastern Oregon and Washington (Standards and Guidelines). Through the environmental assessment process, BLM would analyze impacts of livestock grazing prior to authorizing grazing use on any tracts *not* previously grazed. BLM would monitor livestock use levels in all allotments having acquired tracts. See Appendix 9 for more details on future grazing management.
- *Interior Columbia Basin Ecosystem Management Project*: Management of non-federal lands acquired through this exchange would be subject to guidance in the Interior Columbia Basin Ecosystem Management Project (ICBEMP), when that EIS and plan are finalized.
- *Valid Existing Rights*: Title to the federal lands would be subject to valid existing rights, including rights-of-way for roads and powerlines, various withdrawals, and grazing leases. In some cases existing withdrawals must be modified or removed to permit exchange of the lands; in other cases, the land can be conveyed with a reservation protecting the purposes of the withdrawal. Administration of rights-of-way on disposed lands generally passes to the United States' successors in title. Regarding grazing rights, in accordance with 43 CFR 4110.4-2(b), notices were provided to each lessee advising that grazing privileges could be canceled in two years if the lands are exchanged. If the federal lands are traded before the two-year expiration, the parties acquiring the lands would be bound by terms of the leases until the end of the two-year period, unless the grazing lessee waives the two-year period.

C. Other Alternatives Considered But Not Analyzed in Detail

Before and during the negotiations for this proposed exchange, other alternatives for the subject public lands were considered. These alternatives are summarized below:

Public Sale of Parcels: Over the years, private individuals have expressed interest in purchasing some public lands included in this exchange. However, criteria in the Spokane RMP favoring exchanges over sales precluded considering these sale requests. The last time Spokane District offered lands for public sale was in the early 1980s, when the Asset Management program was active. Through this program, numerous public land tracts were offered through competitive public sale. For example, tracts C4, C8, and D1-D3, included in this exchange, were offered but did not sell. Tract C7 was previously included in a direct sale proposal, but later withdrawn due to disagreement over value. Current planning criteria requires that new sale tracts be identified in a land use plan before being offered. Of the public lands described in Appendix 1a, only tract C7 is listed in the Spokane RMP. Its inclusion in the RMP does not guarantee that BLM would offer the land for sale, as other criteria included in the plan must be applied. The other criteria includes the above noted stipulation that disposal through exchange first be considered. One of BLM's primary goals in processing this exchange is re-alignment of public lands, not outright disposal.

Exchange with State of Washington: Another alternative considered by BLM was a land exchange with the State of Washington, Department of Natural Resources. The two agencies have had numerous discussions over the years and are currently processing an exchange involving lands in central and southeastern Washington (Serial No. WAOR 53866). However, DNR has not expressed interest in any public land tracts identified in this proposal and did not comment on the initial public notice for the exchange.

Single Party Land Exchanges: Several public tracts in this proposal are of interest to private landowners for two-party exchanges. The BLM has not pursued these proposals, either because the private lands offered appeared to lack public values or the exchange was too small in size. Given limited staff and budget, it is more efficient and productive for BLM to process larger exchange proposals. Also, because of the structure of a facilitated exchange, several smaller exchanges can be processed through an assembled exchange proposal.

Direct Purchase: Another option that BLM considered was to obtain funding to purchase the non-federal lands, negating any need for exchange. Although seeming more simple, this approach had several barriers. The BLM does not have funds to consider purchasing the lands and would therefore need to request money from the federal Land and Water Conservation Fund (LWCF). Obtaining LWCF funds is a lengthy process involving competition against other proposals throughout the nation. To succeed, a proposal must have outstanding values; it also needs local and Congressional support. Even if approval is gained, the process takes several years. This lengthy process means that BLM's window of opportunity to acquire several of the non-federal tracts would pass, and the parcels would no longer be available. Although public values of the subject non-federal lands are important, the values may not be viewed as outstanding when compared on national level basis with other projects. Even if LWCF funds were appropriated, BLM policy still requires that land exchanges first be considered.

Transfer to U.S. Forest Service: Several public tracts identified in this proposal are adjacent to federal lands in the Okanogan and Wenatchee National Forests. The option of transferring jurisdiction of the subject public land parcels to the respective National Forests has been considered, but is generally viewed as inconsistent with the Spokane RMP's land tenure adjustment criteria. Even so, based on early consultation with the Wenatchee National Forest in 1998, BLM's Proposed Action (Alternative 1) identifies several federal tracts that would be retained adjacent to National Forest land in an area south of Lake Chelan and just west of Pateros (tracts C2, C3, C5, C6 and O2). Also in 1998, BLM performed early consultation with the Okanogan National Forest, asking about their interest in the identified BLM tracts in Okanogan County, next to the forest boundary. On this first occasion, and then later in 1999, during BLM's official exchange comment period, the Okanogan Supervisor's office stated they had no interest in the tracts. No letters were received from either the Okanogan or Wenatchee National Forests during the official comment period following BLM's public notice.

More than two months after the comment period ended, and after the EA process was started, BLM received two letters from the Wenatchee National Forest Supervisor's office (dated 1/19/2000 and 2/17/2000). The letters addressed BLM exchange tracts next to both

the Wenatchee and Okanogan National Forests. In the first letter, the Wenatchee National Forest (WNF) requested that BLM withdraw tracts C2, C3, C5, C6, O2, O14, O16-O22, and O25, pending further evaluation. In a second letter, WNF requested that BLM withdraw all aforementioned parcels, except O14 and O17, for possible transfer to the National Forest. In a subsequent discussion, Steve Johnson of the WNF stated they had conducted a review of applicable statutes, however, existing authorities would not permit transfer of O16, O18-O22, and O25; therefore, the Forest Service could not take over management of these lands.

The BLM-administered lands southwest of Lake Chelan are in an area where the Forest Service has been acquiring private lands. Some of these lands are also adjacent to the USFS Slide Ridge roadless area. Although the Proposed Action would have BLM retain these tracts, the Forest Service does not currently have authority to manage BLM lands. However, both these tracts and tract O2 appear to be within 4 miles of the historic boundary between the Chelan and Wenatchee National Forests. For these lands only, the Act of August 2, 1935 (P.L. 74-227) allows adjustment of the National Forest boundary by Presidential Executive Order. Otherwise, any official transfer would require an Act of Congress. Transfer of BLM-administered lands next to the Okanogan National Forest (except for tract O2), would require an Act of Congress; absent which, the Forest Service cannot legally accept management of the lands. Minor adjustments of National Forest boundaries are rarely pursued through Congressional action.

Transfer to Indian Tribes: Out of the federal lands identified in this exchange proposal, fourteen tracts (O12-O25; 801.69 acres total) are situated in the former North Half of the Colville Reservation, and four tracts (Y3-Y6; 98.32 acres total) are directly adjacent to the Yakama Indian Nation reservation. Accordingly, the possibility of a no-cost conveyance of these lands to the respective Indian Tribes has been considered. This alternative, however, is not allowed under existing statutes and would require Congressional action. The alternative would also be inconsistent with the Spokane RMP's land tenure adjustment criteria.

III. AFFECTED ENVIRONMENT

This section describes the BLM and non-federal lands included in this exchange proposal as they are now known to exist. Primary emphasis is on public lands where intensive inventories have taken place. By law and regulation, a thorough analysis of these lands is required before BLM can process their disposal. With some exceptions (such as hazardous materials and noxious weeds), the same level of analysis is not required for non-federal lands to be acquired. The affected environment is described by resource value and land ownership.

A. Physical Environment: Federal (BLM) Lands

Location and Topography

The public lands proposed for exchange are located in six adjoining counties in central Washington State, extending from the U.S. border with Canada to the border with Oregon. Legal descriptions and maps of all the tracts are located in Appendices 1 and 2. The tracts range in size from 1.04 acres to 640 acres, and are situated in Okanogan, Chelan, Douglas, Kittitas, Yakima, and Klickitat Counties. Because the tracts encompass a variety of land forms and vegetation types, they are first described as similar groupings within a given county. The lands are further described in the specific resource descriptions of vegetation, wildlife, geology, etc. The tract groupings are listed on Table 1, starting from the most northern county (Okanogan) and working south.

Table 1 - Federal Lands Proposed for Exchange	
Group Name	Public Land Tracts
<i>Okanogan County</i>	
Okanogan-Forest	O2,O3,O7,O12,O14,O16-O25
Okanogan-Range Forest Okanogan	O1,O5,O6,O8-O11,O13,O15, O26-O30,
Okanogan-Orchard	O4
<i>Chelan County</i>	
Lake Chelan-North	C4,C8-C11
Lake Chelan-South	C2,C3,C5,C6
Wenatchee	C1,C7
<i>Douglas County</i>	
Douglas	D1-D3
<i>Kittitas County</i>	
Kittitas-Range	K1-K11
Kittitas-Forest	K12
<i>Yakima County</i>	
Yakima-BLM	Y1-Y6
Yakima-USBR	Y7-Y11
<i>Klickitat County</i>	
Klickitat	KL1-KL4

The Okanogan-Forest group is an assemblage of tracts that are primarily forested, with some shrub-steppe. Twelve tracts (O12, O14 and O16-O25) are scattered east of the Okanogan River and are all within the former North Half of the Confederated Tribes of the

Colville Indian Reservation, in the area also known as the Okanogan Highlands. With few exceptions, these lands are concentrated in the area around Bodie and along State Route (S.R.) 20 between Tonasket and Republic. In general, their topography is moderately steep-to-steep mountain sideslopes with a range of aspects. The remaining tracts in this group include O2, located just south of the Methow River six miles west of Pateros; O3, six miles west of the most western lobe of the Colville Reservation; and O7, six miles northwest of Riverside. Tract O2 lies on the steep lower slopes of Goat Mountain, O3 sits on a strongly sloping ridgetop trending east from Thrapp Mountain, and O7 lies on the steep east-facing sideslope of a small hill above Medicine Lake, in Okanogan County's lime belt region.

The Okanogan-Range/Forest group includes tracts that are either entirely shrub-steppe, or shrub-steppe with some forest mixed in. Most of these parcels lie on either side of State Route (S.R.) 97 traveling north between the towns of Okanogan and Oroville, and within seven miles of the highway. One exception not located near S.R. 97 is tract O1, which lies on a steep, south-facing hillside just north of the Twisp River, two miles west of Twisp. Other exceptions are tracts O13 and O15, which lie in the former North Half of the Colville Indian Reservation. Tract O15 sits on the steep southwest facing slope of Barker Mountain and O13 lies one mile away, on a moderately sloping ridge just south of S. R. 20. In the area south and west of Oroville lie tracts O9-O11 and O26-O30. Parcels O9-O11 sit on the east-facing slope of the mountainous area directly west of the Okanogan River Valley; these three parcels occupy moderately steep to steep ridgetop and sideslope positions. Tracts O26-O30 are comprised of five small fragmented parcels just southwest of Wannacut Lake, on the moderate to steep east slopes of Palmer Mountain. The three remaining tracts in this group are: O8, north of Crumbacher Lake on the mostly steep, lower east slope of Carter Mountain; and O5 and O6, which sit on strongly to steeply rolling terrain a few miles northwest of the city of Okanogan.

The Okanogan-Orchard group is comprised of one tract (O4), which is on a nearly level terrace adjacent to the north side of the Columbia River, just east of Brewster. Except for a steep bank at the rivers edge, this parcel is covered entirely by irrigated orchard (via permit).

In Chelan County are found three groups. Located roughly north and south of Lake Chelan, respectively, are the Lake Chelan-North and -South groups. Of the -North group, C9 and C10 are forested and have steep sloping side hill positions in Purtteman Gulch. The remaining three tracts are mostly rangelands, with C4 occupying a strongly sloping ridgetop above Wapato Lake, C8 sitting in a drainage bottom and side hill just to the east, and C11 lies on the ridgetop between Lake Chelan and the Columbia River. All of the -South group is partly forested and sit on the steep and very steep lower slopes of Slide Ridge and Forest Mountain; most are within a mile of Lake Chelan. The third group of Chelan County lands consists of two tracts southeast of Wenatchee. Tract C7 is a range parcel with a portion under permit for irrigated orchard; it sits on a nearly level terrace with a strong slope leading down to the Columbia River. Parcel C1 lies on Jump-off Ridge, occupying a portion of the mostly steep facing, partly forested northwest side, and a part of the open, moderately steep southeast facing ridgetop.

The Douglas County tracts proposed for disposal include three shrub-steppe parcels. Two of the tracts (D1 and D2) are situated on the steeply sloping, moderately incised breaks above the east bank of the Columbia River. Tract D3 sits on the undulating and gently rolling slopes of the Waterville Plateau, about five miles southwest of Mansfield.

The Kittitas County lands are split into two groups (Kittitas-Range and -Forest). Kittitas-Range includes 11 shrub-steppe parcels situated mostly east and north of Ellensburg; and Kittitas-Forest contains one forested tract (K12). Tract K12 lies on the steep north-facing sideslope of a small hill about five miles west of Cle Elum. All of the Kittitas-Range parcels, except for K1, sit on the southwest-facing lower slopes of the eastern-most extent of the Wenatchee Mountains. Most of the tracts lie on the lower slopes of Whiskey Dick Mountain. In general, these parcels have a gentle to strongly rolling topography. Parcel K1 is north of Ellensburg on a large, nearly level alluvial fan; this land-form slopes away from the south side of the Wenatchee Mountains towards Ellensburg.

Two groups are in Yakima County (Yakima-BLM and Yakima-USBR). Yakima-BLM includes two tracts west of Yakima and four tracts bordering the southeast boundary of the Yakama Indian Nation reservation, lying on the ridge line and north side of the Horse Heaven Hills. The second group (Yakima-USBR) includes five tracts (Y7-Y11) located west of Yakima that have been used in conjunction with the USBR Yakima Irrigation Project. Most of these are range tracts, although the USBR tracts have seen varying levels of disturbance and development, and three tracts adjacent to the Yakama reservation have been farmed for dryland wheat (in trespass). All of the tracts except Y2 have gentle to strongly rolling topography; Y2's slopes are moderate to steep.

The last group is the four Klickitat County parcels, which are comprised of shrub-steppe/forest mosaic. These parcels lie on gentle to strongly rolling topography on the south side of the western-most extent of the Horse Heaven Hills.

Vegetation

The collective term “botanical values” is used in these descriptions to indicate special status plants, high quality plant communities, and ethnobotanical plants (ethnobotanical plants are described in Cultural Resource/Native American Values section). Plant nomenclature is from Hitchcock and Cronquist (1973). The special status species and high quality communities found on federal exchange lands are shown in Appendix 3a. The special status plants BLM considered in its field inventories are listed in Appendix 3b. The term “special status plants” is used to indicate those species listed by the United States Fish and Wildlife Service (USFWS) as Federally Endangered (FE), Federally Threatened (FT), Federal Species of Concern (FSOC), Washington State Endangered (SE), State Threatened (ST), and State Sensitive (SS). Other plants mentioned are State Review Group 1 (SR) and State Watch (SW) species (Washington Natural Heritage Program, 1997). More complete definitions for these categories are provided at the end of Appendix 3b. Standards for evaluating high quality plant communities came from the Washington Natural Heritage Plan (1998), where they are ranked as Priority 1, 2, or 3 (see Appendix 3a). Evaluation of forested areas for old growth characteristics is discussed under the *Forest* sub-heading, at the end of this section.

Vegetation on the public land parcels can be generally characterized as sagebrush shrub-steppe, forest, or a combination of these two in a mosaic pattern. As noted above, exceptions include tract O4 and a small portion of C7, which have apple orchard, and Y3-Y5, which were previously dryland farmed for wheat, but now are weedy or have introduced grasses. Also, portions of the Bureau of Reclamation (USBR) lands (Y7-Y11) have been heavily disturbed and no longer have native vegetation. On an overall basis, roughly 4,170 acres are mostly shrub-steppe (includes areas with scattered ponderosa pine or Douglas fir) and 1,758 acres are mostly forested (with portions of shrub-steppe). Of the shrub-steppe, 17 acres have been converted to orchard and more than 40 acres have been converted to pasture or introduced grasses. Other acreage is weedy, some with noxious weeds (see below). Following are general descriptions of the setting and typical plants found on the public tracts, followed by specific tract characterizations.

In the lower elevations where the soil is deep enough, big sagebrush/blue-bunch wheatgrass (*Artemisia tridentata/Agropyron spicatum*) is the dominant community; big sagebrush/Idaho fescue (*A. tridentata/Festuca idahoensis*) and three tip sage/Idaho fescue (*Artemisia tripartita/Festuca idahoensis*) communities are lesser components (Daubenmire 1970). Cusick's blue grass (*Poa cusickii*) is an abundant grass within the moister variants of these communities. On sandy soils, needle and thread grass (*Stipa sp.*) and bitterbrush (*Purshia tridentata*) may dominate the site. Common wildflowers are small bluebells (*Mertensia longiflora*), western groundsel (*Senecio integerrimus*), yellowbells (*Fritillaria pudica*) and Thompson's paintbrush (*Castilleja thompsonii*).

Shallow rocky soils (lithosols) are underlain by basalt and support stiff sage/Sandberg's bluegrass (*Artemisia rigida/Poa secunda*) and thyme buckwheat/Sandberg's bluegrass (*Eriogonum thymoides/Poa secunda*) plant communities. These associations are found as patches within deeper soiled communities; they also comprise large, contiguous areas on ridges. Common plants of the lithosols are goldenweed (*Happalopappus stenophyllus*), Hood's phlox (*Phlox hoodii*), and rock penstemon (*Penstemon gairdneri*).

Rock outcrops are common on the shoulders of drainages and the breaks of ridges. These areas provide unique habitats within and along their margins for a variety of plants, including serviceberry (*Amelanchier alnifolia*), thicketleaved thelypodium (*Thelypodium lacinatum*) and wax currant (*Ribes cereum*).

In higher elevation settings, shrub-steppe grades into forest types as soil temperatures decrease and moisture increases enough to support conifers. Plant community associations here are within the ponderosa pine (*pinus ponderosa*), Douglas-fir (*pseudotsuga menziesii*) and grand-fir (*abies grandis*) series. Common flowers range from lupine species (*Lupinus spp.*), wild strawberries (*Fragaria spp.*) and Indian paintbrush (*Castilleja sp.*), to upland larkspur (*Delphinium nuttalianum*).

Chelan County Tracts: The vegetation zones on BLM exchange tracts in Chelan County can be characterized as shrub-steppe, shrub-steppe with scattered Douglas-fir and/or ponderosa pine (C4,C7,C8, and C11), or forested (C1,C2, C3, C5, C6, C9 and C10). Some of the parcels fall within just one vegetation zone, whereas others encompass all of

these zones. No special status plants were found during field inventory of these parcels. Most of the plant communities show various levels of past use and are weedy. The exceptions are parcels C9 and C10, which may meet the high quality definition of ponderosa pine/antelope bitterbrush (*Purshia tridentata*) (Priority1) or ponderosa pine-Douglas-fir/antelope bitterbrush (Priority 2).

Douglas County Tracts: The Douglas County tracts are mostly big sagebrush/bluebunch wheatgrass plant communities. Parcel D3 has communities of big sagebrush/needle and thread grass and rigid sagebrush (*Artemisia rigida*) or thyme buckwheat (*Eriogonum thymoides*)/ Sandberg's bluegrass habitat. All of the plant communities show various levels of past use and are weedy. Special status species located on parcel D3 include: Whited's penstemon (*Penstemon erianthus* var. *whitedii*), (SR), and two (SW) species, Hamblen's biscuitroot (*Lomatium farinosum* var. *hambleniae*) and Lyall's milkvetch (*Astragalus lyalli*).

Kittitas County Tracts: The public parcels located here are comprised by eleven shrub-steppe tracts (K1-K11) and one forested tract (K12). Parcel K1 has a high quality community of rigid sagebrush (*Artemisia rigida*)/Sandberg's bluegrass (Priority 3); the other tracts (K2-K11) have both big sagebrush/bluebunch wheatgrass and rigid sagebrush/Sandberg's bluegrass communities, both showing various levels of weediness due to past use. The forested plant association on K12 is grand fir/Oregon grape (Lillybridge et al. 1995). Forested canopy closure ranges from 60 to 80 percent with small openings ranging from 0.1 to 0.25 acre. The relative canopy closure is 55 percent Douglas-fir and 45 percent grand fir, with trace amounts of western larch and ponderosa pine. Few herbs or grasses are present. The stand has five trees per acre greater than 21 inches diameter at breast height (DBH), but lacks characteristics of a late seral grand fir forest.

Several special status plants were found on the Kittitas tracts. On K10, Hoover's tauschia (*Tauschia hooveri*; FSOC) was located, as well as four (SW) species: scilla-like onion (*Allium scilloides*), Umtanum desert parsley (*Lomatium quintiplex*), Hamblen's desert parsley (*Lomatium farinosum* var. *hambleniae*) and Hedgehog cactus (*Pediocactus simpsonii* var. *robustior*) (SR). Parcel K11 has a population of bristly combseed (*Pectocarya setosa*) (SW); K5 and K6 have populations of Pauper milk-vetch (*Astragalus misellus* var. *pauper*) an SS species; and parcel K2 has Umtanum desert parsley (*Lomatium quintiplex*) (SW).

Klickitat County Tracts: Parcels KL1-KL4 have a ponderosa pine/white oak (*Quercus garyanna*) habitat type. Parcel KL2 burned in July of 1998 and was later salvage logged.

Okanogan County Tracts: Tracts O2, O3, O7, O12, O14 and O16-O25 are mostly forested. Tracts O1, O5, O6, O8-O11, O13, O15, and O26-O30 are chiefly shrub-steppe with some forested portions. As noted elsewhere, parcel O4 is almost entirely irrigated orchard. The shrub-steppe vegetation includes several habitat types: bitterbrush/bluebunch wheatgrass, bitterbrush/Idaho fescue, big sagebrush/needle-and-thread grass (*Stipa comata*) and big sagebrush/bluebunch wheatgrass. Forested plant associations consist of Douglas-fir/pinegrass (*Calamagrostis rubescens*), Douglas-

fir/bluebunch wheatgrass, Douglas-fir/shiny leaf spirea (*Spirea betulifolia*), Douglas-fir/common snowberry (*Symphoricarpos alba*), and ponderosa pine-Douglas-fir/bluebunch wheatgrass associations (Lillybridge et al 1995).

Parcel O10 has riparian habitat on the margins of two ponds and along a small stream. The stream-side habitat is a priority 3, quaking aspen (*Populus tremuloides*) association, which is weedy. Parcel O1 includes riparian habitat along the Twisp River. The steep bank on tract O4 descends to the Columbia River, with scant riparian vegetation. Parcel O18 has a perennial stream (one of the tributaries to West Fork Granite Creek) with a few quaking aspen. Toroda Creek runs through a portion of tract O25 and has some black cottonwoods (*Populus trichocarpa*) and alder (*Alnus* sp.).

Most of the plant communities show various levels of disturbance due to past use and are weedy. Exceptions are parcels O11 and O15. Tract O11 has Douglas-fir/pinegrass habitat (Priority 3) opening to ponderosa pine/bluebunch wheatgrass and big sagebrush/Idaho fescue (Priority 1). Although some weeds are present on O11, its plant communities are in very good condition. Tract O15 was evaluated as having 10 acres of high quality big sagebrush/needle-and-thread grass plant community (Priority 1) and 20 acres of high quality big sagebrush/bluebunch wheatgrass plant community (Priority 2). With the exception of Milk-vetch (*Astragalus agrestis*) (SR), found on tract O11, no special status species were found.

Yakima County Tracts: All of the Yakima County parcels occur within areas that are or were historically shrub-steppe habitat. Parcels Y1, Y2 and Y6 have communities of big sagebrush/bluebunch wheatgrass or big sagebrush/Sandberg's bluegrass on the deeper soil areas, with rigid sagebrush/Sandberg's bluegrass on the shallow soils. Parcels Y3 and Y4 have been converted to dryland wheat; parcel Y5 has been farmed in the past and is very weedy with abundant cheatgrass (*Bromus tectorum*) and tall mustard (*Sysimbrium altissimum*). Parcels Y7-Y11 have been used in conjunction with the USBR's Yakima Irrigation Project. All of these are essentially range tracts, although the USBR tracts have seen varying levels of disturbance and development. Parcel Y9 and Y10 are moderately to heavily disturbed with weedy big sagebrush/bluebunch wheatgrass and rigid sagebrush/Sandberg's bluegrass habitat types.

Parcel Y1 has a population of Hoover's Tauschia, a FSOC species. Populations of Piper's daisy (*Erigeron piperianus*) (SS) and bristly combseed (*Pectocarya setosa*) (SW) are found on Parcel Y6.

Forest: The plant species inventoried on the forested parcels are discussed above. All forested parcels were evaluated for their old-growth qualities using the definitions of old-growth developed by Region 6 of the Forest Service for eastside forest types (1993), and the Washington State Department of Fish and Wildlife priority habitats (1999). Generally, a site met minimum standards if the following characteristics were present: Eight or more trees with diameters equal or greater than 21 inches at breast height (dbh); trees are older than 150 years in age; at least 2 canopy layers; 1-3 snags per acre greater than 12-14 inches dbh; down logs are abundant to absent; evidence of human-caused alterations are absent or so slight as to not affect the ecosystem's essential structures and functions; and, they cover

an area greater than 10 acres in size. Also considered were the shape of the stand (narrow stands may lack late-seral function), its position in the landscape (side hill, ridge top, etc.) adjacent land uses, aspect, and elevation. After field reviews using the above criteria were completed, tracts O14, O16 and O25 were found to have portions that meet the minimum standards.

Noxious Weeds

Weed infestations on the public lands were documented through BLM botanical surveys and Salmon Summit vegetation surveys. About 35 percent of the federal lands have some form of noxious weed infestation. The most common species is diffuse knapweed. Other species include Russian knapweed, Canada thistle and dalmation toadflax.

Wildlife Habitat

The vegetation section describes the plant associations (habitats) found on the federal lands. Wildlife species present on the federal parcels include many of the species described by Dobler (1994) and listed by Guenther and Kucera (1978) as species associated with sagebrush-steppe, Oregon oak woods, interior Douglas-fir, and ponderosa pine habitats, and those which use riparian and cliff and rim special habitats. The GAP Analysis of Washington State (Cassidy et al. 1997) reports provide excellent maps of known and suspected occurrences of amphibians and reptiles, breeding birds, and terrestrial mammals (Cassidy et al. 1997); many of these are listed in Appendix 5.

Special Status Animal Species: Special status species and habitats observed during field surveys or listed as on or near the parcels in the Washington Department of Fish and Wildlife's Priority Habitats and Species (PHS) data base are included in Appendix 4. Federal and state listed or candidate species found on or near the parcels, or present in the PHS data base, are identified on Table 2.

Also considered were numerous other species of concern not listed above. No critical habitats are affected, but several parcels lie within lynx habitat analysis areas. Goshawk surveys were conducted for two years on all parcels with potential habitat, and track surveys were performed on parcels within lynx analysis areas.

Table 2: Special Status Species Considered in the Proposed Exchange Analysis		
SPECIES	FEDERAL STATUS	STATE STATUS
gray wolf	Endangered	
grizzly bear	Threatened	
North American lynx	Threatened	
bald eagle	Threatened	
northern spotted owl	Threatened	
bull trout	Threatened	
Ute ladies tress's	Threatened	
peregrine falcon		Endangered
sage grouse		Threatened
sharp-tailed grouse		Threatened
wolverine		Candidate
golden eagle		Candidate
northern goshawk		Candidate
flamulated owl		Candidate
burrowing owl		Candidate
Vaux's swift		Candidate
Lewis woodpecker		Candidate
white-headed woodpecker		Candidate
black-backed woodpecker		Candidate
pileated woodpecker		Candidate
loggerhead shrike		Candidate
sage thrasher		Candidate
sage sparrow		Candidate
western toad		Candidate
Columbia spotted frog		Candidate

Fisheries

Seven federal tracts have connection to waters with fishery resources: C7, O1, O2, O4, O18, O20 and O25. These tracts are described below.

Parcel C7 is a 35-acre tract that sits on the west bank of the Columbia River south of Rock Island Dam, and has about 0.25 mile of moderate-to-steep bank river frontage, partly under a withdrawal for the Grant County Public Utility District's Wanapum Dam project. This parcel has little effect on fish (Pers. Comm., Scott Carlon, NMFS).

Parcel O1 comprises about 23 acres on the north side of the Twisp River, just west of Twisp. This parcel appears to have the potential to affect fishery values, since the lower portion of the parcel lies in the 100 year floodplain of the Twisp River, and a corner may touch the river. The Twisp River has Endangered Species Act listed spring chinook salmon, Upper Columbia ESU (Evolutionary Significant Unit) steelhead, and bull trout. The existing riparian vegetation provides some shade and cooling to the Twisp River. A site analysis obtained from the Okanogan County Planning Department confirmed that County rules would prohibit building construction or other destruction of riparian vegetation within the 100 year floodplain.

Parcel O2 includes two parcels totaling approximately 117 acres located directly south of the Methow River, with one corner of the most western tract near but not touching Black Canyon Creek, and two small north/south running intermittent tributaries to the Methow River (about 0.5-mile total distance). The two tributaries are not accessible to anadromous fish because of gradient and passage blockage at the culverts under State Route 153. Both tributaries are extremely high gradient and unlikely to be occupied by any fish species. (Pers. Comm., Dave Hopkins, USFS, Winthrop Ranger District) .

Parcel O4 is about 13 acres. It lies on the north bank of the Columbia River (Lake Pateros) just east of Brewster, and has about 0.5 mile of steep bank shoreline that is under partial withdrawal for the Douglas County PUD's Wells Dam. This parcel has little to no effect on fish.

Parcel O18, comprised of around 113 acres, has about 0.25 mile of frontage (both sides) on a small creek that is one of three small headwater forks combining to make the West Fork of Granite Creek. The creek crossing BLM is about 6 inches deep and 2 feet across. There is good grass and shrub riparian cover along the creek; however, on private land directly downstream of the BLM, the creek has been diverted into a former logging skid trail and is in poor condition. Contact with an Okanogan National Forest fisheries biologist revealed there is no known bull trout habitat in the West Fork of Granite Creek; however, this creek is a tributary to the Sanpoil River, 20 miles to the east, which does have a bull trout population (Pers. Comm., Jeff Bohler, Fisheries Biologist, Republic Ranger District, USFS).

Parcels O20 and O25 are near Bodie, north of Wauconda. Parcel O25 comprises roughly 94 acres and lies on both sides of two short sections of Toroda Creek (0.25-mile total). Parcel O20 is about 17 acres crossed by 0.125-mile of Bodie Creek, a tributary to Toroda

Creek. The portion of Toroda Creek flowing through O25 has evidence of recent flooding and bank damage. Recent surveys of a portion of Toroda Creek crossing National Forest land one mile south of the BLM parcel revealed good numbers of rainbow trout and eastern brook trout. No distinct cutthroat trout or bull trout were found using electro shocking. On August 31, 1999, water temperature was at 52E F, bank-full width was 19 feet, and water depth was 1.1 feet. Toroda Creek supports a small local recreational fishery (Pers. Communication and fish survey by Kelly Cooper, Fish Biologist, USFS, Tonasket, WA.). Level 1 Team discussions with USFWS have confirmed that these two tracts do not have bull trout nor suitable habitat (Pers.Comm.,Michelle Eames and Chris Warren, USFWS, Spokane, WA).

Cultural Resources/Native American Values

Cultural resources encompass a wide array of cultural, archaeological and historical values, including ancient Native American sites, as well as historic cultural properties and resources. Cultural resources may include archaeological or historical sites, sacred sites, traditional cultural properties, or other resources of traditional use (such as collection areas). Following is a description of the setting and history of the tracts, including a summary of resources located by BLM during its Class III archaeological field surveys. Specific Native American values are also discussed in more detail (such as ethnobotanical plants and hunting and fishing rights) following this section.

The geographic area encompassing the exchange tracts covers a broad band from the north to the south across the state's center and includes areas traditionally used by people of at least 10 aboriginal groups. The ethnographic use area stretches from the territory of the Okanogan and Southern Okanogan near the present Canadian border to the lands of the Yakama and Klickitat near the Oregon border. The geographic area includes the traditional use areas of the Yakama, Klickitat, Columbia, Wanapum, Wenatchi, Methow, Chelan, Kittitas, Nespalem, and Spokane tribes and bands. A number of the tracts are within the ceded lands of the Yakama Nation and the Colville Confederated Tribes.

When the Euro-American explorers, fur traders, and missionaries arrived in the Northwest in the early 19th century, they found the native people of the region following a way of life that included semi-permanent villages, and temporary camps that included seasonal travel between various resource sites (salmon fishing sites, berry-picking areas, etc.). This way of life was likely followed for thousands of years. Evidence from early archaeological sites indicates that the seasonal subsistence cycle was probably preceded by more mobile big-game-hunting culture that left fewer traces of their presence. Archaeological evidence is generally limited to scattered camp sites and stone tools, butchered remains of big game animals (including mammoths and bison), and occasional caches of ancient stone tools.

Historically, fur traders were followed by miners, ranchers, homesteaders, and farmers, as well as the railroads and steamboats that served their communities. Evidence of these diverse activities can still be seen across the landscape as historic trails, refuse piles, living sites, rock cairns, buildings, and other features now called "cultural resources."

In 1855, Washington Territorial Governor Isaac Stevens convened a Council in Walla Walla for the purpose of extinguishing Indian Title to lands north of the Columbia River. Nearly half of eastern Washington was ceded (including portions of Benton, Klickitat, Yakima, Kittitas and Grant counties) in exchange for reservations and other considerations. Provisions of the treaties include off-reservation fishing rights, along with privileges of hunting, gathering roots and berries, and pasturing stock on open and unclaimed lands in common with other citizens. The Yakama, Umatilla, and the original Nez Perce Reservations were created as a result of the 1855 treaties. A separate meeting at The Dalles established the Warm Springs Reservation in Oregon. A period of unrest and skirmishes followed signing of the treaties, marking the beginning of the Indian Wars of 1855-1858. The skirmishes resulted in closure of Euro-American settlement in eastern Washington during that period.

Ratification of the treaties in 1859 by Congress and passage of the 1862 Homestead Act opened lands to expanded Euro-American settlement. In the 1870s, reservations were established for numerous tribes and bands of eastern Washington, including the Colville, Spokane, Coeur d'Alene, Kalispel, Lakes, San Poil, Nespelem, Moses Columbia, and others. In 1883, the Moses Columbia Reservation (MCR) was extinguished, followed by the termination of the former North Half of the Colville Reservation in 1892. The Colville Confederated Tribes retain reserved hunting, fishing, gathering and water rights in the former North Half of the Colville Reservation.

With the discovery of gold and other minerals, expansion of sheep, cattle and farm industry, and improved transportation routes (particularly construction of railways), much of the "open lands" were claimed and settled. The effect of these activities is evident on or near a number of the federal parcels offered for exchange.

The general area of the proposed federal exchange parcels in Okanogan and Douglas Counties may contain many cultural resources due to their proximity to an ancient but still used travel route. This route roughly followed the Columbia and Okanogan rivers and was used by native trading parties, fur trade "brigades," miners, homesteaders, ranchers, farmers, and pioneer businessmen who followed them. Travelers along the route probably left physical traces of their activities in the area.

Cultural sites found and recorded during BLM's Class III archaeological surveys include rock cairns, lithic scatters, a camp site, an historic dump and buildings associated with a mine, sections of a canal and irrigation ditch, and a corral. Most of these sites, with the exception of the cairns, lithic scatters and camp site, are evidence of historic Euro-American activity. Although one small tract is located in the Lake Pateros Archaeological District, a Class III archaeological survey found no evidence of cultural material on the tract.

Native American Values: BLM's trust responsibilities are reflected by agency efforts to involve Native American tribal governments in the identification of tribal interests and concerns on public lands proposed for exchange. BLM is taking into account the reserved rights as outlined in the provisions of the 1885 Camp Stevens treaties, including off-reservation fishing rights, privileges of hunting, gathering roots and berries, and

pasturing stock on open and unclaimed lands in common with other citizens. Forty-one (41) of the federal exchange tracts (totaling 4,052 acres) are located within the ceded lands under the Camp Stevens Treaty of 1855, and subject to the provisions of this treaty.

The Colville Confederated Tribes also retain reserved hunting, fishing, gathering and water rights on ceded lands in the former North Half of the Colville Reservation. An additional fourteen (14) federal tracts (totaling about 802 acres) are located in the former North Half of the Colville Reservation and are proposed to be exchanged out of federal ownership.

Ethnobotany: Ethnobotany is the study of plants used by people in various cultures. It is addressed here because many plant species identified on the federal tracts could be collected and used as sources of food, medicine, fibers and dyes, primarily by Native Americans. Numerous plants of cultural interest are found on many of the BLM tracts (see table below). Although these plants have important food, medicinal or economic uses and traditionally have been collected by Native Americans, specific collection areas have not been identified on the federal tracts.

**List of Ethnobotanical and Culturally Important Plants Known
To Occur On Many Federal Parcels Proposed For Exchange**

- | | |
|---|---|
| • balsamroot (<i>Balsamorhizza saggitata</i>) | • common yarrow (<i>Achillea millefolium</i>) |
| • biscuit roots (<i>Lomatium spp.</i>) | • stonecrop (<i>Sedum sp.</i>) |
| • serviceberry (<i>Amelanchier alnifolia</i>) | • sagebrush mariposa (<i>Calochortus lyallii</i>) |
| • chokecherry (<i>Prunus virginiana</i>) | • heartleaf arnica (<i>Arnica cordifolia</i>) |
| • wax currant (<i>Ribes cereum</i>) | • brodiaea (<i>Brodiaea sp.</i>) |
| • western virgin's bauer (<i>Clematis ligusticifolia</i>) | • miners lettuce (<i>Montia perfoliata</i>) |
| • wild rose (<i>Rosa spp.</i>) | • hoary chaenactis (<i>Chaenactis douglasii</i>) |
| • willow (<i>Salix spp.</i>) | • blue elderberry |
| • sumac (<i>Rhus glabra</i>) | • salsify (<i>Tragopogon dubius</i>) |
| • red-osier dogwood (<i>Cornus stolonifera</i>) | • giant wildrye |
| • horsetail (<i>Equisetum sp.</i>) | • Mariposa lily (<i>Calochortus macrocarpus</i>) |
| • Oregon grape (<i>Berberis spp.</i>) | • alum root (<i>Heuchera cylindrica</i>) |
| • death camas (<i>Zigadenus venosus</i>) | • asparagus (<i>Asparagus officinalis</i>) |
| • Great Basin wildrye (<i>Elymus cinereus</i>) | |
| • bitterroot (<i>Lewisia rediviva</i>) | |

Hunting and Fishing Values: Some of the tracts identified for exchange are located adjacent to perennial water and riparian areas or other areas where reserved rights including hunting and fishing may be practiced (see Fisheries section and Wildlife Habitat section). Although many parcels in the exchange lack legal access, under Federal management, a number of the tracts have been accessible to tribal members for the practice of reserved hunting and fishing rights.

Paleontological Resources

Paleontological resources include fossilized evidence of biological remains constituting a fragile and non-renewable scientific record of life on earth. They provide scientific,

educational, and recreational values to land managers and the public. No paleontological resources are known to occur on the BLM tracts proposed for exchange, but fossils occur in surrounding areas, particularly in Yakima and Kittitas Counties. Here vertebrate fossils have been found in places where Columbia Plateau Basalt flows covered lakes and swamps. Ginkgo Petrified Forest State Park, east of the Kittitas County public land parcels, exemplifies this kind of paleontological resource.

Geology and Mineral Values

To examine the mineral values of the federal parcels included in the exchange, BLM completed a mineral report that described the potential for leasable, locatable and salable minerals. Following is a description of the geologic setting and mineral values of these parcels, taken from this mineral report.

The federal parcels are predominately located within the Columbia Plateau and Okanogan Highlands geomorphic provinces, with a few parcels associated with the eastern portion of the Cascade Mountains province. Within the Columbia Plateau province, a series of Miocene basalt flows known as the Columbia River Basalt Group erupted from fissures during an 11-million year period between 17 million and 6 million years ago. The basalt covered pre-Mesozoic to middle Tertiary sedimentary and metamorphic rocks. Deposition was controlled by the existing topography. The basalt flows were locally interbedded with tuffaceous sandstones, silt, clay, and conglomerates of fluviolacustrine origin. Tertiary sediments most likely underlie the basalt on most of the tracts except those around the northern and eastern fringes of the Columbia Plateau where they are likely underlain by metamorphic and crystalline igneous rocks. The BLM tracts associated with this province are C1, C7, D3, K1-K12, KL1-KL4 and Y1-Y11.

The geology of BLM tracts located in north-central Okanogan County consists of weakly to moderately metamorphosed rocks of Permian or Triassic age, including the Spectacle (O26-O28, O30) and Cave Mountain (O7) Formations; late Mesozoic high-grade metamorphic rocks consisting of gneiss, schist, and amphibolite associated with the Okanogan Metamorphic Core Complex (O12-O18); Mesozoic and Cenozoic plutonic rocks of granitic composition, commonly granodiorite and quartz monzonite (O6, O9-O10, O29); and Cenozoic lavas and continental sedimentary rocks that overlie the older rocks known as the Klondike Mountain Formation (rhyolite flows) and the Sanpoil Volcanics (dacite/andesite flows) which are predominately located northeast of the Okanogan Dome complex (O8, O11, O19-O25).

Within the eastern portion of the Cascade Mountains province the tracts are associated with intrusive igneous and metamorphic rocks of Cretaceous-Jurassic age with some Eocene age metasedimentary and basic intrusive rocks. Tracts C2-C6, C8-C11, D1-D2 (Chelan Complex) and tract O4 are predominately granodiorite intrusive bodies of Cretaceous age. Tract O1 geology comprises Cretaceous-Jurassic age dacite and rhyolite flows of the Newby Group intruded by tonalite of the Alder Creek Stock. The pre-Cretaceous Methow Gneiss and Cretaceous-Jurassic age Summit Frazer Complex (gneiss and tonalite) are associated with BLM tracts O2, O3 and O5.

During the Pleistocene, the Okanogan Highlands were covered by the Cordilleran Ice Sheet, leaving associated glacial deposits. Meanwhile, the Columbia Plateau (Basin) was periodically inundated by flood waters from the northeast, associated with the Missoula Floods. Large areas were thereby covered by Quaternary alluvium, with Loess and dune sand of Pleistocene to Holocene age blanketing most of the high terraces.

The BLM exchange tracts within the Columbia Plateau (C1, C7, D3, K1-K11, Y1-Y 11) have moderate to low potential for oil and gas occurrence, depending on their proximity to past exploration wells having shows of gas. All remaining tracts have an unfavorable potential for oil and gas. Coal potential is considered low for all tracts within the Columbia Plateau that may contain sedimentary interbeds within the basalts, or may be underlain by Tertiary or older sedimentary formations. The balance of the tracts, principally in the Okanogan Highlands, have an unfavorable potential for the occurrence of coal. One parcel (O1) is classified as prospectively valuable for geothermal resources and was therefore rated as having moderate potential for its occurrence. Those parcels in the Columbia Plateau (low-temperature geothermal resource potential) associated with plutonic rocks, were rated as having a low potential for occurrence. None of the lands have a favorable potential for occurrence of sodium and potassium.

Locatable metallic mineral potential was considered high for tract O1 because of the past production at the Spokane Mine; moderate for tracts O6, O18, O21 and O25-O26 because of their close proximity to past producing mines/development workings; and low for all the remaining tracts in Okanogan and Chelan Counties (except C1 & C7, which have no potential). Potential for federal exchange tracts located in the remaining counties is non-existent or low. The potential for strategic or critical minerals is the same as locatable metallic minerals because of the association with copper, lead, zinc, and silver (all of which are strategic and critical commodities). The occurrence for diatomite is considered to be low on the federal tracts within the Columbia Plateau (except K12 and KL1-KL2, where the potential is non-existent). Potential for limestone is considered moderate for those BLM tracts with known limestone rock formations (O7, O8, O26-O28, and O30), and low for tracts near isolated limestone/marble occurrences (O5, O6, O18, O19, and O29).

The potential for occurrence of basalt quarry rock is high to moderate for tracts D3, K3-K11, KL1-KL4, Y3, Y4, and Y9, based on field documentation (direct evidence) or noted in the literature (indirect). Tracts lacking field evidence or not noted in the literature were given a low potential of basalt occurrence within the Columbia Basin (where it is likely that basalt occurs). The potential for sand and gravel is high for tracts C7, Y1, Y2, Y5, and Y7-Y10, based on field documentation, while rated moderate for those tracts with literature referenced gravel deposits but lacking field documentation (O4 & K1). All other tracts are considered to have a low potential. There are numerous non-commercial occurrences of pumice and pumicite in northern Chelan and central-Douglas and Yakima Counties. Parcels within the vicinity of these occurrences were given a low potential based on indirect evidence (38 tracts), while all other parcels (33 tracts) are considered to have an unfavorable potential. All tracts may have a low potential for clay, except parcels K8-K9, which were given a moderate potential based on the literature.

The only mineral development associated with the federal tracts occurred at the Spokane mine (tract O1) and on the Brook Lode (tract 06) by Sherman Mining Co. Small shipments of ore containing gold, silver, lead, zinc, and copper were shipped in 1939, 1941 and 1954 from the Spokane mine. No production records exist for the Brook Lode. Tracts O18, O19, O21, O22 and O25 are in proximity to abandoned mines or old development workings associated with the Bodie, Wauconda and Lupine Mines. No other mineral development has been documented on the BLM parcels. There is no indication that mineral development may take place in the foreseeable future.

Current Land Use (Including Grazing, Recreation and Timber Production)

Grazing: The BLM-administered lands in the exchange are in areas historically grazed by livestock. Of the 71 tracts of public land proposed for exchange, 26 are leased for livestock grazing (see Appendix 8 for a listing of the grazing lessees). Out of the 5,929 acres of public land proposed for exchange, 3,978 acres are leased for livestock grazing. The permitted grazing use on these lands is 555 animal unit months (AUM) total. An AUM represents one month of forage for a cow-calf pair or five sheep. These lands represent 2 percent of the total public acres leased for livestock grazing and 2.6 percent of total permitted AUM's in the Wenatchee Resource Area. Overall, BLM lands represent 2 percent of the land area of Washington State, and the subject public exchange lands comprise 0.05 percent of grazing land in the state. Documented range improvements on the public parcels include fences and a spring development. Undocumented or unauthorized range improvements may also exist.

Recreation/Access: Due to the scattered nature of the BLM-administered lands in this exchange proposal, site visits by BLM recreation personnel to all of the parcels were not achieved. As a result, existing recreation land use was estimated and documented through past BLM Salmon Summit site visits, BLM botanical site visits, and an extensive map review.

The BLM parcels in this exchange are scattered across six counties, and most all are small isolated tracts. Many of the tracts lack legal road access and are surrounded by private land, limiting the opportunity for public use. Parcels known to have legal public access via road (such as some portion of the tract is touched by a county road or state highway) include 80 acres of C5; C8; D3; K1 (Tipton Road); K3, K4 and K10 (Vantage Highway); O1 (Twisp River road); O2 (S.R. 153, USFS Black Canyon Road); O5 (Windy Hill road); O8 (S.R. 97); 80 acres of O11 (Gunsolley road); O18 (S.R. 20); O20; O21 and O25 (Toroda Creek road); and O29 (Wannacut Lake road). Tracts Y7, Y8, Y10 and Y11 have legal road access, but are presently withdrawn for USBR's Yakima Irrigation Project and not available for public use. Roads and trails crossing the federal lands are shown on maps of the parcels (see Appendix 2). Certain other parcels do not have legal road access, but can be legally reached by hiking through adjacent federal or state ownership.

Due to their scattered nature, small size, steep slopes, and the mixed private/public ownership surrounding them, the BLM tracts are difficult to manage for recreation. Although available for a variety of dispersed recreation uses, many of the tracts are

challenging for the public to identify and access. For these reasons, recreational use is estimated to be very low and, where occurring, attributed most likely to nearby property owners and local residents within 10 to 20 miles. Of the legally accessible tracts, predominant uses are probably hunting, dispersed camping, and off-highway vehicle (OHV) riding (especially K3, K4, and K10). During the winter, snowmobile use could occur on accessible roads and jeep trails, principally on tracts in Okanogan and Chelan counties. According to the Spokane RMP, all of the identified federal exchange tracts are designated as “open” to OHV use.

Timber Production: Of the 71 BLM-administered parcels included in this exchange, 21 parcels totaling about 1,220 acres are included in the Spokane BLM District timber base. Those tracts are C1, C9, C10, K12, O3, O7, O9, O11, O12, O14, and O16 through O27. Some of the other tracts have limited amounts of timber, but were not counted on the District’s base. Because of their small size, isolated nature, poor access, and steep slopes, most of the above noted parcels have been a low priority for timber management. The 1,220 acres represents 2.9 percent of the timber program land base in Spokane District. Although KL2 is not counted as part of the District timber base, a small salvage sale occurred on this tract in 1998, subsequent to a wildfire. Other timber harvest activity included a selective cut on tract O18 in the late 1950s. Although harvests have likely occurred on other tracts prior to this time, there are few available records. Some trespass logging has likely occurred through the years on margins and interiors of certain tracts.

Adjacent Land Uses

Lands adjoining the subject federal lands are either privately owned, held by the State of Washington (DNR), administered by the U.S. Forest Service (Wenatchee or Okanogan National Forest, now combined), or held in trust for Indian tribes. Uses include livestock grazing, timber production, wildlife habitat, recreation, orchards, irrigated pasture, dryland farming and rural home sites. The most common commodity use on adjacent lands is livestock grazing, followed by timber production, orchard and other commercial uses. Dominant non-commercial uses of adjacent lands are wildlife habitat, watershed protection, recreation, rural home sites, and open space.

A portion of the National Forest lands next to certain public tracts are considered roadless areas. Tracts C2, C5 and C6 are in the vicinity of the Slide Ridge roadless area of the Wenatchee National Forest. Forest Service management prescriptions in this area include ST-2 (Scenic Travel-Partial Retention) and RE-3 (Dispersed Recreation, Unroaded, Non-Motorized). The goal for ST-2 is to provide a near natural appearing setting along scenic travel corridors. Goals for the RE-3 are the same as the prescription title. In the Okanogan National Forest, roadless areas adjoin several of the BLM exchange tracts. The Clackamas Mountain area is mostly roadless, but according to the forest plan, has a management prescription with the goal of intensive timber management. This area shares a less than **C** mile boundary with the northeast corner of tract O18, and a ¼ mile boundary with the east side of tract O19. The Bodie Mountain roadless area touches a one-eighth mile portion of the northeast corner of tract O21, and has a management prescription goal to “provide minerals exploration and development opportunities while retaining, to the extent possible, existing natural conditions.”

On a national level, the Forest Service recently completed a draft EIS, and on May 10, 2000, issued proposed regulations affecting inventoried roadless areas. If approved, the regulations would prohibit road construction or reconstruction within most inventoried roadless areas, and require evaluation of roadless area characteristics during resource management plan revisions. Timber harvest by means other than roads would still be allowed. The Slide Ridge, Bodie and Clackamas roadless areas are included in this study.

B. Physical Environment: Non-federal Land

Location and Topography

The non-federal lands proposed for acquisition are located in three areas: in Okanogan County adjacent to upper Salmon Creek; in the lower Moses Coulee vicinity of Douglas and Grant Counties; and in the eastern Saddle Mountains in Grant County. In all cases, the non-federal lands adjoin existing blocks of BLM-land. The highest concentration of the non-federal tracts, and by far most of the acreage, is located in the Moses Coulee area. The four ownerships here are Billingsley, Weiss, WDWF (Washington Department of Fish and Wildlife), and Mittelstaedt. Legal descriptions and maps of all parcels are located in Appendices 1 and 2.

The Billingsley parcel is the largest single holding of non-federal land identified for acquisition in this exchange. It lies 20 miles east of Wenatchee and consists of 7,765 acres of shrub-steppe in three separate parcels. The lands are situated on uplands to the south and east of Moses Coulee, along the border of Douglas and Grant counties. The Billingsley land is interspersed with BLM-administered lands, touching or surrounding six separate federal blocks. The northerly portion of the largest of the three parcels includes the Mineral and Rattlesnake Springs area, which are within the coulee bottom itself. The topography in this part resembles channeled scablands, having a complex of slopes ranging from nearly level and gently sloping depressions, drainage bottoms and mesa tops to steep sideslopes and cliffs. Interspersed within this landscape are the aforementioned springs, a couple of ponds, and stream channels leading away from them. The remaining portion of the Billingsley property is characterized by several east/west trending ridges that are moderate to deeply incised and have strongly rolling to steep slopes. One principal drainage on the property, besides the coulee, is Petrified Canyon. Two springs feed a small stream here that travels down the canyon, periodically disappearing and reappearing. The other major drainages on the property are ephemeral, with a few seeps in various places.

Four miles to the southwest of the Billingsley tract, next to the south end of a large block of BLM land, lies the Weiss parcel. This parcel is 80 acres of shrub-steppe habitat on the top and north side of the ridge between Moses Coulee and Lynch Coulee, several miles to the southeast. Slopes here are undulating on the top, changing to steep on the side leading down to Moses Coulee.

The WDFW tract lies a few miles to the north of the Billingsley property. It consists of about 260 acres straddling Douglas Creek Canyon. The parcel is crossed by about one mile of Douglas Creek (a perennial, fish-bearing stream), as well as a county road and the old Great Northern railroad grade. McCue Springs arise on the property and flow into Douglas

Creek. The property lies adjacent to BLM on all sides except one; BLM also owns the fee portion of the abandoned railroad grade crossing the tract, having purchased it in the late 1980s.

About six miles to the northwest of the WDFW parcel sits the Mittelstaedt tract, at the north end of BLM's Douglas Creek/Duffy Creek block. Although shrub-steppe, this 1,100-acre tract differs in character from the above parcels in that it has a higher elevation and numerous brushy draws. This tract includes four separate pieces on moderately steep, incised northeast slopes of Badger Mountain. The top portion of the tract, located on a ridge, is nearly level to gently sloping. The parcel has one spring, several seeps, and a small stock water reservoir. A portion of the property is separated from BLM by a section of land held by the Washington State Department of Natural Resources (DNR); BLM is planning to acquire the DNR section through a separate land exchange (WAOR 53866).

The Gerard parcel comprises about 374 acres of patented mining claims straddling Arlington Ridge, just west of the old town site of Ruby and about 11 miles northwest of Okanogan. Most of the claims are gaps in a larger matrix of lands held by BLM. The tract is partly forested and steep sloping, with moderate to strong slopes on the top of the ridge and near the creek. The tract includes about 0.35 mile of Salmon Creek stream frontage (both sides) and its riparian area.

The 89-acre Hazzard parcel is located on the east end of the Saddle Mountains, in an area referred to as the Wahluke Slope. This shrub-steppe tract adjoins BLM lands on two sides and other federal land on its remaining sides. It is south facing, with moderate-to-strong slopes.

Vegetation

About 96 percent of the non-federal lands are characterized as shrub-steppe. Shrub-steppe is defined as vegetative communities consisting of one or more layers of perennial grass with a conspicuous but discontinuous over-story layer of shrubs (Daubenmire 1970). The exception is the Gerard tract, which is forested with interspersed grassy park areas. Following is a summary, by tract, of the vegetation zones on these lands. Although the general vegetative type is known, none of the lands have been inventoried for the presence of high quality plant communities or special status plants by BLM. With few exceptions, review of Natural Heritage databases indicated no special status plants or high quality communities reported on or adjacent to these lands (Washington Department of Natural Resources, 1999b).

The Billingsley and Weiss properties are within the big sagebrush zone. The majority of each area appears to be big sagebrush/bluebunch wheatgrass (*Artemisia tridentata*-*Agropyron spicatum*) habitat type, although intensive inventories are lacking. Much of this habitat is disturbed, with a high density of sagebrush, scant grass cover and decreased native plant diversity. Distributed across the landscape are relatively intact areas with higher grass cover and less sagebrush. Shallow soils are common on the breaks of Moses Coulee and are scattered throughout the area. The toe of slopes often are littered with basalt talus.

There are four known populations of sagebrush stickseed (*Hackelia hispida* var. *disjuncta*) (SS) in rocky talus portions of these lands, and a 1970 report of gray cryptantha (*Cryptantha leucophaea*) (SS) (Washington Department of Natural Resources, 1999b). The report on the gray cryptantha is old and it is not known if the population still exists or where it is located.

The WDFW tract includes both shrub-steppe and riparian habitat along perennial Douglas Creek. The upland species here are similar to those indicated for Billingsley and Mittelstaedt. Like the adjacent BLM land below the canyon rim, both the riparian and upland vegetative communities are in good condition, and no grazing is taking place. A known population of (SS) species, long sepal globemallow (*Iliamna longisepala*), is on these lands (Washington Department of Natural Resources 1999b).

The Mittelstaedt property is adjacent to other lands in the BLM Moses Coulee Management Area, and the vegetation types and condition are quite similar (BLM 1999). The habitat types fall in the shrub-steppe zone. Limited field visits have shown much of the upland habitats to be disturbed, but generally not weedy. Although portions of the riparian areas are disturbed with areas of bare compacted soil, the native vegetation is largely intact. Habitat types of the upland shallow soils are mostly rigid sagebrush-Sandberg's bluegrass (*Artemisia rigida-Poa secunda*) on the south slopes, with sagebrush replaced by thyme buckwheat (*Eriogonum thymoides*) and *Haplopappus stenophyllus* on the summits and north slopes. These habitat types are in good condition. Upland loamy soils are covered mostly by big sagebrush/bluebunch wheatgrass, big sagebrush-Idaho fescue (*Artemisia tridentata-Festuca idahoensis*), three-tip sagebrush-Idaho fescue (*Artemisia tripartita-Festuca idahoensis*), and three-tip sagebrush-bluebunch wheatgrass. The Gerard tract is primarily composed of forested (Douglas fir) and riparian plant communities. Except for steep ground on the east face of Arlington Ridge, nearly all of these lands were selectively logged in 1997. Few trees have been logged within the riparian area of Salmon Creek itself.

The 89-acre Hazzard tract, located in the Saddle Mountains, is shrub-steppe habitat. The lands have not been field inventoried for botanical values by BLM.

Noxious Weeds

Noxious weed infestations on the non-federal lands were determined by field visits of BLM personnel. Because of the remote character of most of the lands, few noxious weeds were noted. The Mittelstaedt property is known to have a very light (less than 10 acres) infestation of Canada thistle in the drainage below the spring. The WDFW property has approximately 20 acres of diffuse knapweed, Russian knapweed, Canada thistle, and kochia. The Billingsley property has less than 10 acres of total noxious weed infestations by diffuse knapweed and dalmation toadflax. The Weiss and Hazzard tracts are not known to have weed problems; however, the Gerard tract has pockets of diffuse knapweed and bull thistle on the road, road margins and other areas.

Wildlife Habitat

Appendix 4 lists special status species and habitats observed during field surveys or listed as on or near the parcels in the Washington Department of Fish and Wildlife's Priority Habitats and Species (PHS) data base. The threatened, endangered and candidate species considered for federal lands were also assessed for the non-federal lands. No critical habitats are affected, but several parcels lie within the grizzly bear recovery zone and several are within sage grouse concentration areas.

Fisheries

Of the six non-federal acquisition tracts, only the Gerard and WDFW tracts have fishery values. The WDFW parcel contains 0.5 mile of Douglas Creek (both sides) and McCue Springs. Although in good condition, the tract has evidence of past grazing and weed infestation. Only a small part is grazed under current management. The spring itself is perennial, contributing slightly warmer water to Douglas Creek. Douglas Creek contains a healthy, reproducing rainbow trout population and supports a heavy recreational fishery.

The Gerard Parcel sits on Arlington Ridge, with its lower portion crossed by 0.35 mile of Salmon Creek. Its riparian vegetation is in good condition, and the creek has been mostly undisturbed by recent logging between Salmon Creek road and the creek itself. This portion of the creek has good spawning habitat (Colville Confederated Tribes Salmon Creek Study, Chris Fisher, 1998; and NRCS Salmon Creek Study, Barry Southerland 1999). Steelhead have passage over the irrigation diversion dam at River Mile 3.5, and may be now using this section of the creek. The year 2001 should see adult steelhead returning to Salmon Creek, from a WDFW release of 5,000 steelhead smolt in 1999. Salmon Creek has future potential to be declared critical habitat for ESA listed steelhead by the National Marine Fisheries Service (NMFS).

Cultural Resources (Including Native American Values)

The non-federal lands proposed for acquisition are within the aboriginal use area of a number of Native American tribes and bands. Territorial boundaries in the Columbia Plateau region were fluid, allowing access to natural resources by many different peoples. Even so, all of the non-federal parcels are located generally within the ethnographic use areas of the Southern Okanogan and Moses Columbia peoples; and, with the exception of the Gerard parcel, within the ceded lands of the Camp Stevens Treaty of 1855. Although intensive cultural inventories have not been conducted on the offered non-federal tracts, database search of state site inventory records indicate that cultural resources associated with Native American hunting and resource procurement activities, as well as Euro-American settlement, are located in proximity to the parcels. At least 16 cultural sites have been located on these parcels. Identified cultural resources include lithic scatters, campsites, a mesa top site, cairns, trails and various historic features including a wagon road, homesteads, irrigation flumes, a CCC campsite, spring boxes and historic mining related features. A number of the properties are likely eligible for inclusion on the National Register of Historic Places. Traditional economic food plants were also noted on the Billingsley, Mittelstaedt, Weiss, WDFW and Gerard parcels. Intensive inventories will likely encounter additional cultural resources on each of the parcels.

Paleontological Resources

No paleontological resources are known to exist on the non-federal lands offered for exchange, although anecdotal information indicates that petrified wood is located on the Billingsley and Hazzard parcels.

Geology and Mineral Values

The BLM's mineral report completed for this proposal also examined the mineral values of the non-federal parcels included in the proposed exchange. The report looked at potential for leasable, locatable and saleable minerals. Following is a description of the geologic setting and mineral values of the non-federal lands.

All of these parcels are within the Columbia Plateau geomorphic province, with the exception of the Gerard parcels (located in the eastern portion of the Cascade Mountains province). Refer to section on the geology and minerals of the federal lands for a description of the Columbia Plateau province and more information on the Cascade Mountains province. The geology of the Gerard lands, located in west-central Okanogan County, consists of pre-Jurassic Salmon Creek Schists and Gneisses. During the Pleistocene, the Okanogan Highlands were covered by the Cordilleran Ice Sheet, leaving associated glacial deposits.

The non-federal lands were found to have a low potential for oil and gas, coal and geothermal resources. The exceptions are an unfavorable potential for oil and gas and coal resources on the Gerard parcel and a moderate potential for oil and gas occurrence for the Hazzard parcel. None of the lands have a favorable potential for the occurrence of sodium and potassium.

Except for the Gerard parcel, and a low potential for diatomite on the Hazzard parcel, none of the non-federal lands have a favorable potential for locatable mineral occurrences. Locatable metallic mineral potential is considered high for a portion Gerard because of the past production at the Last Chance and First Thought Mines. A moderate potential for occurrence is given to the remainder of the Gerard tract because of close proximity to past producing mines and development workings. Potential for strategic or critical minerals is the same as locatable metallics. Potential for limestone is considered low for the Gerard parcel.

The potential for the occurrence of basalt quarry rock is high for all parcels except the Gerard parcel, where the occurrence is unfavorable. The potential for sand and gravel is high based on field documentation; it was rated moderate for those tracts with literature referenced gravel deposits, but no field documentation. All other tracts are considered to have a low potential. There are some non-commercial occurrences of pumice and pumicite in central-Douglas and Grant Counties; therefore, those parcels within the vicinity were given a low potential based on indirect evidence. The Gerard parcel is considered to have an unfavorable potential. All tracts appear to have a low potential for clay occurrences.

The only mineral development associated with the non-federal lands occurred on the Gerard tract's Last Chance and First Thought Mines. The First Thought Mine produced silver ore valued at \$66,000 from 1892-93, and shipped several small shipments of silver ore in the 1920's. The Last Chance Mine had several small shipments of silver ore in 1921 and 1924. No production has occurred at the mines since the 1920's and many of the extensive underground workings are inaccessible. No other mineral development has been documented on the private parcels. There is no indication that mineral development may take place in the foreseeable future.

Current Land Use/Access

The offered non-federal lands are used primarily for livestock grazing, recreation, wildlife habitat and timber production. Although the current owners (with the exception of the WDFW tract) may not actively manage their lands for recreation and wildlife habitat, these uses take place to some degree. One of the better examples is the Billingsley property, which is open to non-motorized hunting through an agreement with the Washington State Department of Fish and Wildlife. The Gerard parcel is the only forested tract of the six. A selective cut of merchantable trees occurred in 1997.

Grazing: The Billingsley, Weiss, Hazzard and most of Gerard properties are fenced in pastures with BLM lands that are grazed by cattle. An exception is the portion of the Gerard property in T. 35 N., R. 25 E., Section 32, which is not within a BLM grazing allotment, probably due to the steep terrain. The adjacent BLM lands in this section are not leased for grazing. The remaining Gerard land is split between BLM allotments leased by Woodward Cattle Company (0727) and Joseph Philleo (0851). The 0851 allotment is adjacent to, and used in conjunction with, the Ruby Mountain DNR permit range. The Billingsley and Weiss parcels are within the Billingsley Ranch BLM allotment; the Hazzard parcel is in the BLM's East Saddle Mountain allotment. Most of the WDFW lands are

within BLM's Douglas Creek grazing enclosure, which is not subject to grazing; however, a small portion of the WDFW land has been grazed with an adjacent block of private lands, as are adjacent BLM lands outside the enclosure. The grazing on these lands has occurred intermittently (not on an annual basis) in recent years. The Mittelstaedt property is currently grazed by cattle, but no BLM lands are authorized in conjunction with the livestock operation.

Recreation: The non-federal lands proposed for transfer to BLM all lie within existing BLM management areas. Recreation use on neighboring BLM lands is low but increasing. Since most of the tracts are privately owned, the recreational use on the non-federal lands is estimated to be very low. Exceptions are the Billingsley parcel, which is open to non-motorized hunting through an agreement with the Washington Department of Fish and Wildlife (WDFW). Another exception is the WDFW property in Douglas Creek canyon. This land has been open for public use and is situated in the middle of BLM's popular Douglas Creek area. An estimated 10,000 people (BLM 1999 use estimate) visit Douglas Creek each year to hunt, fish, camp, hike, mountain bike, swim, or ride horses. On all remaining tracts, dispersed camping, hunting, horseback riding, OHV and snowmobile (Gerard) use are most likely occurring, primarily by nearby property owners and local residents who have obtained permission.

Access: The WDFW, Gerard, and most of the Billingsley and Mittelstaedt tracts are legally accessible by public roads. Remaining portions of Billingsley and Mittelstaedt not accessible can be reached by traveling through intervening BLM ownership, either on foot or jeep trail. The Weiss and Hazzard tracts do not have legal access via public road; however, both tracts can be reached by hiking through adjoining BLM land or other federal ownership. Existing road density on the non-federal lands is shown on the maps in Appendix 2.

C. Land Status and Administration

1. Federal (BLM) Land

The BLM master title plats indicate that the surface and mineral estates of these lands are owned by the United States. Rights-of-way (R/W) grants have been issued across several of the tracts for access roads, highways, power transmission and distribution lines, telephone lines, water pipelines, and other uses as shown in Appendix 7. Besides these serialized rights-of-way, several undocumented county and state roads cross tracts in Kittitas, Okanogan and Yakima counties. Some of these roads were possibly constructed under the authority of Revised Statute 2477, prior to its repeal in 1976. Revised Statute 2477 did not require filing of an application with BLM when unreserved lands were needed to be crossed for public roads. Tracts crossed by these roads include D3, K1 (Tipton Road), K3, K4 & K10 (Vantage Highway), K7 (I-90), O1 (Twisp River Road), O5 (Windy Hill Road), O11 (Gunsolley Road), O18 (S.R. 20), O25 (Toroda Creek road), O20, and O29 (Wannacut Lake Road). Public roads appear to touch or cross Tracts Y7, Y8, Y10 and Y11; these roads do not likely involve R.S. 2477 rights if built prior to the lands being reserved by the U.S. Bureau of Reclamation for the Yakima Irrigation Project.

As shown in the Table 3 below, 11 of the BLM exchange tracts have water-related or reclamation withdrawals. Exchange of these parcels is subject to the terms of the specific withdrawals, unless the withdrawals can be modified or removed prior to exchange.

Table 3: Existing Withdrawals On Federal Parcels Proposed for Exchange	
Parcel	Purpose of Withdrawal, Authority and Effective Date
C4	Power Project 1465 (Federal Power Commission Order 3/1/1938)
C7	Power Site Reserve 154 (Executive Order 10/20/1910) Power Project 2114 (FPC O 7/22/1952)
C8	Power Project 1465 (50-foot wide transmission line corridor)
C11	Chelan Reclamation Project (Secretarial Order 3/13/1908)
O2	Power Site Reserve 197 (EO 8/16/1911)
O4	Power Site Classification 349 (SO 6/22/1944) Power Project 2149 (FPC O 2/2/1970)
Y7, 9, 10, 11	Yakima Reclamation Project (SO 10/09/1905)
Y8	Yakima Reclamation Project (SO 02/02/1912)

Three of the selected public land parcels (C7, O4, and O2) have short-term use permits issued to resolve former trespasses. Tracts C7 and O4 have land use permits for 5 and 12 acres of orchard use, respectively (file Nos. WAOR 43432 and WAOR 43523, respectively). A land use permit for occupancy has been issued for a 0.75-acre portion of the northwest corner of tract O2 (WAOR 50341). Also, unresolved trespasses are known to exist on the following public tracts proposed for disposal: O1, O8, O11, O20, O25, K9, K3, K4 and Y3-Y5. These trespass uses include unauthorized road construction, fencing, trash dumping, occupancy, agriculture, posting, and livestock grazing.

As noted in the grazing section, many of the selected federal lands have current grazing leases. In accordance with 43 CFR 4110.4-2(b), notices were provided to each lessee advising that grazing privileges could be canceled in two years if the lands are exchanged. If the federal lands are traded before the two-year expiration, the party acquiring the land would be bound by terms of the leases until the end of the two-year period. Grazing lessees who waived the two-year period include Buchert (tract O8), Cascade Farms (C1) and Haberman (K1).

Lastly, two of the BLM tracts (O6 and 026) have current mining claims.

2. Non-federal Land

These lands have varied ownership histories. Pre-existing rights are limited to county road easements and a few power distribution lines. As part of the exchange process, a title commitment is obtained for each ownership; title sufficiency and encumbrances are then reviewed by an Interior Department field solicitor.

IV. ENVIRONMENTAL CONSEQUENCES

This section describes environmental consequences (impacts or effects) that could result from selecting each of the alternatives. The discussion of impacts includes those effects of the proposal that are beneficial and those effects that are adverse. It addresses direct, as well as indirect, effects of the proposal. Also examined are those impacts that would result from incremental effects of the action when added to other past, present, and reasonable foreseeable future actions, regardless of which agency (federal or non-federal), organization or person undertakes the actions (also called cumulative impacts; see item E near the end of this chapter).

Several assumptions regarding management of public and non-federal lands were made for the purpose of analyzing the impacts of the exchange. These involve assumptions regarding reasonably foreseeable use of the lands following transfer of ownership. For many of the *selected federal lands*, the proposed land exchange would not result in a substantial change in land use, as shown in the discussion under Section C below. For the *offered non-federal lands*, the discussion focuses primarily on management direction specified in the BLM land use plan (RMP) defined management area (MA) that each particular tract would be in. In general, management activities on non-federal lands acquired by BLM would strive to enhance the health of land, emphasizing wildlife habitat and plant community values, while also managing for recreation, protection and preservation of cultural resources, and appropriate levels of commodity uses such as livestock grazing, timber harvest and mineral extraction.

A. Environmental Justice

Pursuant to Executive Order 12898 of February 11, 1994, federal agencies are required to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. Accordingly, for this proposal, it is necessary to determine whether any of the alternatives is likely to have a disproportionate effect on minority populations, low-income populations and Native Americans.

The federal lands identified in this proposal are scattered across a large geographic area, with no real concentrations of tracts near population centers. Because the lands are typically small in size, unsigned, and difficult to reach, they are rarely used by the public, whether minority, low income or Native Americans. Use authorizations held on the lands are primarily for grazing, and are not weighted towards minorities, low income persons, or members of Indian tribes. Through BLM's outreach effort, potentially affected members of the public, including Native Americans, have been consulted about the land exchange proposal and given opportunity to comment. No evidence has been found or submitted to suggest that the

Preferred Alternative or Alternatives 2 or 3 would have a disproportionate impact on minority or low -income populations or on Native Americans.

B. Critical Elements of the Human Environment

Analysis by the interdisciplinary team indicated that the following elements would not be affected by the Proposed Action (Alternative 1) or any of the alternatives: air and water quality, areas of critical environmental concern (ACECs), prime and unique farmlands, floodplains, wastes (such as hazardous or solid), wetlands, wild and scenic rivers and wilderness areas.

C. Impacts to Federal Exchange Lands

This section begins with a discussion of reasonably foreseeable future uses of the federal exchange tracts if they were conveyed into private ownership. Following this is a review of possible impacts by resource type.

Reasonably Foreseeable Future Uses

Approval of Alternative 1 (Preferred Alternative) or Alternatives 2 or 3 would result in transfer of most or all of the selected BLM lands, as described in this document, from public to private ownership, with a coinciding loss of federal control over the surface and mineral estate of the lands. In many cases, the public lands would be acquired by adjoining landowners or existing authorized users. For example, tracts Y7, Y8 and Y11 would be transferred to the Yakima-Tieton Irrigation District, the current user. Exceptions to this plan are certain timbered tracts in northern Okanogan County, (O3, O7, O12, O14, O16-25) which are expected to be conveyed to a private timber company (O14, if exchanged, may ultimately go to an adjoining landowner) . Other exceptions would occur where none of the adjoining owners are interested in acquiring the lands.

Under private ownership, the *type* of use on many of these lands would not change substantially from current use, although the *level* of use may increase. For analysis purposes, it is assumed that the timber resources on public lands identified for disposal under Alternatives 1, 2 or 3 (including, but not limited to the timbered tracts identified in the paragraph above) would be subject to harvesting, and the land would be managed primarily for commercial forest products. This is somewhat similar to the situation under Alternative 4 (No Action), where parcels with merchantable timber would continue to be managed in part for commercial forest products, even if retained in federal ownership.

Management of forest resources under private ownership would be governed by the “Washington Forest Practices Rules and Regulations” (R.C.W. 76.09), including the new emergency rules adopted by the Forest Practice Board on January 20, 2000. The emergency rules were enacted particularly in response to listing of salmonids in 1998, and provide increased protection of aquatic and riparian habitats. Harvest would occur to levels allowed by the rules, in some cases within 2 to 5 years after the lands were transferred. In previous land exchanges processed by the BLM Border Resource Area, lands conveyed to the same private timber company referred to in the paragraph above were generally kept open for limited public access and use. While not a guarantee, the same outcome is likely here. Other tracts conveyed

in this proposal, whether partly timbered or range, are more likely to be unavailable for future public use.

Identified public lands that have more likelihood for long-term changes include tracts with development potential for rural home sites, agricultural or commercial uses. Tracts located close to urban or other growth areas would have the most potential for such development. Because of their desirable location or proximity to urban areas, tracts C4, C8, C11, D1, K1, K12, O1, O6, O26-O30, Y1, Y9 and Y10, and small portions of O2, O5, O8 and Y2 have potential for rural residential use. Some of the tracts, most notably D1, K12, O1, and O26-O30, are near lands specifically subdivided into smaller tracts (mostly 20+ acre) for rural home sites or recreational use. However, many of the above tracts have no legal access, and several have very steep topography.

Also, future subdivision of most of the public tracts could be difficult or impossible because of comprehensive plans drawn up under Washington State's Growth Management Act (GMA). These plans have been, or will be, prepared by all of the counties included in this exchange except Klickitat and Okanogan. These latter two counties are not subject to the GMA and will only plan for Critical Areas and Natural Resource Lands. The counties preparing growth management plans will identify where and how growth needs would be met for the next 20 years. Much population growth will be funneled into urban growth areas (UGAs) adjacent to existing cities and towns, meaning that most natural resource areas, such as the subject public lands, are more likely to be conserved and their rural character maintained. High density development could therefore not occur on most of the public lands.

Two of the tracts (Y2 and Y10) have potential for future agricultural use. All of tract Y10 and a small portion of tract Y2 have orchard potential and could be developed for such use if future landowners are able to acquire needed water rights. Acquisition of water rights is by no means guaranteed, as the water resources in the Yakima basin are already over-allocated. As noted in the Affected Environment chapter, several of the public lands have been or are currently used for agriculture: C7 and O4, which have orchard, and Y3-Y5, which were previously in dryland wheat. These uses would continue or resume, with possible expansion into suitable uncultivated portions (if any).

Tracts K2-K7, and K9-K11 would continue to be used for range into the long term, with speculative value for limited commercial or residential use. Because of a ready supply of more conveniently located lands in the Ellensburg area, development of these lands would be slow and sporadic.

Remaining tracts not specifically mentioned above generally have a lower likelihood of future use deviating from the present use. This is because of steep topography, poor access, remote location, or other factors. These lands would continue to be used for range, limited forestry and open space.

Impact Analysis

The narratives below highlight notable impacts by resource type for Alternative 1 (Preferred Alternative), and Alternatives 2 and 3. Under Alternative 4 (No Action), there would be no impacts to the subject federal lands. Continuing in federal ownership, the lands would remain open to the full range of actions allowed under the public land laws, mineral leasing and mining laws. Except for some non-discretionary actions allowable under the mining laws, however, any future proposal would require a specific environmental assessment.

Impacts to Vegetation

As noted above, the federal parcels would have varying types and degrees of use after being exchanged into private ownership. Although county planning under the GMA would determine land uses and housing densities in most of the affected counties, these rules are subject to appeal and may change over time. Therefore, they may not be a reliable predictor of long-term land use and maintenance of botanical values. Livestock grazing on private lands is not regulated, and exchanged lands could be heavily grazed at the expense of botanical values. Even though logging and reforestation on private lands is regulated by the State, the effects of logging disturbance on botanical values is not typically considered. Homes and development increase the likelihood of disturbance, and may result in adverse effects to botanical values. Development, increased grazing or logging on the public lands, if exchanged, could result in adverse effects to high quality plant communities and any special status species present. On the other hand, management for botanical values on scattered and isolated parcels is often very difficult, as they are prone to trespass, unregulated OHV use, and weed invasion. Consequently, even when the tracts are retained in federal ownership, known botanical values may degrade over time.

Impacts Common to Alternative 1 (Preferred Alternative) and Alternative 2

As noted in the Affected Environment chapter, five tracts (C9, C10, K1, O11 and O15) have high quality plant communities. Based on initial field inventory, parcels C9 and C10 were identified as being undisturbed and exhibited characteristics of high quality communities. Upon further evaluation it was determined that these parcels have limited value for conservation of plant communities. Their small size (40 acres each), surrounding private lands, need for thinning, fuels treatment, and reintroduction of fire for long term maintenance make the impacts of trading out of these parcels minimal.

Generally, high quality plant communities on private lands are not preserved nor considered prior to extractive uses. Therefore, the fate of these communities would be dependent on the extent of post-exchange land uses. Increases in grazing, off-road vehicle use, logging or other ground-disturbing activities under private ownership could cause a decline in plant community values. Tract K1 would likely have rural housing and associated disturbance. Although the rigid sagebrush/Sandberg's bluegrass plant community on this tract is not adequately represented in the Natural Area Reserve Program, it is not rare or endangered. Loss of this habitat would not substantially diminish the amount of high quality habitat of this type in the local area or in the state. Tract O11 is comprises 420 acres, with about a third of its habitat a high priority for preservation (Washington Natural Heritage Program,

1997). Tract O15 borders state (DNR) land on one side and is of interest to the Washington State Natural Heritage Program (NHP) and The Nature Conservancy (TNC), as it is a high priority community for preservation. The NHP and TNC are working on a management plan to preserve native plant communities in this area, and this parcel meets suitability criteria for inclusion.

The future of special status plants on exchange lands would depend on future land uses. Because it is not possible to assess activities that would occur on these lands in the long term, for purposes of analysis the worst-case scenario (loss of these populations) is considered. Effects of population losses on long-term viability of species was determined by an analysis of species range, total population numbers, location of populations in relation to other known populations and habitat, population size, and protection provided by land ownership.

Neither of the populations of Hoover's *tauschia* (FSOC) on Parcels Y1 and K10 is thought to be sustainable over time if these two parcels are exchanged. However, due to fragmentation, continuity of habitat, and encroaching agricultural development, the population on Y1 may not be sustainable even if retained in BLM ownership. Parcel K10, which includes 320 acres without encroaching development, is continuous with neighboring habitat and more likely to be preserved under BLM ownership. Since loss of habitat is the greatest potential threat to this species, the primary conservation goal should be to prevent existing sites from being converted to other uses. The limited distribution of the small number of *tauschia* populations are of concern. Loss of any of the existing populations could be serious.

The possible loss of the populations of pauper milk-vetch (SS) on Parcels K5 and K6, and the several SW species on Parcels D3, K2, K10, K11, and O11 is not expected to jeopardize the continued existence of any of these species.

Alternative 1 (Preferred Alternative): The BLM would exchange up to 1,161 acres of forested lands and 4,170 acres of shrub-steppe, *acquiring* up to 9,295 acres of shrub-steppe and 374 acres of forested lands. Under this alternative, five mostly forested parcels (C2, C3, C5, C6 and O2) would be retained, and the plant community and botanical values on these lands would remain mostly intact. There would be less potential for adverse effects to plant communities on adjoining Forest Service lands.

Alternative 2: The BLM would exchange up to 1,758 acres of forested lands and 4,170 acres of shrub-steppe lands, while *acquiring* up to 9,295 acres of shrub-steppe and 374 acres of forested lands. The BLM would not retain parcels C2, C3, C5, C6, and O2 (about 597 acres), identified in Alternative 1. Because there are no known high quality plant communities or special status plants on these additional properties, this alternative would not result in a greater impact.

Alternative 3: The impacts to traded BLM parcels would be the same as those discussed above under *Impacts Common to Alternatives 1 and 2*. Four forested parcels in Chelan County (C2, C3, C5 and C6) would be retained, and botanical values here would remain mostly as they are. Populations of Hoover's *tauschia* on Y1 and K10 would be retained,

and conditions for these populations over the long term should generally not change. The Y1 population would continue to be at some risk for loss due to surrounding land uses.

The high quality plant community on tract O15 would be retained and possibly managed consistent with nearby lands held by the Natural Heritage Program and The Nature Conservancy. There would be no change in impacts to special status plants or high quality plant communities due to the retention of forested parcels O2, O21 and O25, since these values are not found on these tracts. Conditions for botanical values on the lands adjacent to all of the retained federal parcels would be less likely to change.

Alternative 4 (No Action): Under this alternative, the proposed exchange would not be completed; therefore, it would not result in any adverse impacts to the plant communities on the subject federal tracts. In the long term, however, plant community values on many of the tracts could be at risk for degradation due to activities on adjacent private lands.

Forest: Three tracts (O14, O16 and O25) have some plant communities with late-successional forest characteristics. Under Alternatives 1 and 2, these communities could change to a lower seral condition by logging activities after the exchange. The potential impact would be slightly less under Alternative 3, since tract O25 would be retained in federal ownership. Under Alternative 4, there would be no impact to the late-seral characteristics of these tracts from the proposed exchange.

Impacts to Wildlife Habitat

Alternative 1 (Preferred Alternative): Under this alternative, approximately 4,170 acres of shrub-steppe and roughly 1,161 acres of mostly forest habitat would be transferred into private ownership. Of the shrub-steppe tracts, approximately 17 acres (all of O4 and part of C7) are in irrigated orchard, 24 acres (Y3-Y5) have been used for wheat farming, and more than 40 acres have been converted to pasture or introduced grasses (portions of tracts Y7-Y11). Small portions of these latter tracts, along with a ± 1 acre portion of tract O2 have been used for residential/commercial purposes.

If the trade is completed, 14 of the shrub-steppe parcels (C4, C8, C11, D1, K1, K3, K4, K5, O1, O6, O8, Y1, Y2, and Y9; ± 1580 acres) would likely be used for residential development or agriculture, and an additional 6 tracts (K6, K7, K10, K11, O5, and O13; ± 1150 acres) could eventually be developed. Converting shrub-steppe habitat to agriculture or residential use would reduce habitat for migratory and resident wildlife. Species such as long-billed curlew, horned lark, sage thrasher, loggerhead shrike, Brewer's sparrow, vesper sparrow, and sage grouse could be displaced by loss of habitat or by disturbance caused by machinery, domestic animals, and people. Fragmenting shrub-steppe would make nesting song birds more susceptible to predation and to brown-headed cowbird nest parasitism.

Habitat changes on K4, K10, and K11, and to a lesser degree K3, K6, K7, and K5, could reduce the amount of habitat that links sage grouse populations in the Boylston Mountains on the Yakima Firing Center and populations on Whiskey Dick Mountain north of Interstate 90. Tracts K6 and K11 are too close to Interstate 90 to provide long term value for sage grouse (M. Schroeder, pers. comm.) and development of K10 and K11 is unlikely

to happen soon because of steep terrain and poor road access. Changes in the use of tracts K3-K5 is more likely. If sage grouse in this area are found to interact with grouse farther south on the Yakima Firing Center and with grouse in Douglas County, development of these tracts could affect sage grouse recovery efforts being considered in a statewide interagency conservation plan.

Tract D3 (80 acres) lies within the occupied or historical range of sage grouse, and tracts O13 and O15 (120 acres, total) lie within the historical range of sharp-tailed grouse. Because of its isolated location, Parcel O15 should continue to support shrub-steppe habitat. Parcels D3 and O13 are nearer to roads and could be more easily converted to other uses. The small size and isolation from other public lands greatly limits the long-term value of these three tracts to wide-ranging species such as sage grouse, sharp-tailed grouse, and mule deer. Long-billed curlews, known from these areas, could be affected by development and loss of short grass habitat (its preferred nesting habitat).

Six forested parcels (C9, C10, and KL1-KL4) would not likely be affected by the exchange because of steep rocky terrain, lack of good commercial timber, difficult access, and isolation within surrounding private lands. Six tracts (K12 and O26-O30) could be developed for residential use, and 14 tracts (O3, O7, O12, O14 and O16-O25) are likely to be managed as commercial forest.

Priority Habitat Species (PHS) maps show that 31 parcels in Alternative 1 (Preferred Alternative) support *regular* or *regular large concentrations* of mule deer or white-tailed deer, either seasonally or by resident animals (see Appendix 4). Deer use many of the other parcels but in lower concentrations. The GIS analysis of the PHS data shows *regular large concentrations* of deer on 449 acres on 7 forested parcels and 1,008 acres on 17 shrub-steppe parcels (Appendix 4). Seventeen of these parcels are not likely to be affected by the exchange because management should not change. Changes are most likely to occur on Parcels C11, D1, K1, O1, O6, O8, and O14 (totaling ±226 acres). Tract O14 would be managed as commercial forest, which could have transitory effects by decreasing forage and cover in some areas and improving foraging opportunities in others. Residential development on the other parcels would create barriers to travel; increase disturbance by dogs, vehicles, and people; increase fatalities from shooting and vehicle collisions; and alter or remove habitat.

Thirteen parcels have *regular concentrations* of deer; 10 are forested, and 3 are shrub-steppe habitat. Residential development would likely occur on or near Parcels O26-O30 (33 acres) near Wannacut Lake; and commercial timber management would likely occur on Parcels O16, O17, O18, O22 and O25 (149 acres). Three parcels (O9, O10, and O11), should remain as shrub-steppe. Logging activities could reduce snow intercept, thermal, and hiding cover; create seasonal disturbance; increase road density; and facilitate the spread of weeds. The timber company likely to acquire the forested parcels has a policy of closing its roads to public vehicle use, which would reduce the adverse effects of vehicles where road closures are applied and enforced. Logging activities that open the canopy and thin the understory could increase production of shrubs, forbs, and grass which could improve foraging opportunities in some areas.

All except four of the forested parcels (O16, O19, O21, O24) have roads. Access to these four tracts would require constructing about two miles of new road. Although redevelopment of old roads on other parcels could increase active road densities, the total amount of roads would be extremely small within the context of a sub-watershed analysis area.

Neotropical migrant bird (NTMB) species composition and abundance would be altered by the structural and successional changes on the managed forest lands. The NTMB density and diversity tend to rise in early-seral stands, decrease in mid-seral pole-sized stands, and rise in late-seral stands. The NTMB populations, therefore, would be expected to shift following treatments and would continue to change as stands mature. Thinning stands and creating a greater amount of edge habitat could make some NTMB's more susceptible to predators and to nest parasitism by brown-headed cowbirds.

Commercial timber harvest could adversely affect numerous cavity-dependent species, including several state candidates (such as the pileated woodpecker and Vaux's swift). Timber harvest would open stands, reduce densities of larger trees, reduce snag and recruitment tree densities, and generally reduce stand complexity. Bat species that occur in the area roost under tree bark and in cavities, caves, fissures, and buildings. Most species prefer to hunt along forest edges and over open habitats, so the proposal should have little effect on foraging areas. Tree-roosting habitat would be locally affected by development and harvest.

Parcels O21 and O25 link National Forest lands on the west side of Toroda Creek to DNR land on the east side of the creek. The DNR lands on the east side adjoin additional National Forest lands. Parcel O18 comes close to linking DNR and National Forest lands south of the Wauconda Summit. These links provide habitat connectivity which could be used by a variety of forest wildlife. The steep topography of O21 and O25 limits their use, since many wildlife species prefer to travel along ridges, across saddles, and along riparian habitat. Surveys in summer and winter on these parcels revealed a limited number of deer trails, which are also used by other species, entering into the valley along Toroda Creek. Winter track surveys showed that deer using trails coming from the west side of the valley did not cross the valley but dispersed into riparian habitat, hay fields, and a hay barn on adjoining private land. Few trails were evident in the winter coming from the east side of the valley on O21 and O25. Forested private lands to the south provide similar habitat connectivity across the valley. Development or logging of the parcels could alter use, but habitat linkages provided by other private lands in the valley would continue to be used by wildlife.

The connectivity that parcel O18 helps provide near Wauconda Summit could be altered to some extent by timber harvest. Species that avoid open stands could be inhibited from using this area if harvest practices did not leave sufficient hiding and travel cover. National Forest lands one mile to the east provide a corridor that is approximately 1.5 miles wide; this would continue to provide forest habitat connectivity along Highway 20.

Special Status Animal Species: There are 5 listed or candidate species known to occur on lands being exchanged, and 19 others were considered during field surveys and habitat

evaluation (see Appendix 4). Additional species of concern were also considered. These include but are not limited to such species as western bluebird, long-billed curlew, great grey owl, and long-legged myotis.

Forested areas in the Okanogan Highlands (tracts O12, O14, O16-O25) could provide habitat for gray wolf and grizzly bear, but no resident populations are known from the area. The area is not critical habitat and is not within recovery areas for wolves or bears, but it may provide some linkage habitat between grizzly bear recovery areas in the Selkirk Mountains and the North Cascades. The area lies within Management Situation 5, as described in Appendix A of the Interagency Grizzly Bear Guidelines, which includes areas where bears either do not occur or occur rarely. Increases in human presence and a slight increase in road density could negatively affect dispersing bears and wolves; because these are wide ranging animals, the effect would be slight.

Forested lands in parts of the Okanogan Highlands support a dispersed population of lynx. Parcels O17, O18, O19, O23, and O24 lie within Lynx Analysis Units (LAUs) designated by the U. S. Fish and Wildlife Service (see Table 4, below).

Lynx Analysis Unit (LAU)			BLM Exchange Parcels in LAU			
Unit No.	Area of LAU (acres)	Lynx habitat in LAU (acres)	Parcel No.	Area (Acres)	BLM lynx habitat in LAU (%)	BLM lynx habitat/total lynx habitat (%)
2	9,363	4,989	O24	24	0.3	0.5
5	10,112	5,231	O23	23	0.2	0.4
8	10,887	5,272	O18, O19	152	1.4	2.9
11	9,433	4,999	O17	42	0.4	0.8
Total	39,795	20,491		241	0.6	1.1

Lynx foraging habitat is typically early successional stands of lodgepole pine with high snowshoe hare densities that lie within the subalpine fir or moist grand fir forest zones above 4,000 feet elevation. Mature stands of subalpine fir with abundant down woody debris that are located near hunting habitat provide lynx denning habitat. Lynx seem to prefer to move through continuous forest, and particularly use ridges, saddles, and riparian areas. Although cover is important to lynx, they often hunt along edges but avoid large openings, either natural or created, during daily movements within their home range.

Lynx travel across habitats devoid of snowshoe hares to get to areas where they exist. In some cases these habitats may be a few hundred yards apart and in other cases they may be many miles apart. Although lynx will cross typical and atypical habitats during their movements, they are directly affected by roads, highways, timber harvest practices, and different types of development.

As displayed in Table 4, the exchange would affect 241 acres of lynx habitat within four LAUs. From 0.4% to 2.9% of the lynx habitat in each unit would transfer from federal ownership and could be commercially logged in the future. Forested stands found on tracts O17, O18, O19, O23, and O24 provide lynx travel cover, but have few of the other habitat qualities that define primary lynx habitat. Although lodgepole pine were found in low numbers on O18, the trees averaged 10 inches dbh and do not provide forage for snowshoe hare, a primary food source for the lynx. Winter track surveys on these parcels found very few snowshoe hare tracks and no tracks of forest carnivores. Future logging operations and residential development could affect lynx movement. Actions that create even-aged, early-successional stands of lodgepole pine or other conifers in the subalpine fir zone could improve habitat conditions for lynx.

Marten, which are present in the Okanogan Highlands, are generalized predators that prefer late-successional forest with extensive continuous canopy and complex physical structure near the ground. They avoid non-forested areas and xeric coniferous stands. Timber harvest or development of the exchange parcels could therefore cause small local impacts on marten habitat.

No goshawks were found on or near the parcels during goshawk surveys conducted in 1998 and 1999. Goshawks are known to occupy nearby forested areas in the Okanogan Highlands and in the Wenatchee National Forest lands south of K12. Development of parcels with suitable habitat would reduce their suitability as future nesting and post-fledging family areas. Because goshawk home ranges can cover 6,000 acres, some of the exchange parcels may lie within a goshawk hunting territory. Parcels O20, O21, and O25 (totaling 275 acres) form the largest cluster of parcels in potential goshawk habitat in forested areas along Toroda Creek. If these lie within a 6,000-acre home range, timber harvest could affect up to 4.5 percent of a given goshawk's territory. Harvest or development of other parcels would affect a smaller percentage of potential goshawk territories.

Three parcels (O1, O4, and C7) have shoreline habitat. Tracts O1 and O4 have trees large enough to provide bald eagle perches, while tract O4 already supports orchard and its use is not expected to change following exchange. No development could occur within the riparian zone of tract O1, which lies along the Twisp River. Limited tree removal and grazing might occur, however, reducing available and future perch trees. Other suitable perch trees exist in the area, so the effect on eagles would be slight. Wetlands within the riparian zone of O1 could also support spotted frogs. Non-development requirements of County regulations could provide some protection for the riparian area, but human or livestock activities that eliminate or severely alter ponds and wetlands could have local effects on frogs.

Although tract K12 lies within two miles of an historical northern spotted owl nest site, no owls were detected during protocol surveys conducted annually from 1993-1998. The tract lies outside the designated range of the northern spotted owl (USDI 1992) and owl dispersal into this area is considered unlikely or inconsequential to owl recovery.

Development of the site, which could include timber harvest and residential construction, would therefore have little effect on owls in this part of their range.

Alternative 2: The effects of Alternative 2 would be the same as Alternative 1 with the following additions: tracts C2, C3, C5, C6, and O2 could be developed. This would affect an additional 373 acres of deer *regular large concentration* areas as well as a bald eagle communal winter roost (O2). Logging or development of Parcel O2 would displace bald eagles which have historically roosted in large trees in this area. As many as 43 birds have been counted in this roost during BLM winter eagle surveys, and local residents have reported more than 50 birds using the roost on several occasions. Losing this roost would be likely to adversely affect bald eagles on the lower Methow River. Increasing road densities and developing the parcels near Lake Chelan would affect the long-term suitability of the area for dispersing gray wolves, as well as other wide-ranging carnivores.

Additional development would also further the spread of noxious weeds which could allow incremental loss or degradation of existing native plant communities and wildlife habitat. According to data compiled for the Interior Columbia Basin Ecosystem Management Project, non-native or exotic vegetation dominates at least 11 percent of federal land in the Columbia Basin. Exotic vegetation alters fire regimes and natural vegetation patterns; alters biological soil crusts; increases soil erosion; diminishes forage quantity and quality; degrades breeding, nesting, and rearing habitat for many shrub-steppe wildlife; and inhibits or creates physical barriers to animal movement. If eaten by wildlife, some noxious weeds may poison, impair microbial activity in ruminants, or cause adverse post-ingestive feedback. These adverse effects can directly impact wildlife or can have indirect effects that reduce reproductive success or interfere with rearing and survival of young animals.

Alternative 3: The impacts of Alternative 3 would be similar to Alternative 1, with the exception that six parcels (K10, O1, O15, O21, O25, and Y1) that could be developed or logged under Alternative 1 would not be affected; they would be retained in federal ownership. This would reduce potential development or harvest of 373 acres of deer habitat (K10, O1, O15 and O25) and ensure protection of the riparian habitat on O1, thereby reducing potential impacts on spotted frogs and bald eagles. It would eliminate the impacts of short-term timber harvest on 259 acres (O21 and O25), protecting habitat for forest wildlife including cavity-nesting species and wide ranging forest carnivores. It would also maintain public land connectivity across the Toroda Creek valley (O25).

Alternative 4 (No Action): Under Alternative 4, existing land uses would continue, including future timber sales and other resource uses. Development of private lands surrounding the public land could eventually reduce the value of the public lands for wildlife. This would result from increased human use and loss of contiguous habitat, which would result in isolation of habitat fragments.

Impacts to Fisheries

As described in the Affected Environment chapter, only 7 of the federal tracts have connection to waters with fisheries resources (C7, O1, O2, O4, O18, O20 and O25). The disposal of these tracts under Alternative 1 (preferred alternative) would not impact Endangered Species Act (ESA) listed fish. The impact to ESA-listed fish from selection of Alternative 2 or 3 would be the same as Alternative 1. The selection of Alternative 4 would have no effect on the fishery resource of the selected federal lands.

Effects Determination: Selection of the preferred alternative (Alternative 1) would have “no effect” on bull trout, chinook salmon and steelhead. Under this alternative, BLM would exchange about 0.625 mile of perennial stream riparian habitat (O1, O18, O20 and O25) and 0.75 mile of lakeshore (C7 and O4), but no anadromous fish habitat.

Impacts to Cultural Resources/Native American Values

Under Alternatives 1, 2 and 3, between 4,649 and 5,929 acres of federal lands (including up to 23 cultural sites) would be transferred into private ownership. Sites that would be traded out of federal control are mostly evidence of historic Euro-American activity. Exceptions include three rock cairns, a lithic scatter and a campsite. In consultation with the Washington Office of Archaeology and Historic Preservation and affected Native American Tribes, formal Determination of Eligibility (DOE) for the National Register of Historic Places would be completed for sites on the federal tracts prior to exchange. Existing records indicate that the sites proposed for transfer to private ownership are unlikely to be eligible for the National Register of Historic Places.

Ethnobotanical plants could be adversely affected by management activities on the former federal lands after transfer to private ownership. Intensive grazing, logging, or OHV use could adversely affect berry and biscuit-root plants due to soil disturbance and weed establishment. However, conditions for certain plants could become more favorable. Harvesting of forested tracts could result in an increase of sun-tolerant species, such as balsamroot.

A potential effect of the proposed exchange is loss of access by tribal members to traditional use areas on tracts that would be traded out of federal control. Access is of particular concern to the Colville Confederated Tribes (CCT) and the Yakama Nation, on whose ceded lands some of the federal tracts to be exchanged are located. Exchange of tracts within the ceded lands may affect tribal access for the practice of rights including hunting, fishing or gathering under the Camp Stevens Treaty of 1855.

The CCT formally expressed their interest in letters dated October 29, 1999, and April 20, 2000. They wrote of concerns regarding the effects of disposal of federal lands in the former North Half of the Colville Reservation on reserved rights for hunting, fishing and gathering; and potential impacts to cultural, archaeological and historic resources. Upon transfer of the public lands in the former North Half into private ownership, the rights of the members of the CCT to hunt thereon would be the same as applicable to other private lands in the former North Half. Although the CCT retain reserved hunting,

fishing, gathering and water rights on the offered federal tracts, transfer of the parcels to private ownership may affect tribal access for the practice of reserved rights.

A field tour of a number of the tracts in the former North Half of the Colville Reservation was conducted on May 24, 2000. Members of the CCT wildlife staff expressed their desire for the BLM to retain federal tracts with access to perennial water in the former North Half of the Reservation. If these parcels were retained by the BLM, they could be used by CCT members.

In a letter dated October 4, 1999, the Spokane Tribe indicated concern for native food plants on federal lands proposed for exchange. A second letter dated November 9, 1999 stated that, subject to knowledge gained in the future, the Spokane Tribe concurred with the proposal.

Alternative 4 (No Action): Under this alternative, the federal tracts would be retained and adverse effects to cultural resources and Native American values as a result of the proposed exchange would be avoided. However, future impacts to these resources and values, if retained by the BLM, are likely in those areas subject to increases in urban and recreational uses.

Impacts to Recreation

Alternative 1 (Preferred Alternative): After completion of the exchange, the BLM land would no longer be available for public use. The few local users of these lands would need to seek other areas for the same experience. Since many of these tracts are near National Forest or State land, however, users would not have far to go. Most local recreation use is likely already occurring in these areas, which offer more land available to the public, better access and more amenities for recreation.

The retention of tracts C2, C3, C5, C6, and O2 would preserve the amount of public land in the Slide Ridge and First Creek areas on the southwest side of Lake Chelan and in the Black Canyon area on the south side of the lower Methow River. This would enhance National Forest acquisition efforts near First Creek, but would not provide an appreciable change in public access in either area. Keeping these parcels would help preserve the scenic values here.

Alternative 2: The impacts would be similar to those under Alternative 1, with the exception that tracts above Lake Chelan and the Methow River (C2, C3, C5, C6 and O2) would also be transferred out of federal ownership. This would reduce the amount of land available to the public in both areas, although only portions of these lands have legal road access (tract O2 and 80 acres of C5); remaining parts must be reached on foot after traveling through intervening National Forest. Most of the Lake Chelan tracts are adjacent to a National Forest roadless area, and some are near lands recently acquired by the Forest Service. Tract O2 is adjacent to National Forest in a scenic and popular area south of the Methow River. Although all of these tracts are located on steep side slopes, it is possible that some form of development could take place, possibly detracting from the scenic and recreation values of the area.

Alternative 3: Impacts would be similar to Alternative 1, except that 5 additional federal tracts would be retained (K10, O1, O21, O25, and Y1). Tracts K10, O1 and O25 have legal road access and may support low levels of recreation use. Keeping these areas in public ownership would allow uses to continue. Several of these tracts are near population areas (K10, O1, Y1), or in especially scenic areas (C2, C3, C5, C6, O1 and O2). Retention of these areas in BLM ownership would prevent future development and help protect the scenic values.

Alternative 4 (No Action): If this alternative is selected, no impacts from the proposed exchange would occur, as all of the identified federal exchange lands would be retained in public ownership. The isolated tracts of federal land would remain so, with no consolidation of federal lands taking place. No gains in recreational access would occur.

Impacts to Geology and Minerals

For the reasons discussed below, it is unlikely that any impacts would occur to the geology and mineral resources of the federal lands to be exchanged in Alternatives 1, 2 or 3. Under Alternative 4 (No Action), there would be no impacts to geology and mineral resources from the proposed exchange.

The increased interest in BLM oil and gas lease acquisition in the Columbia Basin (Plateau), primarily within the Rattlesnake Hills, Saddle Mountains and Yakima Canyon areas appear to be speculative ventures. It is unlikely that future oil and gas exploration would occur on any of the federal exchange parcels. If exploration activities such as geophysical testing do occur, they should not interfere with other uses of the land. Because of the high cost of developing a deep exploration gas well in the Columbia Basin (average about \$10 million), it is doubtful that any wells would be drilled in the foreseeable future, unless the price of natural gas increases dramatically. Since well sites on average are quite small, they can be put into compact areas on either public or private lands. Although actual exploration may not occur, interest is strong in oil and gas leasing, and the U.S. would lose potential revenue from the disposal of the federal exchange lands with oil and gas leasing potential. This loss could be minimized by retaining the mineral estate on tracts most likely to be leased.

No production data or history was available for the small basalt quarries and sand and gravel pits throughout the land exchange area. Although there is a moderate to high potential for occurrence of basalt quarry rock on many of the subject tracts, commercial development is doubtful. The remoteness of many of the federal exchange lands means that county road maintenance is the most likely use. Consequently, there is a low probability for surface interference from basalt mining. The same scenario also fits for tracts with sand and gravel resources.

Although there has been historic production of metallic minerals (principally silver, with lesser amounts of gold, lead, copper, and zinc) from the Spokane Mine, it is unlikely that this property would be developed in the near future. Until the regulatory process derived from the Washington State Metals and Mining Act is clarified, there will be few new “hardrock” metallic mining operations in the state of Washington. Deposits would need

large reserves to interest larger companies capable of financing the environmental documentation required for approval of metallic mines.

There is a moderate to low potential for pumicite and diatomite at depth on some of the subject tracts. Development of these commodities would probably be hindered by thick basalt overburden. Surface interference from development is therefore unlikely.

Although clay deposits are remotely possible on almost all of the parcels, potential for the development of this resource is low. Disturbance due to clay mining would be limited in size and would not significantly impact other surface uses of the non-federal lands.

Because there is little indication that mineral exploration and/or development may take place in the foreseeable future on any of the federal or non-federal tracts included in this exchange proposal, there would be few if any impacts to geology or mineral resources.

Impacts to the Economy

Possible economic impacts primarily relate to grazing, Payments in Lieu of Taxes (PILT) payments to counties, and harvesting of forest resources, as discussed below.

Grazing-Alternative 1 (Preferred Alternative): Under this alternative, approximately 538 Animal Units Months (AUMs) of permitted grazing use would be lost. This represents 2.5 percent of the AUMs and 2 percent of the public land acres currently leased by the Wenatchee Resource Area. Overall, the public lands proposed for exchange represent less than 0.05 percent of the total grazing lands in the state. Because of these small percentages, the impact of the proposed exchange on the local livestock industry would be minimal.

For the most part, impacts of this proposal on the individual entities who lease the federal exchange parcels would also be minimal. Generally, the public land tracts are a small portion of the total area grazed by the affected livestock operator. It is anticipated that a majority of the public lands to be exchanged would continue to be available for grazing, although the cost of using the land would increase. This is because the rates charged to graze BLM range are typically lower than the lease rates on non-federal range.

The BLM notified 21 grazing lessees that public lands they leased for grazing were being considered for exchange (see table in Appendix 8; two leases were subsequently canceled for other reasons and are not listed in this table). Two lessees have expressed concern about the land exchange. The grazing lessee of parcels K4, K5, K7, K10 and K11 has expressed concern that the land proposed for exchange would no longer be available for grazing. The BLM lands here currently comprise approximately one-third of the area within his grazing unit. As noted earlier, it is anticipated that these tracts would most likely continue as grazing land in the long term, being leased or used for such by the new owners. Also, because the area is open range, private landowners must fence their property if they want to exclude livestock.

The grazing lessee of tract O15 is also troubled about the potential loss of grazing privileges. Although he owns other lands within the same pasture, this tract is not immediately adjacent to lands owned by him. In any case, the loss of this 40-acre tract would have a negligible impact on his grazing operation.

Grazing- Alternative 2: Under this alternative, 555 AUMs of permitted grazing use would be lost. Compared with Alternative 1, this alternative would increase the amount of public land proposed for exchange in only one grazing allotment (Allotment #0838). Therefore, approximately 118 acres of federal land (tract O2) and 17 AUMs in this allotment would be exchanged, compared to only one acre of tract O2 being exchanged in Alternative 1. Even though 17 AUMs are authorized for the 118 acres, the tract is steep and partially covered with ponderosa pine; therefore it has minimal value for livestock grazing. In fact, only slight utilization of forage species has been observed. There would be little impact to the grazing operation of the lessee if the land were exchanged.

Grazing- Alternative 3: Under this alternative, four tracts with grazing allotments (O2, O15, O25, and K10) would be kept in public ownership. Overall, approximately 418 AUMs of permitted grazing use would be lost if this alternative were selected. Retaining the above four tracts would preclude any impacts on the individual lessees of these tracts.

Grazing-Alternative 4 (No Action): There would be no effect to existing grazing lessees under this alternative since all of the federal lands would be retained.

Payments to Counties: Under the Payment in Lieu of Taxes (PILT) program, counties with certain classes of federal lands receive an annual payment appropriated by the U.S. Congress. The PILT is based on a formula that tallies acres of allowable federal lands and takes into account other annual federal payments to the counties. The BLM-administered lands are included in the PILT calculation; however, once disposed, the lands are no longer considered as a basis for payment. The loss would be mitigated by acquired lands added to the total acres used for PILT calculation. Yet, reallocation would occur among the various counties in which both the federal and non-federal lands are located (see Table 5).

Most of the listed counties would lose nominal amounts of PILT income, while Douglas and Grant counties would gain. Losses or gains would be offset by changes in property tax revenue received by the counties. For example, Douglas and Grant counties would lose the property tax revenue for the acres shown, but would gain higher PILT payments. These two counties would see an overall increase in revenue, because property tax payments they currently receive on private lands (in a deferred tax category) are around \$0.06 - \$0.16/acre; but PILT payments of approximately \$0.72/acre would be received if the lands were transferred into federal ownership.

County	Alternative 1		Alternative 2		Alternative 3	
	± Change in BLM Acres	± Change in PILT Payment \$	± Change in BLM Acres	± Change in PILT Payment \$	± Change in BLM Acres	± Change in PILT Payment \$
Chelan	! 501	! 155	! 980	! 304	! 501	! 155
Douglas	+2,261	+1,628	+2,261	+1,628	+2,261	+1,628
Grant	+6,833	+4,988	+6,833	+4,988	+6,833	+4,988
Kittitas	! 2,199	! 638	! 2,199	! 638	! 1,878	! 545
Klickitat	! 240	- 24	! 240	- 24	! 240	! 24
Okanogan	! 1,390	- 403	! 1,507	- 437	! 1,091	! 316
Yakima	! 433	- 43	! 393	- 39	! 393	! 39

Note: Alternative 4 (No Action) would cause no change in acreage or PILT.

Because Douglas and Grant counties have few federal lands, they receive scant receipts from federal land management activities, but higher (per acre) PILT payments. The reverse is true in the other counties listed (Chelan, Kittitas, Klickitat, Okanogan and Yakima). Consequently, Klickitat and Yakima counties on average receive only \$0.10/acre, while Chelan, Kittitas and Okanogan receive roughly \$0.30/acre under PILT. For these five counties, the PILT payment loss would be negligible; it would partially or fully be replaced with future property tax assessments on federal lands exchanged into private ownership. The amount of offset would depend on whether the former federal lands were subject to regular tax or placed in a tax deferred category, such as timber or agricultural.

Forest Resource Revenue: Under Alternatives 1, 2 and 3, timber harvest of suitable public lands by the new private owners (mostly in Okanogan County) could provide a small, short-term boost for the local economies and the State economy as a whole. Economic enhancements include increased employment due to timber harvesting jobs and additional tax revenue generated by severance of the timber. Typically, logging activity on private lands returns four percent of the stumpage value to the county and one percent to the state. The county would receive an excise tax of roughly 1.53 percent if the new landowner sold the timber rather than cutting it themselves. Under Alternative 4, the beneficial effects to the counties would not occur in the short term, since the federal lands would be retained. However, the forested lands would be available for future timber sales over the long term, providing some economic benefit to the counties.

D. Impacts to Non-federal Exchange Lands

This section addresses management and possible attendant impacts that may occur to acquired non-federal lands, based on their likely public uses and direction according to the BLM management units the lands would go into once acquired. After acquisition, the non-federal

parcels would each go into one of three management units previously established by the BLM Spokane RMP: Moses Coulee, Okanogan, or Saddle Mountains. Most of the non-federal lands (including the Billingsley, Mittelstaedt, WDFW and Weiss tracts) would be placed in the Moses Coulee unit. The Gerard tract would go into the Okanogan unit, and the Hazzard tract would fall into the Saddle Mountains unit. In most cases, specific future actions by BLM would require a separate environmental assessment and public input. Because the continuation of livestock grazing on non-federal tracts currently being grazed would not be analyzed immediately in a separate EA, it is specifically addressed in this document (see Appendix 9).

Impacts to Vegetation

Under Alternatives 1, 2 and 3, up to 9,294 acres of shrub-steppe and 374 acres of forested lands would be acquired. No impacts to vegetation are expected on non-federal lands to be acquired under any of the alternatives. The condition of these lands would improve due to differing priorities and management emphasis by BLM. On non-federal tracts currently grazed, livestock use could continue as described in Appendix 9. Because these parcels would be consolidated with blocks of public land, the monitoring and managing of grazing would be much more effective.

The shrub-steppe plant communities to be acquired are part of the Central Arid Steppe, which is a zone with a moderately high Conservation Priority Index (CPI) as determined in the GAP analysis of Washington State (Cassidy 1997). The forested zone tract has intermediate CPIs. The CPI is a relative measure of vulnerability of plant communities, and includes five groups: High, Moderately High, Intermediate, Moderately Low and Low. These shrub-steppe tracts would be added to existing BLM lands to create larger blocks of shrub-steppe habitat that can be more effectively managed for botanical values and ecosystem functions than the existing scattered federal exchange parcels. These acquisitions, combined with existing BLM and The Nature Conservancy acquired lands, would provide for increased connectivity of shrub-steppe plant communities in the Moses Coulee, Douglas Creek, Duffy Creek, and Beezley Hills areas of Douglas and Grant counties.

Shrub-steppe is considered an endangered ecosystem in eastern Washington. Because of conversion to agriculture, only 40 percent of the historic 10.4 million acres remains (Dobler et al. 1996). Of this, only 12 percent exists as functional ecosystems, and less than 1 percent is protected in a form similar to the original vegetation (Rex Crawford, Plant Ecologist, DNR Natural Heritage, personal communication). The shrub-steppe type is critical to numerous wildlife and plants that rely partly or wholly on it, many of which are special status. Because of past and continuing conversion of shrub-steppe lands to other uses, there is a distinct need to acquire and protect larger blocks of this habitat type. As noted above, consolidation of larger blocks of shrub-steppe would allow for better preservation and management for ecosystem function and botanical values.

Although the acquisition lands have not been inventoried for botanical values by BLM, The Natural Heritage database indicates four known populations of sagebrush stickseed and one population of long sepal globemallow, (both SS species). A 1970 report indicated

the presence of gray cryptantha (*Cryptantha leucophaea*; SS, FSOC) in the area of the Billingsley tract. However, the report is old and it is not known where the population is situated, or if it still exists. The non-federal lands provide suitable habitat for several special status plant species, and there could be additional special status plant populations on these lands. It is not known if high quality plant communities are present on the non-federal lands.

Noxious Weeds: Analysis of non-federal and public lands shows that BLM would gain fewer acres of noxious weeds than received through this land exchange. Approximately 35% of the public land parcels are known to have some occurrence of noxious weed species, with an estimated total infestation of 75 to 100 acres. Non-federal lands proposed for acquisition have about 50 acres of noxious weeds.

The nature of the non-federal lands proposed for acquisition lend themselves to more efficient and successful noxious weed management. Three of the six parcels of non-federal land (comprising most of the acreage) directly adjoin current BLM noxious weed projects. The Mittelstaedt property is known to have a very light (less than 1% of total area) infestation of Canada thistle along the creek. If further inventory dictates the need for control work in this area, this parcel would be included in the Duffy Creek noxious weed project. The WDFW property is surrounded by BLM land being treated under the ongoing Douglas Creek noxious weed project. Although this parcel is known to have a comparatively large noxious weed population (approximately 20 of the 260 acres), for the size of the tract, the proximity to the Douglas Creek project would enable a more cohesive control program for the entire area. The Billingsley property has less than 10 acres of total noxious weed infestation. If acquired, this parcel would be inventoried further, and current known infestations would be treated aggressively. The isolated nature of the Weiss parcel makes it unlikely to have a noxious weed problem. The same conclusion applies to the Hazzard parcel. The Gerard property is known to have diffuse knapweed along the road, and therefore would be incorporated in the BLM's adjacent Ruby Mine Road noxious weed project. Overall, the noxious weed infestations on the non-federal lands are negligible and would not notably add to the Spokane BLM noxious weed control workload.

Impacts to Wildlife

Alternatives 1, 2, and 3: The proposed exchange would transfer up to 9,294 acres of shrub-steppe and 374 acres of forest lands into federal ownership. This will result in a substantial increase in public owned shrub-steppe habitat. These former non-federal lands would be incorporated into adjacent BLM management units. Future BLM management would be for multiple uses, but would emphasize wildlife habitat enhancement, rangeland improvement, forest health improvement, and recreational opportunities.

Many of the non-federal properties have substantial wildlife values, as noted in the Affected Environment chapter. Management would range from no change to enhancement through development of grazing and recreation plans and riparian exclosure fencing, similar to what has occurred on adjacent public lands. Forested lands in Okanogan County would not be affected in the short term, but may be considered for management as

ponderosa pine/Douglas-fir forest. Such management may involve understory thinning and prescribed burning to restore sustainable ecosystem structure, function, and process.

The effects to wildlife of changing management on the shrub-steppe parcels could range from having no effect, to positive impacts on species dependant on shrub-steppe. Included are species such as the ferruginous hawk, golden eagle, chukar, sage grouse, loggerhead shrike, sage sparrow, and sage thrasher, which are state monitor, state listed, state candidate, or game species (see Appendix 4).

Impacts to Fisheries

Under Alternatives 1, 2 and 3, the BLM would acquire the non-federal Gerard and WDFW lands with frontage on Salmon and Douglas Creeks, and the Mineral and Rattlesnake Springs area. With acquisition of these properties, the BLM would gain at least 0.35 mile of spawning habitat for federally listed steelhead on Salmon Creek, 0.5 mile of quality rainbow trout (and possible redband trout), stream and riparian habitat on Douglas Creek, and stream and/or pond riparian habitat associated with McCue, Rattlesnake and Mineral Springs. The acquired riparian habitat would be managed to enhance and preserve riparian values in accordance with the Spokane RMP. Anadromous fisheries in Salmon Creek would receive special attention and protection, especially since fish passage was recently provided at the Bureau of Reclamation diversion dam downstream.

Fishery values on non-federal lands to be acquired would be positively impacted under all of the alternatives. Fisheries on the acquired non-federal lands would be improved due to the adoption of BLM management direction on adjacent federal lands.

Impacts to Cultural Resources/Native American Values

If the exchange is completed, cultural properties currently on offered non-federal lands would be acquired and managed by BLM in accordance with federal laws, regulations and policies. At least sixteen cultural sites would be acquired in the exchange. Seven of the archaeological sites proposed for federal acquisition are potentially eligible for listing on the National Register of Historic Places. Additional cultural sites of undetermined significance may be located on the tracts. Acquisition of the tracts would result in inventory, identification and protection of cultural resources under federal laws and regulations. In addition, access to sensitive cultural properties and ethnobotanical resources would be improved. Acquisition lands within ceded territories of treaty tribes would retain any rights and privileges for the tribes legally established by the treaties or executive order. If subsequent improvements are proposed on the acquired lands, significant cultural sites would be avoided and protected, or in cases where sites can not be avoided, mitigation would be conducted in consultation with the affected Native American tribal governments, the Washington State Office of Historic Preservation (OAHP), and in some cases, the Advisory Council for Historic Preservation (ACHP).

Impacts to Recreation

The non-federal lands offered in this exchange all lie within existing BLM management units. As stated in the BLM Spokane District RMP, “New lands acquired will be managed under guidance for the management area where they are located.” The Billingsley, Mittelstaedt, WDFW and Weiss tracts have high recreation values and would complement nearby BLM areas where recreation use is increasing. Acquiring them would allow BLM to further consolidate the public lands, improve public access and recreation opportunities, and allow for consistent management.

Because most of these lands have been privately owned (with the exception of the WDFW tract), public and recreational use has been very low. If the exchange is completed and the lands come under BLM management, use is expected to increase, especially if recreation orientated improvements are made. Possible future enhancements include trail and parking area construction and signing, particularly on the Billingsley, Mittelstaedt and WDFW tracts. The increased recreation use these improvements would attract could impact other resources present on the lands; however, an environmental analysis would be completed before any development. This process would also be subject to public review.

Impacts to Geology and Minerals

For the reasons discussed below, approval of Alternatives 1, 2 and 3 is unlikely to cause any impacts to the geology and mineral resources of the non-federal lands to be acquired. Under Alternative 4 (No Action), there would be no impacts to geology and mineral resources from the proposed exchange.

The increased interest in BLM oil and gas lease acquisition in the Columbia Basin (Plateau), primarily within the Rattlesnake Hills, Saddle Mountains and Yakima Canyon, appear to be speculative ventures. Since the majority of non-federal tracts are around the fringes of the Columbia Basin (except the Hazzard tract) it is doubtful that future oil and gas exploration would occur on any of the non-federal exchange parcels.

No production data or history was available for the small basalt quarries and sand and gravel pits throughout the land exchange area. There is a moderate to high potential for occurrence of basalt quarry rock on all of the subject non-federal tracts (except Gerard), but commercial development is unlikely. Due to the remoteness of many of the lands, use of the resources for other than county road maintenance is doubtful. For these reasons, surface interference from basalt mining on the subject non-federal lands is not probable. This scenario is also applicable for the parcels with sand and gravel resources.

Although there has been historic production of metallic minerals (principally silver, with lesser amounts of gold, lead, copper and zinc) from the First Thought and Last Chance Mines, it is unlikely that this property would be developed within the near future. Until the regulatory process under the Washington State Metals and Mining Act is clarified, there will be few new “hardrock” metallic mines in the state of Washington. Deposits would need large reserves to interest larger companies capable of financing the environmental documentation needed for approval.

Even though clay deposits are remotely possible on most of the non-federal parcels, there is a low potential for development of this resource. Disturbance due to clay mining would be limited in size and would not significantly impact other surface uses of the non-federal lands.

In summary, there is little indication that mineral exploration and/or development may take place in the foreseeable future on any of the non-federal tracts included in this exchange proposal.

E. Overall Cumulative Impacts

Cumulative impacts include those impacts that would result from incremental effects of this exchange proposal, when added to other past, present, and reasonable foreseeable future actions. In general, the range of actions includes efforts by BLM to consolidate public lands through the disposal of scattered and isolated tracts of range and timber land and the acquisition of contiguous tracts of non-federal land by BLM, generally within the Wenatchee Resource Area (WRA) boundaries. Although the WRA takes in the western two-thirds of Washington, most of the BLM public lands lie east of the Cascade crest, within the seven central Washington counties represented in this exchange: Chelan, Douglas, Grant, Kittitas, Klickitat, Okanogan and Yakima. Below is a discussion of how the subject exchange relates to other completed and planned BLM exchanges and acquisitions within WRA, focusing primarily on changes in shrub-steppe and forest land. This is followed by potential cumulative impacts to wildlife and cultural resources/Native American values.

Within the WRA, the proposed action would be the first in a series of exchanges with Clearwater that are designed to fulfill the land tenure goals of the Spokane RMP. The subject exchange would be the 11th to be processed in the Wenatchee Resource Area since the RMP was completed in 1985. Nine other exchanges have been completed and a 10th exchange, between BLM and the State of Washington DNR, should be concluded by late summer 2001.

In the nine finished exchanges, BLM acquired approximately 19,500 acres of non-federal lands, all within central Washington. During the same time period, BLM-WRA acquired about 11,300 acres through numerous LWCF purchases and several donations (also within central Washington). Through the exchanges, 61 tracts of public land in Central Washington were traded out of federal ownership. These tracts totaled approximately 1,000 acres of forest land in Okanogan County, and 6,725 acres of shrub-steppe land in Douglas, Grant, Franklin, Okanogan and Yakima Counties. The non-federal lands acquired through these realty actions totaled about 30,500 acres of shrub-steppe and 300 acres of forest and woodland. Net changes from the realty actions were a loss of 700 acres of federal forest and an increase of 23,775 acres of federal shrub-steppe. About 160 acres of the former federal forest land went to the DNR, and was subsequently included in a Natural Area Preserve.

The BLM/DNR exchange scheduled for completion this fall involves the disposal of about 4,122 acres in 20 tracts of BLM public lands located in south central Washington (all

shrub-steppe except for 13 acres of forest in Kittitas County). In turn, BLM will receive about 6245 acres of State land, also located in south central Washington. Approximately 1040 acres of the State land is ponderosa pine forest or white oak woodlands in Klickitat County. The remaining 5,205 acres is shrub-steppe land in Douglas, Franklin, Kittitas, and Lincoln Counties.

Selection of Alternative 1 from the CWALE would mean a net loss of 787 acres of federal forest land and a net gain of at least 5,124 acres of federal shrub-steppe land. When these figures are combined with the exchanges and acquisitions discussed above (including the soon to be completed BLM/DNR exchange), the overall net change would be a loss of 460 acres of federal forest/woodland and an increase of about 30,000 acres of federal shrub-steppe within central Washington. The amount of BLM federal forest and woodland would increase in Klickitat County but decrease in Okanogan County. Even so, the total change in Okanogan County forest acres is negligible, and few of these lands possess late-seral characteristics. The decrease of BLM-administered forest land in Okanogan County is more than offset by efforts of the National Forest and the DNR, which have increased their forested holdings in Okanogan County and the adjoining Ferry County through land exchanges and outright acquisitions. Overall increases in BLM shrub-steppe acres have taken place in Douglas, Grant, Kittitas, Klickitat, Lincoln, Okanogan and Yakima Counties.

Large expanses of federally owned shrub-steppe have resulted from the above described exchanges and acquisitions. Several of these blocks of land would be significantly added to by completion of the proposed action (Alternative 1). BLM would also consolidate forest lands in the upper Salmon Creek area. The larger tracts resulting from BLM's exchange and acquisition programs increase the probability of maintaining functional shrub-steppe ecosystems in central Washington, increasing the habitat availability for shrub-steppe dependent plant and animal species. Both the Washington Department of Fish and Wildlife and The Nature Conservancy recognize the importance of placing shrub-steppe habitat under BLM management, since this provides a level of formal protection for special status species not legally available in private ownership.

Future land exchange efforts by BLM would strive to continue improvements in the public land pattern in central Washington, pursuant to the guidance in the Spokane RMP. Projected exchanges would trade mostly scattered and isolated shrub-steppe lands for consolidated shrub-steppe lands. The BLM has few forested lands within WRA suitable for disposal; therefore, they would generally be no more than a minor acreage component in future exchange disposals. Consolidated forested lands would be acquired as well, as opportunities arise. Scattered forested tracts in western Washington would also be considered for disposal.

Wildlife: Selection of Alternative 1 could result in the conversion of up to 80 acres of shrub-steppe habitat to agricultural uses and 1,280 acres to rural residential uses. This would represent a 0.000002% decrease from a total of 6.36 million acres of shrub-steppe remaining in eastern Washington (Cassidy et al. 1997). This would minimally contribute to the continuing fragmentation and loss of shrub-steppe habitat in the Columbia Basin, and therefore have an imperceptible effect on species distribution, abundance, and

diversity. Population viability of less mobile species, such as amphibians and small mammals, could be locally affected. There would be little change in habitat on about 3,000 acres of shrub-steppe, which would continue to be managed as rangeland under private ownership. About 802 acres of forest habitat could be harvested and incorporated into private forest management. Harvest would reduce stand complexity and abundance of large trees, snags, and future snag recruitment trees. It would increase roadways by at least two miles, increase edge effects between harvested and surrounding unharvested stands, and create open forest habitat conditions.

Cultural Resources/Native American Values: Approval of the preferred alternative (Alternative 1) would cause a net loss of approximately 802 acres in the former North Half of the Colville Reservation. Since 1990, BLM has traded out of roughly 124 acres in 7 non-contiguous tracts in Okanogan County and about 2,725 acres in 44 non-contiguous tracts (estimate) in Ferry County, for a total loss of approximately 2,848 acres in the former North Half. Two tracts have been acquired in the former North Half, totaling ± 311 acres. If the subject exchange is completed, approximately 3,650 acres of BLM lands would have been traded out of federal hands, resulting in a net loss of about 3,339 acres in the former North Half of the Colville Reservation. The cumulative impact would be a possible loss of access for the practice of reserved rights on roughly 3,339 acres of former BLM-managed lands.

The proposed exchange would result in the loss of about 705 acres from the former Moses Columbia Reservation. Because previous exchanges by BLM have resulted in an increase of about 5,000 acres in the Palmer Mountain area, the cumulative effect after completion of the subject exchange would still be an increase of approximately 4,000 acres in the former Moses Columbia Reservation.

Within the ceded lands of the Camp Stevens Treaty of 1855, the proposed exchange would result in the disposal of about 4,052 acres and the acquisition of about 9,294 acres. The net effect would be an increase of approximately 5,242 acres for the practice of reserved rights under the Treaty, with much improved access to public lands, cultural resources and values.

F. Mitigation

Identified cultural resources, including those located on 15 federal parcels (D3, K1, K3, K5, KL3, O1, O13, O14, O20, O25, Y7, Y8, Y9, Y10 and Y11), would be evaluated for eligibility to the National Register of Historic Places. Mitigation, as determined through consultation with the Washington State Office of Archaeology and Historic Preservation, the Advisory Council on Historic Preservation, consulting tribes and other interested parties, would be conducted for National Register eligible properties that would be adversely affected by the exchange. Mitigation of adverse effects to properties eligible under criterion "d" would likely include documentation and data recovery prior to transfer of the properties.

V. REVIEW AND CONSULTATIONS

For discussion about public involvement in the review and consultation process, see Chapter I (Need for the Action), section E (Public Involvement); and Chapter IV (Environmental Consequences), section C (Selected BLM Land), Cultural Resources/Native American Values heading.

Individuals, agencies, or organizations contacted for input or consultation during the environmental analysis process are listed below:

A. Agencies and Organizations

State and Local Governments

Washington State Department of Fish and Wildlife
 Washington State Department of Natural Resources
 Dr. Rob Whitlam, State Archaeologist, Washington State Office of Archaeology and Historic Preservation

Federal Agencies

National Marine Fisheries Service
 U.S. Fish and Wildlife Service
 U.S. Forest Service - Okanogan National Forest
 U.S. Forest Service - Wenatchee National Forest

Organizations

Douglas County Historical Society (Lori Ludeman, Museum Director)
 Grant County Historical Society (Patti Goodwin, Director)
 Kettle Range Conservation Group
 Kittitas County Historical Society (Claudia Sikes, Director)
 Klickitat County Historical Society (Denise Morris, President)
 North-Central Washington Museum (Kris Young, Projects Coordinator)
 Northwest Ecosystem Alliance
 North Central Washington Audubon Society
 Okanogan Historical Society (Ron Tangen, President)
 The Nature Conservancy
 Yakima Valley Historical Association (John Baule, Director)

Native American Tribal Governments

- Confederated Tribes of the Colville Reservation (The Honorable Colleen Cawston, Chair)
- Confederated Tribes of the Umatilla Indian Reservation (The Honorable Antone Minthorn, Chair, Board of Trustees)
- Confederated Tribes of the Warm Springs Reservation (The Honorable Olney Patt Jr., Tribal Chairman)
- Spokane Tribal Business Council (The Honorable Bruce Wynne, Chair)
- Wanapum People (Mr. Rex Buck)
- Yakama Nation

VI. LIST OF PREPARERS AND STAFF MEMBERS

List of Preparers

Bill Schurger, a realty specialist assigned to the BLM Wenatchee Resource Area, was the lead preparer of this environmental assessment. Listed below, by BLM office where assigned, is the list of resource specialists who comprised the interdisciplinary team assisting in describing the affected environment and analyzing the effects of the alternatives.

Wenatchee Resource Area

Pamela Camp, District Botanist
Brent Cunderla, Geologist
Kirsten Escure, Biological Technician (plants)
Neal Hedges, Wildlife Biologist
Kevin Kane, Botanist
Joseph Kelly, District Fisheries Biologist
Dana Peterson, Range Conservationist
Diane Priebe, Recreation Specialist

Spokane District Office

Rich Bailey, District Archaeologist
Madilane Perry, Archaeologist
Ann Sharley, Archaeologist

List of Staff Members Consulted

The following staff were consulted at various stages in the EA process analyzing the Proposed Action and alternatives:

Jim Fisher, Field Office Manager of the Wenatchee Resource Area

Kathleen Helm, Spokane District Planner and Environmental Coordinator

Todd Thompson, Spokane District Wildlife Biologist

Bob Troiano, Spokane District Weed Coordinator

Allen Gardner, Spokane District Forester

Bruce Crespin, Cultural and Tribal Programs, Oregon/Washington State Office

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Washington Natural Heritage Program. 1997. Endangered, Threatened, and Sensitive Plants of Washington-With Working Lists of Rare Non-Vascular Species. Department of Natural Resources. Olympia. 62 p.

Personal Communications:

Rex Crawford, Plant Ecologist, Washington State Department of Natural Resources Natural Heritage Program

Wildlife Sections

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Personal Communications:

Mike Schroeder, Grouse Research Biologist, Washington Department of Fish and Wildlife.