

PROGRAMMATIC LAND MANAGEMENT PLAN FOR THE OKANOGAN SUBBASIN

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Acronyms and Abbreviations

APE	area of potential effects
BPA	Bonneville Power Administration
CTCR	Confederated Tribes of the Colville Reservation
CFR	Code of Federal Regulations
Confederated Tribes	Confederated Tribes of the Colville Reservation
CREP	Conservation Reserve Enhancement Program
DAHP	Department of Archaeology and Historic Preservation
DO	dissolved oxygen
DPS	Distinct Population Segment
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GIS	geographic information system
GPS	global positioning system
IRMP	Integrated Resource Management Plan
LMP	Land Management Plan
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
OBMEP	Okanogan Basin Monitoring and Evaluation Program
PLMP	Programmatic Land Management Plan
RCW	Revised Code of Washington
RM	river mile
SEPA	State Environmental Policy Act
SMEA	Streamside Management Emphasis Area
SPCC	Spill Prevention, Control and Countermeasures
SPIF	Specific Property Information Form
SS	settle-able solids
THPO	Tribal Historic Preservation Officer
TSS	total suspended solids
TWRP	Trust Water Rights Program
U.S.C.	United States Code
WAC	Washington Administrative Code
WRIA	Water Resource Inventory Area

Chapter 3

Introduction and Background

The Confederated Tribes of the Colville Reservation (CTCR) is a Sovereign Nation. A Presidential Executive Order established the Colville Indian Reservation in 1872 with a land base of 1.4 million acres. The reservation is located in north central Washington State and the administrative headquarters are located at the Colville Indian Agency Campus, approximately 2 miles south of Nespelem, Washington.

3.1 Mission

The CTCR Fish & Wildlife Department's mission is as follows:

To provide subsistence, cultural opportunities, and economic benefits for the Tribal Membership through sustainable ecosystem management. We accept our responsibility to manage, protect, and enhance tribal natural resources and to provide multiple products and services for the Tribal Membership on the reservation and on accustomed and traditional lands (Joe Peone, Director; June 1995).

CTCR's Colville Business Council enacted Resolution 1996-23, the Holistic Goal, on January 18, 1996:

- **Quality of Life:** We want to maintain and build upon our unique culture, traditions, language, sovereignty and history; we want a healthy society, environment and economy; we will treat everyone with honor and respect, having the freedom to worship, live, work and play as we choose, accepting each other's diversity/uniqueness.

We want to provide plentiful/affordable housing, meaningful/secure employment and educational opportunities. We want communities that are clean, self-sufficient, safe, wholesome and provide opportunities for family based recreation.

- **Forms of Production:** We will support our quality of life through sustainable wealth from diverse income opportunities, without waste or sacrifice of tradition, culture and values; we will emphasize the importance of involving the membership in developing their communities; we will provide opportunities/infrastructure to increase understanding/awareness of our culture, traditions, language, sovereignty and history throughout our communities, schools and workplaces, continuously promoting honor, respect and diversity.
- **Future Resource Base:** We are and continue to be a self-sustaining sovereign entity; having flourishing enterprises; having healthy productive landscapes including rangelands, croplands, forests, riparian areas, streams and lakes; tribal decisions will include protection of tradition, culture, and aesthetic values; we will continue to provide improved/enhanced opportunities to communities/schools/workplace to increase understanding and awareness of our culture, values, tradition, language, sovereignty and history.

The reservation remains as a rural life-style and the population is in balance with an effective water, mineral, and energy cycle with biodiversity resulting in an abundance of culture, medicinal and

edible plants, clean air and water, springs and streams that flow year round, large trees, wildlife, fish and insects.

Additionally, CTCR has prepared and is currently working toward revising and updating an Integrated Resource Management Plan (IRMP) that establishes direction for the future management of the natural resources of the Colville Indian Reservation. It provides a comprehensive framework for allocating and managing Tribal administered resources on the Reservation, within the principles of multiple-use and sustained-yield (CTCR 2000).

The Programmatic Land Management Plan ((PLMP)) is not intended to replace or supersede the IRMP and the actions implemented on mitigation properties will be implemented in accordance with the current IRMP and future revisions and updates to the IRMP.

3.2 Vision

The CTCRNatural Resources Department(NRC) aims to balance natural resource management actions in order to reflect the social, cultural, economic, and natural resource values of Tribal Members and descendants. NRC seeks to manage the Reservation's natural resources to enhance and maintain ecological health as well as the social well-being of Tribal Members and other stakeholders.

The basic principles supporting this vision are as follows:

- Natural resources can be managed to provide for human use and a healthy environment.
- Resource management must be focused on ecological principles to reduce the need for single-resource or single-species management.
- Stewardship, the involvement of people working with natural processes, is essential for successful implementation.
- The holistic approach provides the greatest opportunity to manage the CTCR's property resources.
- A carefully designed program of monitoring, research, and adaptation will be implemented for achieving this NRC vision

3.3 Program Background

CTCR developed this PLMP to direct the management of lands already acquired and lands that may be acquired in the future with fisheries enhancement funds as part of a Memorandum of Agreement (MOA) between the Bonneville Power Administration (BPA) and CTCR.(Appendix A)

CTCR received funds to buy properties and enhance fish habitat as part of the terms and conditions of the biological opinion issued by the National Marine Fisheries Service (NMFS) related to the operation of the Federal Columbia River Power System. These funds, known as MOA accord funds, received by CTCR are partly being used to purchase lands that can contribute to the recovery of federally protected steelhead of the Upper Columbia River Distinct Population Segment (DPS) and Chinook salmon of the Upper Columbia River Evolutionarily Significant Unit (ESU). To ensure that

lands acquired with accord funds are managed for the recovery of federally protected salmon and steelhead species, a land management plan must be developed and approved by BPA.

Because potentially large portions of the properties acquired with accord funds will have resources that are unrelated to restoring, enhancing or protecting salmon habitat, it is necessary to coordinate with other Tribal programs with appropriate expertise and ensure that management actions are consistent with the Holistic Goal and IRMP. The contents of this PLMP for the Okanogan Subbasin are based on the Colville Indian Reservation Record of Decision and Plan for Integrated Resources Management 2000–2014 (IRMP) (Klock 2001). The IRMP developed a set of management goals, objectives, and directives to fulfill the Tribes' Holistic Goal for the Reservation and its members (CTCR, 1997). The Holistic Goal and the IRMP provide the overall guidance and the management framework for all natural resource management programs working on behalf of the Tribes. These standards mandate the protection of water quality, riparian vegetation, fish and wildlife habitat, and cultural resources. The IRMP was developed after consideration of the following policy and guidelines:

- 53 Bureau of Indian Affairs Manual. Guidelines for Integrated Resource Management Planning in Indian Country (Confederated Tribes of the Colville Indian Reservation 1990).
- Development of the Integrated Resource Management Plan Phase 1 and Phase 2 (Confederated Tribes of the Colville Indian Reservation 1997, 1998a).
- Public comments at scoping workshops and correspondence.
- Input from other government agencies.
- CTCR staff analysis of the consequences of alternatives.
- Legal mandates of federal laws and executive orders.
- Requirement of U.S. Department of Interior Bureau of Indian Affairs policy.

CTCR natural resource management is also governed by Tribal and federal law including: Colville Tribal Code, the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Clean Air Act, and the Clean Water Act. In addition, the Okanogan Subbasin Plan (KWA Ecological Sciences et al. 2004), Colville Okanogan Initiative (Confederated Tribes of the Colville Reservation 2006), and the MOA (Bonneville Power Administration et al. 2008) influenced this plan's development by providing focus for specific management objectives and strategies.

3.3.1 Memorandum of Agreement

The BPA, the U.S. Army Corps of Engineers, and the Bureau of Reclamation (collectively known as the Action Agencies) and CTCR have developed 2008 Columbia Basin Fish Accords Memorandum of Agreement between the Colville Tribes and FCRPS Action Agencies, referred to as the MOA, (Appendix A) through good faith negotiations. With this MOA, the Action Agencies will provide long-term commitments for funding and implementation activities to support the protection and recovery of salmon and steelhead listed under the ESA in a manner that recognizes CTCR as a governmental partner in the pursuit of protection and recovery of Upper Columbia listed ESUs. In addition to providing certainty and stability to their shared efforts, the Parties also intend the MOA to resolve for its term a broad range of issues associated with Tribal claims and concerns related to the direct and indirect effects of construction, inundation, operation and maintenance of the Federal Columbia River Power System on the fish and wildlife resources of the Columbia River Basin.

The MOA provides action agency funding and implementation commitments for actions and resource objectives important to the Tribes. It addresses actions for ESA-listed salmon and steelhead as well as other anadromous and resident fish and wildlife resources in the Columbia River Basin. A primary commitment is to fund and implement the Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (Upper Columbia Salmon Recovery Board 2007). This comprehensive plan is the centerpiece for mitigation, recovery, and conservation in the Upper Columbia region for spring chinook and steelhead.

Restoration and Enhancement Lands are authorized in the MOA to be purchased with the intention of restoring or enhancing one or more habitat elements or processes (e.g., riparian corridors, wetlands, fish passage, floodplain connectivity, off-channel habitats, or instream habitat conditions) to achieve a measurable biological benefit to native species, such as salmon and steelhead. The restoration and enhancement of these habitat elements can be accomplished through active and passive measures. Active measures (e.g., removing fish passage barriers, creating off-channel habitat) are more intensive, “on-the-ground,” or “dirt-moving” actions that actively change landscape features or processes. Passive measures (e.g., fencing riparian corridors to promote native vegetation) typically remove causative mechanisms or actions which are adverse to natural restoration. A combination of active and passive measures may also be used (e.g., removing levees or providing setbacks to promote floodplain connectivity and channel processes).

The 2008 Columbia Basin Fish Accords Memorandum of Agreement (MOA) between the Colville Tribes and FCRPS Action Agencies (Appendix A) states that:

BPA will provide expense and capital funding for the ESA-focused habitat projects identified in Attachment A (Project 1 through 6). BPA’s funding commitment in Attachment A is subject to the adjustments noticed in Sections II.E and II.F. Projects funded under this Agreement are linked to biological benefits based on limiting factors for listed fish, as described in the abstracts for the projects, Attachment B. The projects include: on-going actions addressing ESA-listed salmon and steelhead; expanded actions in support of Federal Columbia River Power System biological opinion implementation; and new actions benefiting ESA-listed species. Once upper Columbia River ESA-listed species demonstrate a trend toward recovery, the Parties, per Section II.E.3, may allocate some habitat funds for broader Federal Columbia River Power System fish and wildlife mitigation needs.

In addition to the general principles for the Agreement described above, the Parties intend that habitat projects implemented pursuant to this Agreement will:

1. Give priority to addressing water temperatures, instream flows, access to historical habitats or recovery of riparian habitat.
2. Be consistent with applicable recovery plans, the Northwest Power and Conservation Council’s Fish & Wildlife Program (including subbasin plans) and the Colville Tribes’ reserved rights.
3. Provide estimated benefits from the projects to a population or populations of fish based on key limiting factors. The Colville Tribes will estimate these benefits based on expert-derived methods and will support and defend these benefits as confirmed by monitoring and evaluation.

3.3.2 Programmatic Land Management Plan

This PLMP provides broad direction on how CTCR will manage lands acquired with accord funds for mitigation. The PLMP incorporates Tribal values for land management, identifies the current and potential use of aquatic and terrestrial species, describes potential management actions, and identifies the criteria for selecting management actions. Fish & Wildlife will coordinate with other relevant Tribal programs whilst developing management actions by using the established Project Proposal Process (3P), as described in more detail in Section 3.0. Additionally, this plan describes the effectiveness monitoring protocols that Fish & Wildlife will use to determine if results are approaching management objectives. Monitoring results will inform adaptive management as well as periodic review and update of the PLMP. This adaptive management approach will create a feedback loop to facilitate achieving objectives and provide a mechanism for modifying the PLMP to better achieve objectives or to address changing conditions.

CTCR's aim is to prepare accurate, timely, and high quality baseline documentation for each property acquired for mitigation thus working toward ensuring adequate protection and use of the property into perpetuity. The Specific Property Information Form (SPIF) and the Property Baseline Assessment Form (BAF) (Appendix B) are discussed below.

The SPIF provides basic property information and management prescriptions for individual properties and the BAF provides the initial assessment of current resources and infrastructure on the acquired lands. The SPIF and BAF are submitted to BPA as lands are acquired or conservation easements are established. Interval monitoring is tracking implementation of management goals over time and may be submitted with updated SPIF's to BPA as a part of the annual reporting process.

3.3.2.1 Specific Project Information Form

The SPIF (Appendix B) summarizes the characteristics of lands acquired with accord funds under the framework of the PLMP. The SPIF will be completed by CTCR as new properties are acquired and covered under the PLMP and will summarize the management objectives for the property. As with other aspects of the PLMP, this information and the development of management objectives will typically be accomplished through the 3P process (see Section 3.0) to ensure the appropriate Tribal programs/departments are consulted and able to provide input on characterizing the mitigation properties and direction regarding management objectives relevant to their jurisdiction. The SPIF is expected to standardize the submittal and review process and reduce the time required for approval from BPA for the acquisition of new lands.

3.3.2.2 Property Baseline and Interval Assessment Form

The Property Baseline Assessment (Appendix B), submitted along with the SPIF, will provide at least the minimum data required to adequately facilitate the protection, management, and monitoring of the acquired lands. These obligations will be met by adhering to current standards and best practices as recognized in this PLMP, the Colville Indian Reservation Record of Decision and Plan for Integrated Resources Management 2000–2014 (Klock 2001), the Okanogan Subbasin Plan (KWA Ecological Sciences et al. 2004), and related CTCR resource management plans. The management objectives and actions prescribed for properties to be acquired will be consistent with the recovery efforts already in place. CTCR staff will conduct site visits to all acquired lands to identify and map infrastructure, land uses, and alterations as well as to survey and assess natural features, including

streams, riparian areas, wetlands, geology, soils, primary flora and fauna, and other significant natural features of the property.

3.4 Lands Targeted for Acquisition

The lands targeted for acquisition may occur anywhere within the United States portion of the Okanogan Subbasin. They may be located along the Okanogan River or its tributaries and will have one or more key features that affect salmonid habitat conditions in the Okanogan River or its tributaries (e.g., water rights, degraded habitat). The management goals and actions specified in this PLMP are generally applicable to the boundary waters of the Colville Reservation, the area known as the North Half, and other historic Usual and Accustomed (U&A) areas and properties acquired off the Reservation. U&A areas, as defined by the Executive Order of 1872, are those lands on which native people retain rights to fish, hunt, gather, and pasture livestock. Accordingly, the Tribes have a vested interest in the stewardship of the natural and cultural resources on the North Half and other U&A lands.

Land categories for acquisition covered in this PLMP are described below. A single property may be covered under one or more categories depending on the features, structures, and habitat available on the property.

3.4.1 Restoration and Enhancement Lands

Restoration and Enhancement Lands will provide some measurable benefit to one or more life-history stages of salmon and steelhead. Lands acquired for these purposes will provide opportunities to restore or enhance instream habitat conditions for spawning, rearing and migrating salmonids. Actions on these properties may include: sediment reduction, bank stabilization, large woody debris enhancement, off-channel habitat connection and restoring processes such as channel migration and floodplain connectivity along with native riparian habitat restoration. Both active and passive management actions may be applicable on Restoration and Enhancement Lands.

3.4.2 Preservation Lands

Preservation Lands must currently provide significant biological benefit to one or more life-history stages of salmon and steelhead. These lands will be acquired to preserve that benefit and will include lands where habitat conditions function appropriately or provide habitat elements critical to the recovery of anadromous fish populations within the Okanogan Subbasin. These properties are not anticipated to require active management actions, although F&W may implement passive management actions to preserve intact habitat elements.

3.4.3 Water Conservation Lands

Water Conservation Lands will provide instream flow and some measurable benefit to one or more life-history stages of salmon and steelhead. Lands acquired for these purposes will currently hold water rights such as irrigation water or wells. CTRC may choose to transfer those water rights and revert the water back to its hydrological source, or to use the water to supplement other natural surface water features on the property, such as springs, creeks, or off-channel habitats.

3.4.4 Hatchery Lands

Hatchery Lands will be acquired for the construction and/or operation of salmon, steelhead and/or trout hatcheries and associated facilities, including offices and housing, water delivery and discharge systems, storage facilities, laboratories, workshops, property access, and visitor accommodations (e.g., viewing areas, picnic areas). Hatchery Lands may also include acclimation ponds where juvenile salmon and steelhead will be released and return as adults to spawn, restoring naturally spawning populations within the Okanogan Subbasin.

CTCR constructed the Chief Joseph Dam Hatchery for the production of spring and summer/fall Chinook salmon. The Chief Joseph Dam Hatchery includes facilities associated with Chinook salmon production (i.e., egg and milt collection, egg incubation, and rearing) and associated support facilities. CTCR also operates the Colville Tribal Trout Hatchery located near Bridgeport, WA on the Columbia River (approximately two miles downstream of Chief Joseph Dam). The Colville Tribal Trout Hatchery's goal to produce 50,000lbs of trout annually and to release those fish into Reservation waters, including boundary waters, in an effort to provide a successful subsistence/recreational fishery for Colville Tribal members as well as a successful non-member sport fishery (CTCR 2001).

Fish & Wildlife will locate acclimation ponds throughout the Okanogan Subbasin for juvenile salmon and steelhead release. CTCR may enter into conservation easements/agreements with private property owners for the use of existing irrigation settling ponds that are connected to the Okanogan River. CTCR may also acquire property and develop acclimation ponds along a tributary stream to provide an area adequate for acclimation of hatchery raised juveniles. Acclimation ponds provide an opportunity for juvenile fish to imprint on a water body so that when they return as adults they may hone in on the stream associated with the acclimation pond. This will provide opportunity for a naturally spawning population to establish. Fish & Wildlife will locate acclimation ponds along the mainstem Okanogan River as well as tributaries such as the Similkameen River and Omak Creek.

3.5 Selection of Lands

CTCR may either purchase lands or enter into conservation easements with private or public property owners to meet the salmon and steelhead restoration objectives of this PLMP. In both cases, priority will be given to lands that:

- Are located in designated priority subbasins (Table 3-1, Figure 3-1).
- are bordered or bisected by one or more of these priority streams,
- provide significant opportunities to restore, enhance, or preserve salmon and steelhead habitat, and/or
- Require protection from future development to achieve restoration goals.

Table 3-1. Priority Tributaries for Acquisitions in the Okanogan Subbasin

- Okanogan River**
- Similkameen River (from Okanogan River to Enloe Dam)**
- Loup Loup Creek**
- Salmon Creek**
- Omak Creek**
- Wanacut Creek**
- Johnson Creek**
- Tunk Creek**
- Aeneas Creek**
- Bonaparte Creek**
- Siwash Creek**
- Antoine Creek**
- Wild Horse Spring Creek**
- Tonasket Creek**
- Ninemile Creek**

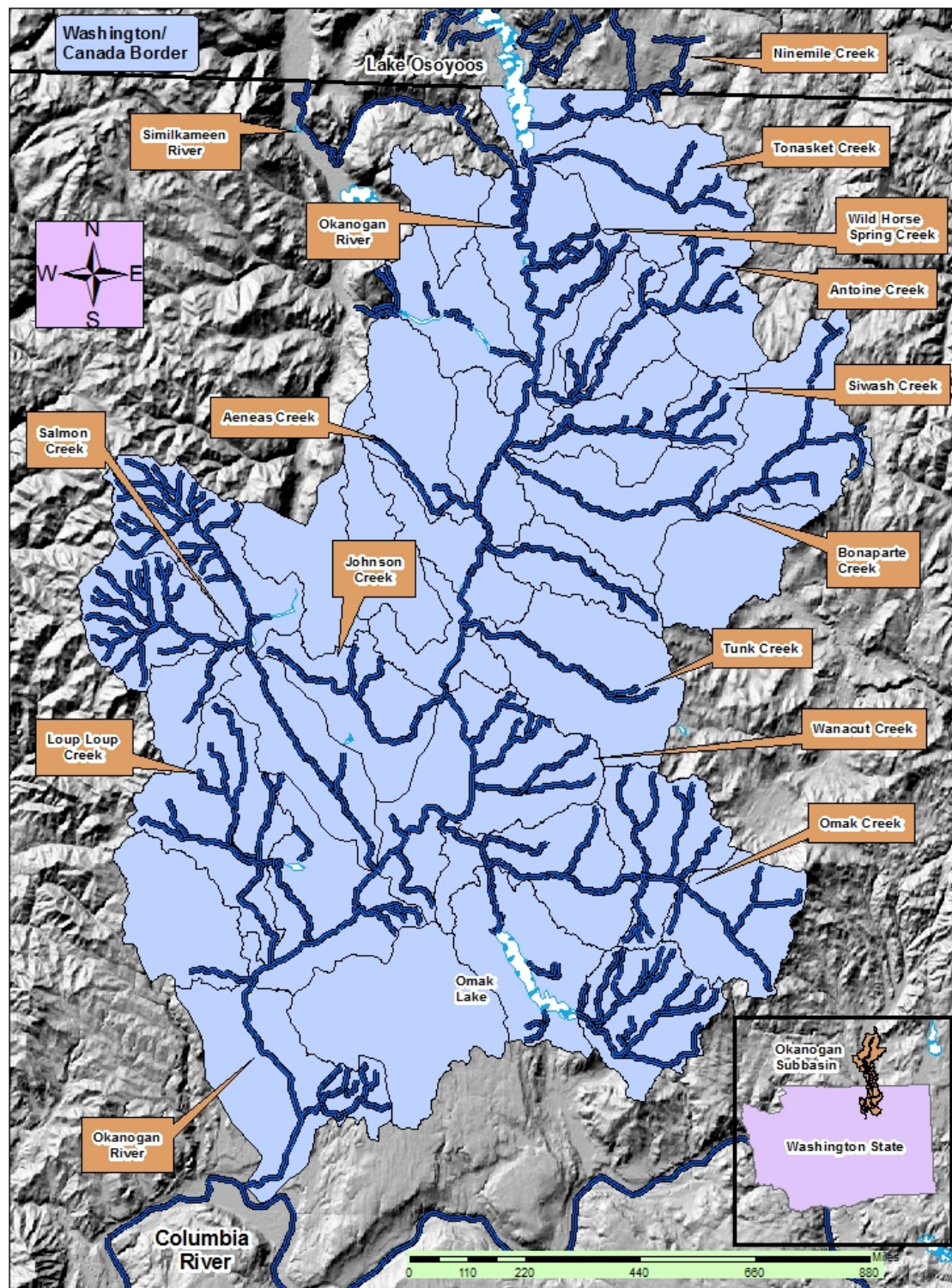


Figure 3-1. Priority Subbasins for Acquisitions

After a potential property is identified, CTCR staff will confer with BPA to initiate an appraisal. Following BPA's approval of the property appraisal, Fish & Wildlife will complete a purchase and sale agreement and present it to the Colville Business Council for approval; if approved, Fish & Wildlife will follow the BPA land purchasing process to purchase the property.

3.5.1.1 Legal and Taxation Status of Acquired Lands

Initially, lands acquired by CTCR for mitigation will be considered fee lands; that is, they will be owned by the Tribes.. Lands acquired by the Tribes will be exempt from state, county, and other district-assessed taxes (Revised Code of Washington [RCW] 84.36). Specifically, RCW 84.36.010(1) states that:

“[A]ll property belonging exclusively to any federally recognized Indian tribe located in the state, if that property is used exclusively for essential governmental services is exempt from tax.”

RCW 84.36.010(2)(b) defines “essential governmental purposes” to mean “services such as tribal administration, public facilities, fire, police, public health, education, sewer, water, environmental and land use, transportation, and utility services.” The definitions, exemptions, declaration process, and appeal rights on properties belonging to federally recognized Indian tribes are further defined in Washington Administrative Code (WAC) 458-16-1000.

These lands will ultimately be transferred from fee-simple absolute lands to federal trust lands, owned by the U.S. Government for the benefit of the tribes. The expected time frame for fee to trust conversion will be dependent on the BIA process. All documentation needed to convert the acquired lands from fee to trust will be completed before the CTCR takes title to the property. The CTCR F&W will coordinate with the Bureau of Indian Affairs(BIA) to establish management goals and objectives of each property that is converted to trust status.

The U.S. Supreme Court stated that “the policy of leaving Indians free from state jurisdiction and control is deeply rooted in the Nation’s history.” (*Rice v. Olson*, 324 *United States Code [U.S.C.]* 786, 789 (1945).) The rule, as the Supreme Court articulated it, is that “when a State attempts to levy a tax directly on an Indian tribe or its members inside Indian country... we have employed, instead of a balancing inquire, a more categorical approach: (Absent cessation of jurisdiction or other federal statutes permitting it... a *State is without power to tax reservation lands and reservation Indians.*” (*Okla. Tax Comm’n v. Chickasaw Nation*, 515 U.S.C 450, 458 (1995) quoting *Yakima v Confederated Tribes and Bands of the Yakama Indian Nation*, 502 U.S.C. 251, 258 (199200) (emphasis added; internal quotations omitted).

3.5.2 Conservation Easements

Acquired lands may have conservation or other types of easements in place at the time of acquisition. Properties with easements will be managed to ensure consistency between the terms and conditions of the conservation easement and the goals for the property. The following types of easements are most common

- **Conservation easements** are generally property-specific in size and specific in terms of the allowable use of the land covered under the easement. The terms and conditions of a

conservation easement are generally negotiated with the property owner and the easement holder.

- **Easements in gross** are generally associated with a utility service (e.g., power, phone, water, sewer, gas, or cable). The property owner does not necessarily have primary rights related to the use of the land.
- **Easements appurtenant** are generally associated with access and are generally created when no public access is available to a property.

CTCR is required to enter into a ninety-nine year conservation easement with BPA(Appendix A) as part of the acquisition of a parcel and may enter into a conservation easement with a private or public party to implement restoration, enhancement, or preservation actions on lands that are not for sale.

Chapter 4

Okanogan Subbasin Overview

4.1 Physical Setting

The Okanogan Subbasin encompasses more than 8,000 square miles (5.1 million ac), with 2,605 square miles (1.7 million ac) of land in the United States and more than 5,400 square miles (3.5 million ac) of land in Canada (Figure 3-1). The Okanogan River is one of four primary tributaries of the Columbia River that compose the Upper Columbia River Region (the Wenatchee, Entiat, Methow, and Okanogan Rivers). The Okanogan River originates in British Columbia, Canada, and flows southward through a series of four lakes before reaching the border between Canada and the United States. The border bisects Osoyoos Lake, where the Okanogan River enters Washington State. The river then flows south through Okanogan County past the towns of Tonasket, Omak, Okanogan and Malott and forms the western boundary of the Colville Reservation. The Okanogan enters the Columbia River five (5) miles north of the town of Brewster. The primary tributary that feeds the 115-mile Okanogan River is the Similkameen River which provides 70% of the flow, other Okanogan River tributaries essential to the recovery of anadromous fish species include: Ninemile Creek, Tonasket Creek; Antoine Creek, Bonaparte Creek, Tunk Creek, Omak Creek, Salmon Creek and Loup Loup Creek.

Cold, snowy winters and hot, dry summers characterize the semiarid climate of the Okanogan River Subbasin. The climate is influenced by the barrier to marine air provided by the Cascade Range and by the mountain and valley formations of the region. Precipitation in the subbasin ranges from more than 40 inches in the western mountains to approximately 8 inches at the confluence of the Okanogan and Columbia Rivers. Precipitation in the main river valley averages approximately 12 inches annually (KWA Ecological Sciences et al. 2004).

The majority of the Okanogan Subbasin can be characterized as rolling mountainous terrain, broad rolling till plains, and a stair step series of glacial outwash terraces above the river formed by geologically recent glacial activity. The higher elevation mountainous landscape is characterized by moderate slopes and broad, rounded summits (Okanogan Watershed Stakeholder's Advisory Committee 1999).

The bedrock geology of the area consists of granitic, metamorphic, metasedimentary, sedimentary, and volcanic rock. The majority of the subbasin consists of granite, granodioritic gneiss, and orthogneiss, which form the relatively coarse material. Recent glaciation has modified and masked large areas of this bedrock geology and deposited glacial till, glacial outwash, glaciofluvial material, and aeolian sand as the dominant parent materials. The Okanogan and Similkameen rivers have deposited recent materials that form floodplains and low stream terraces. Geologically recent volcanic eruptions from Mount Mazama, Glacier Peak, and Mount St. Helens have contributed ash to area soils (Okanogan Watershed Stakeholder's Advisory Committee 1999).

Over 34 unique soils occur within the subbasin, ranging from poorly drained to well-drained soil types. Colville and Okanogan soils are most commonly found on floodplains, terraces, and low broad alluvial fans along the major rivers and creeks. These soils are nearly level, very deep soils formed in alluvium. Colville soils are somewhat poorly drained and Okanogan soils are well drained (Okanogan Watershed Stakeholder's Advisory Committee 1999); .

4.2 Plant and Forest Communities

4.2.1 Shrub-Steppe

Shrub-steppe communities consist of shrubs and grasses specifically adapted for living in harsh, dry climates. These communities provide culturally important vegetation, winter range habitat for deer, and unique and critical habitat for a number of species of plants and animals, many of which are in decline (Wooten 2003). In addition to the importance of this community to the quality of the fish and wildlife habitat of the region, virtually every plant in the region is important to Tribal communities for their cultural, historic, and subsistence value. Acquisition and protection of shrub-steppe lands is a high priority in terms of CTCR's future resource base and cultural preservation.

Shrub-steppe habitat was originally a major component of the landscape throughout the Okanogan Subbasin, extending from the outer edge of the floodplain to the beginning of the lower elevation forest, at roughly the 2,500-foot elevation. Shrubs and perennial bunchgrasses, with a microbiotic crust of lichens and mosses on the soil surface, dominate native shrub-steppe habitat. Sagebrush is the dominant shrub; bitterbrush is also an important component (Oregon-Washington Partners in Flight 2000).

Native shrub-steppe communities have declined in both extent and condition as a result of livestock overgrazing, nonnative plant invasion, agricultural conversion, and wildfire suppression. Acquisition and protection of native shrub-steppe habitat is a high priority of CTCR (Klock 2001), as only about 12% of native shrub-steppe plant communities currently remain on Reservation lands (Wooten 2003). Most extant shrub-steppe habitat may appear to be in a natural condition, but it is actually a considerably altered ecosystem, compositionally and functionally different than pre-European settlement conditions (Oregon-Washington Partners in Flight 2000). Even though most of today's shrub-steppe is not pristine, the Washington Department of Fish & Wildlife (WDFW) designated it as a priority habitat (Azerrad 2011).

The Okanogan Subbasin contains over 50 rare plant communities. Approximately 28% of the rare plant communities are associated with shrub-steppe habitat, 16% with riparian or wetland habitats, and 56% with upland forest habitat (Cassidy 1997). There are 71 state- and federally listed plants species in Okanogan County (Appendix C). Over 25 noxious weed species occur in the Okanogan Subbasin (Appendix D)

4.2.2 Forests

Federal forestland covers approximately 47% of the Okanogan Subbasin. Dominant forest species include: ponderosa pine, Douglas-fir, lodgepole pine, Englemann spruce, western larch, subalpine fir, and aspen. Whitebark pine and subalpine larch occupy alpine settings (KWA Ecological Sciences et al. 2004).

Timber production for the Okanogan National Forest increased from World War II until the mid-1960s. Timber production since the 1960s has progressively declined. Most of the forested land in the United States portion of the Okanogan Subbasin is publicly owned and managed for timber. The major timber-producing areas in the subbasin are Toats Coulee, managed by the U.S. Forest Service, and the Loomis Forest, managed by the Washington Department of Natural Resources. Forest productivity in the subbasin is relatively low because of the arid climate, the short growing season at higher elevations, and the steep, rocky terrain (KWA Ecological Sciences et al. 2004).

Within the Okanogan subbasin, much of the available forest land is privately owned and the management and disturbance regimes on these lands can be substantially different than those on federal and state forest lands depending on the management objectives of the landowners.

4.2.3 Riparian Areas, Floodplains, and Wetlands

The Okanogan River Valley is broad and flat. Given the topography and geology, the river probably once meandered across the valley and riparian habitat formed an extensive mosaic of diverse species. It was dominated by some combination of grass-forbs, shrub thickets, and mature forests with tall, deciduous trees. Common shrubs included willows, red-osier dogwood, hackberry, mountain alder, Wood's rose, snowberry, and currant. Trees included cottonwood, aspen, and water birch (Oregon-Washington Partners in Flight 2000). Historic riparian cottonwood galleries are scarce but a few strongholds of cottonwood forest remain along reaches of the Okanogan Subbasin and in patches along the major tributaries.

Wetlands across the Colville Reservation are quite variable because of precipitation patterns; in general, wetland areas have been shrinking over time (Hunner and Jones 1997). Outside the Colville Reservation, but within the broader Okanogan subbasin, similar shrinking of wetland areas is likely to have occurred. Riparian wetlands are essential in assisting in flood control as they can store water and also filter pollutants and retain sediments. Data from the National Wetland Inventory provides information on the location, characteristics, extent, and status of wetlands and deep water habitats in Okanogan County. These vegetation types are classified as WDFW Priority Habitats.

4.3 Fish and Wildlife

4.3.1 Fish

The Okanogan River represents the uppermost tributary of the Columbia River currently accessible to anadromous fish populations. Over the past century, ecosystem processes have been negatively affected throughout the Okanogan Subbasin, resulting in a fragmented mixture of altered or barren fish and wildlife habitats. Disruptions to the hydrologic system have resulted in elevated water temperatures in the mainstem, substantially reducing the suitable migratory period for adult Chinook and sockeye salmon to access productive habitat. Severe alterations to cold water tributaries have diminished the amount of cold water refugia in the mainstem as well as spawning and rearing habitat for summer steelhead. Consequently, other stream-type anadromous fish species, such as spring Chinook salmon, are now extirpated in the Okanogan River. In addition to inhospitable thermal conditions in the mainstem and loss of stream flow in the tributaries, excessive amounts of fine sediment and migration barriers limit salmonid production within the Okanogan Subbasin.

Historically, 28 indigenous species of fish populated the subbasin; 25 of these remain, and another 16 introduced species have successfully colonized the subbasin (KWA Ecological Sciences et al. 2004). Four (4) of these species are listed under the federal ESA as endangered, threatened, or species of concern. Six (6) species are listed by WDFW as sensitive or candidate species of concern. Such species are recognized as vulnerable as a result of their population status, sensitivity to habitat alteration, or recreational, commercial, or tribal importance. Figure 4-1 shows fish distribution and priority watersheds across the Okanogan Subbasin. Table 4-1 identifies the indigenous fish species in the subbasin and their status under the federal ESA and the state priority species list. Table 4-2 identifies nonnative species that have colonized the Okanogan subbasin.

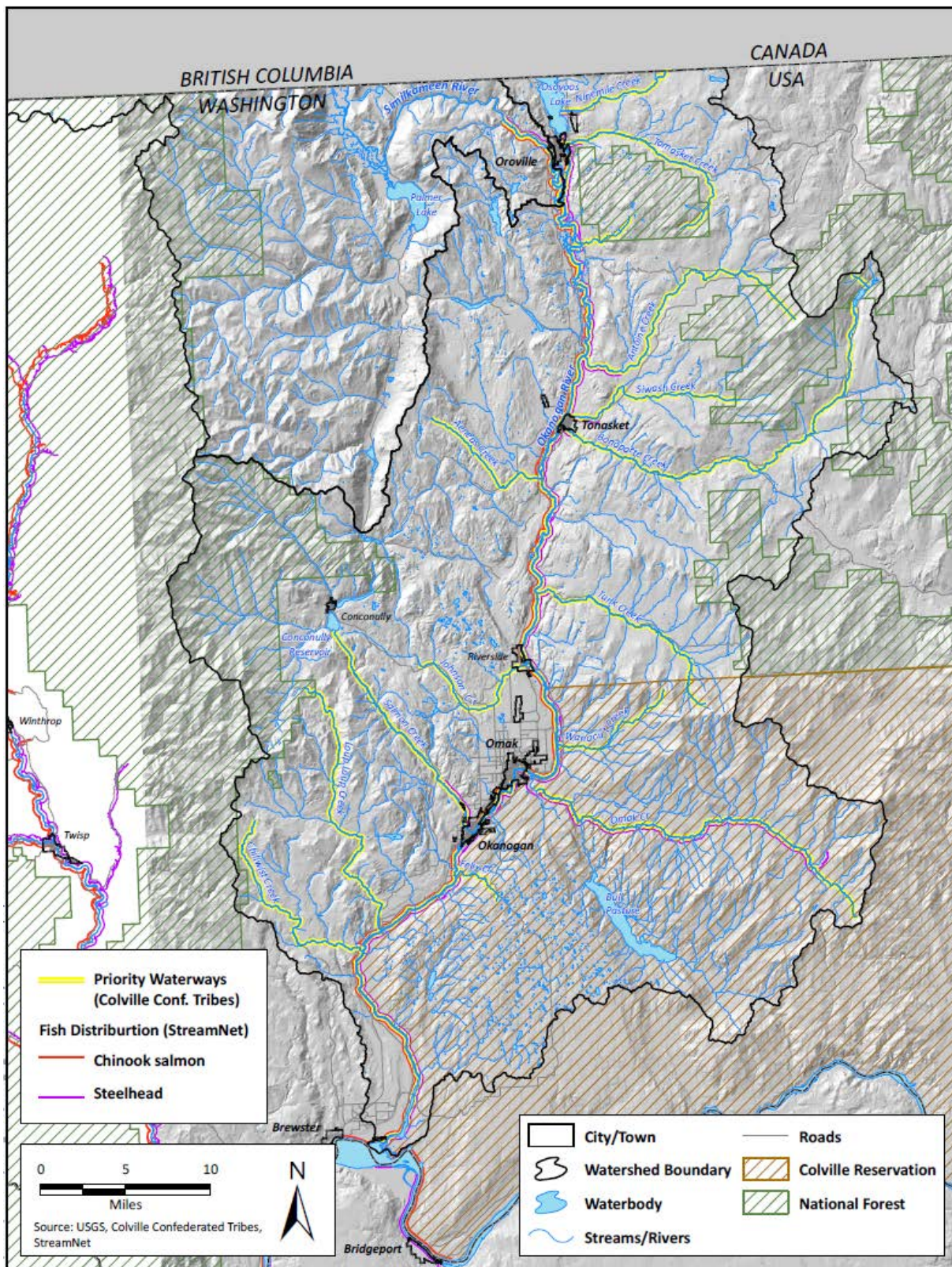


Figure 4-1. Fish Distribution and Priority Waterways

Table 4-1: Status of Indigenous Fish Species in the Okanogan Subbasin

Common Name (Scientific Name)	Federal Status	State Status	ESU/DPS Name
Chinook salmon (<i>Oncorhynchus tshawytscha</i>) (Extirpated)	Endangered	Candidate	Upper Columbia River Spring-run
Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	N/A	N/A	Upper Columbia River Summer/Fall run
Sockeye salmon (<i>Oncorhynchus nerka</i>)	N/A	Candidate	Lake Osoyoos
Kokanee (<i>Oncorhynchus nerka</i>)	N/A	N/A	N/A
Steelhead (<i>Oncorhynchus mykiss</i>)	Threatened	Candidate	Upper Columbia River
Coho salmon (<i>Oncorhynchus kisutch</i>)	N/A	Candidate	N/A
Bull trout (<i>Salvelinus confluentus</i>)	Threatened	N/A	Columbia River
Rainbow Trout (<i>Oncorhynchus mykiss</i>)	N/A	N/A	N/A
Pacific lamprey (<i>Entosphenus tridentatus</i>)	Species of Concern	N/A	N/A
Mountain whitefish (<i>Prosopium williamsoni</i>)	N/A	N/A	N/A
Pygmy whitefish (<i>Prosopium coulteri</i>)	Species of Concern	Sensitive	N/A
Bridgelip sucker (<i>Catostomus columbianus</i>)	N/A	N/A	N/A
Largescale sucker (<i>Catostomus macrocheilus</i>)	N/A	N/A	N/A
Mountain sucker (<i>Catostomus platyrhynchus</i>)	N/A	Candidate	N/A
Longnose sucker (<i>Catostomus catostomus</i>)	N/A	N/A	N/A
Torrent sculpin (<i>Cottus rhotheus</i>)	N/A	N/A	N/A
Shorthead sculpin (<i>Cottus confusus</i>)	N/A	N/A	N/A
Mottled sculpin (<i>Cottus baridi hubbsi</i>)	N/A	N/A	N/A
Slimy sculpin (<i>Cottus cognatus</i>)	N/A	N/A	N/A
Chiselmouth (<i>Arcocheilus alutaceus</i>)	N/A	N/A	N/A
Peamouth	N/A	N/A	N/A

Common Name (Scientific Name)	Federal Status	State Status	ESU/DPS Name
(<i>Mylocheilus caurinus</i>)			
Northern pikeminnow (<i>Ptychocheilus oregonensis</i>)	N/A	N/A	N/A
Longnose dace (<i>Rhinichthys cataractae</i>)	N/A	N/A	N/A
Umatilla dace (<i>Rhinichthys umatilla</i>)	N/A	N/A	N/A
Redside shiner (<i>Richardsonius balteatus</i>)	N/A	N/A	N/A
Burbot (<i>Lota lota</i>)	N/A	N/A	N/A
White sturgeon (<i>Ancipenser transmontanus</i>)	N/A	N/A	N/A
Source: KWA Ecological Sciences et al. 2004			

Table 4-2: Nonnative Species in the Okanogan Subbasin

Common Name (Scientific Name)	Common Name (Scientific Name)	Common Name (Scientific Name)
Brown trout (<i>Salmo trutta</i>)	Atlantic salmon (<i>Salmo salar</i>)	Brook trout (<i>Salvelinus fontinalis</i>)
Lake whitefish (<i>Coregonus clupeaformis</i>)	Pumpkinseed (<i>Lepomis gibbosus</i>)	Walleye (<i>Stizostedion vitreum vitreum</i>)
Yellow perch (<i>Perca flavescens</i>)	Smallmouth bass (<i>Micropterus dolmieu</i>)	Channel catfish (<i>Ictalurus punctatus</i>)
Black bullhead (<i>Ameiurus melas</i>)	Brown bullhead (<i>Ameiurus nebulosus</i>)	Tench (<i>Tinca tinca</i>)
Common carp (<i>Cyprinus carpio</i>)	Bluegill (<i>Lepomis macrochirus</i>)	Black crappie (<i>Pomoxis nigromaculatus</i>)
Largemouth bass (<i>Micropterus salmoides</i>)		

4.3.2 Wildlife

The Okanogan Subbasin has the highest wildlife species richness percentage of any of the subbasins in the Columbia Cascade Ecoprovince with 99% of the ecoprovince species occurring in the Okanogan Subbasin (KWA Ecological Sciences et al. 2004). The Okanogan Subbasin is an important ecological corridor for migratory megafauna; species such as mule deer use the north-south corridor that connects the dry landscapes of British Columbia's interior to the grasslands to the south. This corridor is also a crucial part of the flight path for many bird species during annual migrations between summer and winter ranges (KWA Ecological Sciences et al. 2004).

The subbasin's wildlife population includes a number of species designated by WDFW as priority species (Appendix E). The Okanogan Subbasin also includes priority habitats, which have a unique or significant value to wildlife species and may include a unique or dominant plant species, a critical successional stage, or a key structural element.

4.4 Land Use

Land uses in the subbasin include agriculture, rangeland, timber, residential, recreation, and some industrial and commercial uses (Entrix and Golder 2004, CTCR 2007). Of the 1.2 million ac of land within the United States portion of the subbasin, approximately 25,000 ac are zoned for residential development, 2,000 ac are zoned for commercial and industrial use, and 1,200 ac are associated with transportation, communication, and utility infrastructure. Land use in the subbasin is dominated by forestry, mining, and agriculture, accounting for approximately 483,000 ac, while undeveloped lands occupy approximately 109,000 ac and unclassified lands occupy approximately 580,000 ac.

The major cities in the United States portion of the subbasin are Oroville, Tonasket, Omak, Okanogan, and Brewster. Incorporated towns include Conconully, Malott, Pateros, and Riverside. The Colville Reservation occupies approximately 311,000 ac, or 21% of the subbasin, and is comprised of both fee lands and trust lands. The reservation historically extended northward to the Canadian border, west to the Okanogan River, and east to the Columbia River. This northern portion, now referred to as the North Half, was ceded back to the U.S. Government in 1892 although CTCR retains certain rights to it, as it is part of the U&A areas for CTCR (KWA Ecological Sciences et al. 2004).

4.4.1 Rangeland

Livestock production is a major part of the economic base of Okanogan County. The 754,996 ac of rangeland in the United States portion of the subbasin are owned and managed by the U.S. Forest Service, Bureau of Land Management, Washington State Department of Natural Resources, WDFW, CTCR, and private owners (Figure 4-2). Cattle are grazed on state, federal, and private forested lands and grasslands, moving to high elevations in the summer. Historically, sheep were grazed on public lands, but the last flock was sold in 1998. Currently, small flocks of sheep and goats and some horses graze on private parcels in the lower subbasin (KWA Ecological Sciences et al. 2004).

4.4.2 Agriculture

Approximately 483,738 ac are dedicated to agricultural land use (both irrigated and nonirrigated) or open space (KWA Ecological Sciences et al. 2004) in the U.S. portion of the Okanogan subbasin. Much of the Okanogan River Valley has been converted to agricultural uses, including cropland and orchards. Of the lands used for agricultural purposes, 37% is orchards, 29% is non-irrigated small grains, 21% is non-irrigated hay, and 13% is irrigated hay. Cropland in the subbasin is devoted to row crops, close-grown field crops, orchards, rotation hay and pasture, improved hay land, and summer fallow. Vegetables, berries and nuts are also grown in the subbasin (KWA Ecological Sciences et al. 2004).

Grazing occurs on public and private lands. While a large portion of the subbasin provides rangeland for livestock, much of this land is public and is managed for multiple uses. The grazing activities that are the focus of this PLMP are those that previously occurred on private lands that may be acquired.

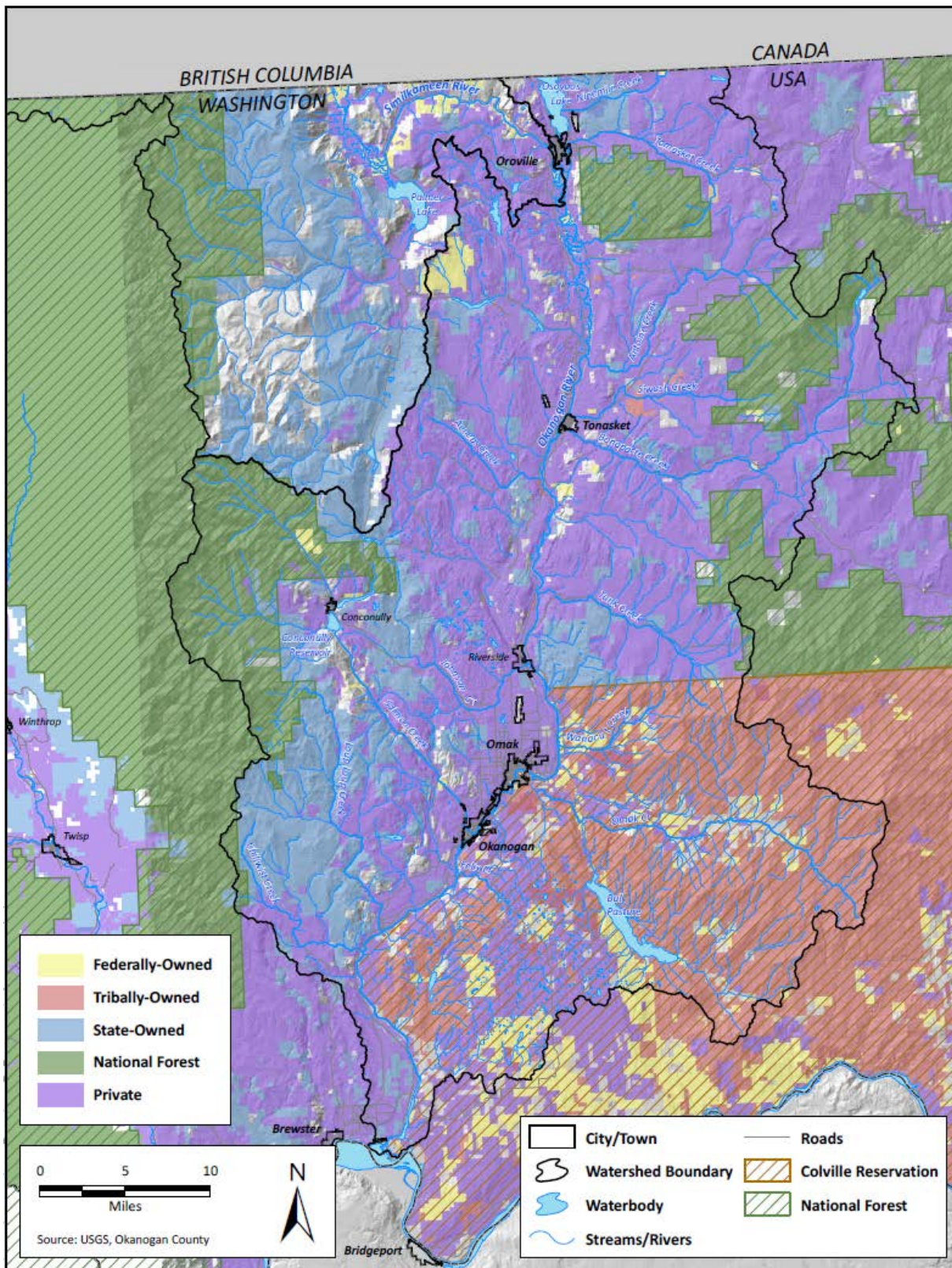


Figure 4-2. Property Ownership

Between 1860 and 1920, agriculture moved from stock and grain production to intensive orchards, thus increasing the demand for irrigation. The growth of the orchard industry in the semiarid Okanogan River Valley required an extensive supply of water. By 1920, long, high volume, elaborate, and expensive irrigation systems had been established and the Okanogan fruit industry flourished.

4.4.2.1 Irrigation

There are nine irrigation districts, reclamation districts, or canal companies operating in the Okanogan Subbasin. These districts deliver irrigation water from surface water sources to approximately 24,710 ac in the United States portion. The Initial Watershed Assessment, Water Resource Inventory Area (WRIA) 49, Okanogan River Watershed (Washington State Department of Ecology 1995) notes that 98% of the surface water rights issued in the Okanogan Subbasin are for irrigation use. There are 790 surface “paper” water rights permit holders for 155,052 acre-feet per year, over an area of 57,939 ac. There are approximately 80,668 ac of land water-righted for irrigation within the United States portion of the subbasin however, this is undocumented and unlikely that all water rights are fully employed (Okanogan Conservation District 2010).

Chapter 5

Objectives and Management Actions

This section outlines the management objectives for each resource associated with acquired lands, and identifies the actions CTCR will undertake to ensure that acquired lands will be managed for the recovery of salmon and steelhead populations in the Okanogan Subbasin. Management objectives and actions may vary by land categories (i.e., restoration and enhancement, preservation, water conservation, and hatcheries) or administrative boundary (reservation or off-reservation). The management of acquired lands will be integrated with procedures provided in existing CTCR management plans or processes, including the IRMP, Cultural Resources Management Plan (CRMP), and the 3P process. As such, the PLMP is subject to revision to ensure compliance with the revised IRMP, which is scheduled to occur by December 31, 2014.

Management objectives will also vary by the specific characteristics of the acquired land and the existing land uses. The PLMP allows the continuation of existing land uses, so long as those uses are not in conflict with the enhancement, protection, conservation or restoration of salmonids or their habitat. Therefore, the overall management of these acquired lands will typically be conducted in coordination with other Tribal programs, primarily through the established 3P process. The 3P Team consists of a collection of technical-level resource specialists to review proposed actions and provide feedback and guidance on how those actions would affect their respective resources. Typical members of a 3P Team include (but are not limited to) representatives specializing in fisheries, realty, roads, wildlife management, cultural resources, forest management, non-timber vegetation, range management, fire management, soils, and hydrology.

5.1 Private Land and Easement Management Objectives

The objective for managing existing easements on acquired lands is to honor the easement as long as it does not negatively affect salmon or steelhead habitat. Additionally, CTCR may enter into a conservation easement with a private property owner to preserve or enhance habitat conditions on a property that cannot be acquired. The objective for managing new conservation easements is to restore, enhance, or preserve the habitat elements important for salmon and steelhead, including water quality, water quantity, instream habitat, off-channel habitat, floodplain connectivity, and riparian habitat.

5.1.1 Actions

- **EASE-1.** Determine if an easement is currently associated with a property targeted for acquisition.
- **EASE-2.** Evaluate the terms and conditions of an existing easement and determine how they would affect mitigation plans for the acquired land.
- **EASE-3.** Renegotiate the terms and conditions of conservation easements that are not aligned with the mitigation plans for the acquired land.

- **EASE-4.** Honor the terms and conditions of current easements to the extent they exist or can be renegotiated with the easement holder and do not hinder efforts to achieve recovery of salmon and steelhead.
- **EASE-5.** Identify specific habitat elements important to salmon and steelhead. Approach landowners to gauge interest and willingness to enter into a new conservation easement.
- **EASE-6.** Pursue a conservation easement with those landowners that indicate an interest and willingness. Negotiate the terms and conditions of the easement with landowners. The terms and conditions of the conservation easement must meet the overall objectives to restore, enhance, or preserve habitat elements important to salmon and steelhead (see Template Conservation Easement Appendix E).

5.2 Water Rights Management Objectives

5.2.1 Water Rights

The objective of water rights management is to ensure water availability for mitigation purposes while protecting the status of the water rights. CTCR will transfer the majority of the acquired off reservation water rights into the Washington State's Trust Water Rights Program (TWRP) either temporarily or permanently. CTCR will document on reservation water rights and make the Environmental Trust water administrator aware of any water rights that are purchased from individuals with land holdings on the reservation. Water rights purchased may be of both surface waters and groundwater, with water provided either by wells tapping groundwater or aquifers or by surface waters diverted from streams.

Because the sources for these water rights are from streams in a xeric ecosystem, special attention will be given to irrigation management on the acquired lands to ensure that fish health and water quality are not compromised. Water rights are valuable habitat management tools and CTCR may use water to support hatchery operations and speed revegetation of disturbed sites. CTCR staff will use reference conditions on water right source streams to develop utilization thresholds for irrigation withdrawals relative to the optimum habitat requirements for fish, and will manage irrigation to ensure adequate stream water quality and quantity benefit target aquatic species, especially anadromous fish.

5.2.1.1 Transfer of Water Rights

CTCR intends to transfer most or all of their acquired water rights off reservation into the TWRP. Generally, a water right transfer occurs when ownership of the right is transferred from one person to another. A water right change occurs when certain elements of a right are changed, such as the point of diversion or the purpose or place of use. The ability to transfer a water right depends on several factors, most of which result from the nature of the right itself.

5.2.1.1.1 Washington State's Trust Water Rights Program

The Washington State Legislature enacted the TWRP in 1991 [RCW 90.42] "to facilitate the voluntary transfer of water and water rights, including conserved water and to provide water for presently unmet and emerging needs." Trust water voluntarily transferred to the State of

Washington and managed by the Washington State Department of Ecology (Ecology) in the TWRP can be reallocated to beneficial instream or off-stream uses, under certain limitations (Washington Department of Ecology 1992). By law, when the water right is donated to the TWRP it is protected from relinquishment as long as it is in the TWRP (Washington State Department of Ecology 1992) ([RCW 90.38.040(6), RCW 90.42.040(6), and RCW 90.14.140(2)(h)]). In 2009, the State Legislature passed Enrollment Engrossed Substitute Senate Bill 5583, which also allows groundwater rights to be put in trust. The Confederated Tribes will designate the purposes for which the right may be used while it is in trust.

The ownership of a water right does not include a property right to transfer the water right, per se. Transfers occur only as authorized by statute (RCW 90.03.380). In order to approve a transfer or change, Ecology must tentatively determine whether the right is valid, the extent or limitation of the right in terms of quantity and time, and whether the right has been lost by nonuse. Once the existence and extent of the right is determined, Ecology must determine if the transfer would impair any other rights and, if granted, if it would be in the public's interest (Gregoire et al. 2000). As defined within the Water Resources Act of 1971, water uses for "fish and wildlife maintenance and enhancement" and the "preservation of environmental and aesthetic values... are declared to be beneficial." Thus, any use of existing water rights to restore or enhance fish habitat or environmental values important to Colville Tribal Membership would be viewed as acceptable use of water rights.

An outside entity like the Washington Water Trust or the Washington Water Project of Trout Unlimited may assist the Confederated Tribes in transferring water rights to the TWRP and work with them to review the validity and extent of water rights on lands acquired for mitigation. The Columbia Basin Water Transaction Program (CBWTP), Qualified Local Entities (QLEs) are available to help transfer water instream. Washington Water Trust and the Washington Water Project of Trout Unlimited, are the applicable QLEs in Washington. The QLEs help ensure valid water rights are secured instream, complete many of the due diligence and state processes, and also are useful for reporting of instream flow metrics in Pisces under the CBWTP. Following the review, CTCR will submit a trust water right application to Ecology. Ecology will determine the amount of water that can be accepted into the TWRP by reviewing the extent and validity of the water right (required if RCW 90.03.380 applies) by determining the highest consumptive use in the 5 years before the acquisition. Ecology will issue a report of examination to spell out the terms and conditions related to the acquisition and use of the water right in trust, and to identify the circumstances under which the water right reverts back to the water right holder.

5.3 Cultural and Historic Resource Management Objectives

The CRMP (CTCR2006b) addresses those cultural resources referred to as historic properties under the National Historic Preservation Act (NHPA). These properties represent those places or objects that:

- are associated with events that have made a significant contribution to the broad patterns of our history; or
- are associated with the lives of persons significant in our past; or

- embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- have yielded, or may be likely to yield, information important in prehistory or history (36 Code of Federal Regulations [CFR] 60.4).

The NHPA regulations also stipulate that a historic property must “possess integrity of location, design, setting, materials, workmanship, feeling, and association.” Except in extraordinary cases, historic properties must be at least 50 years old.

For Tribal trust and Tribal fee parcels, both on and off the reservation, cultural resource review activities are carried out in conjunction with the 3P Team. This would include the issuance of building permits or deviations from approved land use, developments within a certain distance of shorelines, water use, activities that might affect water quality, and forest practices, etc. Before issuing such permits, copies of the proposed permits will be forwarded to the History/Archaeology Program for review and comment, in accordance the relevant Tribal Codes.

5.3.1 Actions

- **CUL-1.** A qualified person shall determine the potential impact on cultural resources that would result from the type and location of actions planned for the acquired lands using the Matrix of Possible Impacts and Cultural Resource Types in the CRMP (CTCR 2006b).
- **CUL-2.** Should the CRMP indicate that a cultural resource inventory is warranted, a qualified person shall implement the following protocols prior to conducting any ground-disturbing activities:
 - Identify the area of potential effects (APE) for the planned actions and complete the necessary forms in the CRMP.
 - Obtain concurrence on the APE from the Confederated Tribes Tribal Historic Preservation Officer (THPO), BPA, and the Washington Department of Archaeology and Historic Preservation (DAHP).
 - Complete a record search of previously recorded cultural and historic resources within the APE.
 - If necessary, complete field investigations for cultural and historic properties in accordance with the CRMP, DAHP standards, and other tribal and federal laws and regulations (e.g., field reconnaissance, 100% inventory, or partial inventory). Conduct above-ground investigations for potential listing on the National Register of Historic Places, and subsurface investigations in those areas where ground-disturbing activities are proposed.
 - Should inadvertent discoveries of artifacts or sites of potential cultural or historic significance be encountered during field investigations or during any management actions, suspend all site-disturbing actions and notify the CTCR, THPO, DAHP, and BPA. Develop and implement a recovery plan. Resume ground-disturbing actions only when the CTCR, THPO, DAHP, and BPA agree such activities can safely resume.

- Inform the CTCR, THPO, DAHP, and BPA of all cultural and historic properties discovered during field investigations, If necessary, the Confederated Tribes THPO will provide recovery and mitigation recommendations.
- Complete of the necessary forms in the CRMP and the State of Washington Archaeological Site Inventory Form (if necessary) for those properties where field investigations are completed and submit the forms to the CTCR, THPO, DAHP, and BPA.
- **CUL-4.** A qualified person shall evaluate all cultural and historic properties discovered during field investigations to determine eligibility for listing on the National Register of Historic Properties, in accordance with the NHPA.
- **CUL-5.** When appropriate as determined by the Colville Confederated Tribes Natural Resources Department, History/Archaeology Program and the CTCR THPO, integrate cultural heritage and resources, tribal language, and ceremonial activities into actions on the acquired lands. Provide public and Tribal outreach and education to ensure that management of the acquired lands accounts for important cultural and historic properties and reflects Tribal customs and values, in accordance with the CRMP (Confederated Tribes of the Colville Reservation 2006b).
- **CUL-6.** A qualified person shall evaluate the potential effects of proposed actions on historic properties, and coordinate with all appropriate parties regarding development of specific action plans. This will typically be accomplished through 3P implementation.

5.4 Forest Management Objectives

5.4.1 General Forest Management

The primary objective of forest management on acquired lands is to establish, maintain, or strengthen anadromous fish populations for the benefit of Tribal interests and the prevention of greater listing or extinction. Forests on acquired lands will be managed to more closely resemble those shaped by historic disturbance agents such as fire (natural and aboriginal ignitions), wind, insects, disease, and animals. If passive recovery is not possible or significantly slow, then actions will be taken to rehabilitate, restore, or otherwise enable ecological functioning to address limiting factors affecting forest health and anadromous fish population recovery.

5.4.1.1 General Management Actions

- **FOR-1.** Manage forest properties with little to no timber harvesting, except for vegetation management required to meet forest health and restoration objectives. When harvest is necessary to meet forest health objectives, it will be done in a manner as to minimize damage to aquatic and other resources.
- **FOR-2.** If some timber harvest is necessary, a qualified forester will assess forest stands and prescribe treatments that complement overall land management goals for fish recovery. Identify and map stands by age and densities, and prioritize stands in need of action based on CTCR's IRMP guidelines (Confederated Tribes of the Colville Indian Reservation 1997, 1998a).
- **FOR-3.** Promote old-growth structure and size class characteristics in ponderosa pine and Douglas-fir stands through passive and active management actions. Promote forestry practices

that improve vigor and minimize the detrimental impacts of disease and insects to provide better watershed health and habitat. Monitor insect activity. If tree mortality increases by 20%, develop an insect management plan to protect forest vigor and habitat values.

- **FOR-4.** Use trees for habitat enhancement (such as large wood additions to streams or side channels). Retain cavity trees and snags for wildlife benefit.
- **FOR-5.** Plan timber harvest, removal, and equipment movements to avoid and minimize damage to resources.
- **FOR-6.** Re-assess conditions periodically to determine trends per IRMP guidelines.
- **FOR-7.** All funds generated from harvest will be put into an account managed by the project under which the land was acquired or by the project under which the land is being managed.

5.4.2 Fire Regimes

The objectives of fire management are to ensure that excessive fuels on acquired lands do not create a potential fire hazard and to focus the rehabilitation of burned areas on native vegetation and healthy communities. To this end, a burn prescription and a fire management plan will be developed for the forested portions of acquired lands.

5.4.2.1 Wildfire Actions

- **FIRE-1.** Complete a fuel load assessment on the forested properties. Implement prescribed actions to reduce dangerous fuel conditions and minimize future fire hazards.
- **FIRE-2.** Follow the guidelines for fire suppression provided in the Interim Forest Management Plan (CTCR 1991:58). Use light-hand-on-the-land tactics as much as feasible.
- **FIRE-3.** Fire retardant will be used on these sites only as a last resort to protect life or structures.

5.4.2.2 Prescribed Fire Actions

- **FIRE-4.** Use prescribed fire as a method for removal of non-native plant material and site prep for the establishment of native plant species (i.e., burn, scarify, seed).
- **FIRE-5.** Within the Riparian Management Zone (RMZ) use prescribed fire only to prevent loss of target resources or when specifically approved to rehabilitate or restore ecological functions to address limiting factors affecting anadromous fish population recovery. Use light -on-the-land tactics in the RMZ. Control and suppress all crown fires in the RMZ.
- **FIRE-6.** Use prescribed broadcast fire and stocking control thinning in stands that have been severely infected by dwarf mistletoe, insect epidemics and root diseases.

5.4.2.3 Rehabilitation Actions

- **FIRE-7.** Rehabilitate or re-vegetate wildfire-disturbed areas with ecologically appropriate species adapted to site characteristics and with species that will move the site towards the desired future condition. Use native species unless their establishment is unlikely to be successful and introduced species must be used to protect the resource (Klock 2001).

5.5 Riparian Area, Floodplain, and Wetland Management Objectives

5.5.1 Riparian Areas and Floodplains

Primary objective of riparian area and floodplain management is to ensure that the riparian areas and floodplains on the acquired lands are managed to protect and restore native species.

5.5.1.1 Actions

- **RIP-1.** Delineate RMZs along all perennial and intermittent streams. RMZs will meet site-specific width requirements as determined by the following characteristics:
 - flood-prone areas, including the 100-year floodplain;
 - areas of active channel migration;
 - extent of riparian and potential riparian vegetation;
 - soil type;
 - adjacent side slope sensitivity; and
 - Extent of vegetation that can provide shade and large woody debris to channels.
- **RIP-2.** Install new fence lines to provide protection to riparian, aquatic, and significant terrestrial habitats. Fence lines may be temporary or permanent, depending on the intended purpose of the fence line. Prohibit livestock from accessing stream banks and stream channels for watering or crossing.
- **RIP-3.** Plant riparian corridor with native species appropriate for the Okanogan Subbasin.
- **RIP-4.** Remove nonnative species mechanically and by hand.
- **RIP-5.** Develop decommissioning plan for nonessential roads, culverts, bridges, fords, and elevated road prisms within floodplains. Remove roads that intersect streams, wetlands, riparian areas, and other sensitive habitats.
- **RIP-6.** Ensure that all actions in and around riparian areas and floodplains are compliant with tribal, state, and federal protections and permits, including the ESA, the Clean Water Act (sections 401 and 404), Executive Order 11990 Protection of Wetlands, Executive Order 11988 Floodplain Management, the Rivers and Harbors Act of 1879 (section 10), the Confederated Tribes Integrated Resources Management Plan, and NEPA; the Washington State Hydraulic Code, State Water Pollution Control Act, Shoreline Management Act, and the Forest Practices Act; and Okanogan County regulations of wetlands under the Growth Management Act and the Shoreline Management Act.

5.5.2 Wetlands

The primary objective of wetland management is to ensure that wetlands on the acquired lands are managed to protect and restore native species, dependent on this habitat.

5.5.2.1 Actions

- **WET-1.** Delineate lakes and wetlands based on the following characteristics:
 - inundation by normal high water,
 - a high water table and saturated soils consistent with mean annual precipitation regimes,
 - extent of riparian vegetation,
 - soil type,
 - adjacent side slope sensitivity.
 - Army Corp of Engineer wetland standards
- **WET-2.** Develop decommissioning plan for nonessential roads, culverts, bridges, fords, and elevated road prisms within wetlands.
- **WET-3.** Prohibit livestock from accessing wetlands for watering or crossing. Install new fence lines to provide protection wetlands.
- **WET-4.** Ensure that all actions in and around wetlands are compliant with Tribal, state, and federal protections and permits, including Tribal Code, the ESA, the Clean Water Act (sections 401 and 404), Executive Order 11990 Protection of Wetlands, Executive Order 11988 Floodplain Management, the Rivers and Harbors Act of 1879 (section 10), the IRMP, and NEPA; the Washington State Hydraulic Code, State Water Pollution Control Act, Shoreline Management Act, and the Forest Practices Act; and Okanogan County regulations of wetlands under the Growth Management Act and the Shoreline Management Act.

5.5.3 Soils

The primary objective of soil management is to ensure that the soils on the acquired lands have high long-term productivity and stability, that soil porosity and nutrient content is high and soil compaction, displacement and erosion is minimal.

5.5.3.1 Actions

- **Soils-1.** Restore and maintain adequate nutrient content, soil moisture, erosion control and decomposition processed through vegetation management to provide for natural site productivity levels over the long term.
- **Soils-2.** Conduct management activities and land use practices that minimize and mitigate soil disturbances.
- **Soils 3.** Restore and maintain soils and soil processes in riparian areas to ensure high water quality.

5.6 Nonnative Species and Noxious Weeds Management Objectives

Control of invasive weed species is a high priority on CTCR lands acquired for mitigation. The goal of weed control will be to reduce or eliminate invasive weed species and restore native species and communities in those areas currently occupied by noxious weeds.

Changes in biodiversity have been closely associated with changes in land use. Grazing, agriculture, and accidental seed dispersal have introduced a variety of nonnative plant species, many of which are vigorous, damaging, and invasive enough to earn the title *noxious weed*. The Washington State Noxious Weed List is updated by the State Weed Control Board and includes the following categories of noxious weeds:

- **Class A:** very limited distribution in Washington State and require statewide mandatory eradication of the entire plant.
- **Class B:** more widespread but still require control of seed production.
- **Class C:** fairly widespread and are not considered feasible to eradicate. Okanogan County recommends that property owners control Class C species to stop further spread; however they do not require control unless there are complaints from adjacent property owners. In Okanogan County, the location and extent of noxious weed infestations are currently being mapped by the Okanogan County Noxious Weed Control Office, the U.S. Forest Service (Okanogan and Wenatchee National Forest), and other conservation entities.

The Okanogan County Noxious Weed Control Board maintains an up-to-date Noxious Weed List on its website: <http://www.okanogancounty.org/nw/list.html>.

Weeds species vary considerably in the threat they pose to the resource values of the land. In most areas managing agencies must prioritize control and elimination efforts where numerous weed species and various infestation intensities exist. This is achieved by using species-based information and site-based information to prioritize noxious weeds requiring control, and to identify actual or potential threats of infestations. Species that interfere with management goals will be inventoried and mapped by CTCR staff using the Noxious Weed Inventory Survey Form as part of the Property Baseline Assessment (Appendix B). The status of invasive populations and the success of mitigation treatments will be assessed through ongoing monitoring of weed populations.

Invasive weeds will be controlled according to the following priorities:

- **High priority:** Class A and B weed species that pose the greatest threat to the ecological health of the property need to be controlled immediately.
- **High priority:** Class A and B new or potential invaders or isolated populations that can be prevented or eliminated immediately.
- **Medium priority:** Class C weed species that need to be eradicated with intensive management.

Integrated weed management uses multiple control measures to effectively and efficiently manage noxious weed species. Control measures include biological, chemical, mechanical, and cultural controls, which, when integrated, yield better results than just using one control method. Integrated

weed management is species- and site-specific, customized to take advantage of the biological weaknesses of a particular species, and developed to be practical and safe.

Chemical spraying is a significant concern for traditional/cultural plant gatherers and CTCR as a whole will inform the public about where and when spraying occurs. The Anadromous Fish Program will collaborate with other programs (Land Operations, Wildlife Mitigation, etc.) to develop and implement a system of public notice. Public notice is also a requirement under Tribal Code 4-9: Hydraulic Project Permitting.

5.6.1 Inventory and Mapping Actions

- **PLANT-1.** Use the North American Weed Management Association system for inventorying, mapping, and treatment prioritization of nonnative plant species.¹ The system creates a standardized format that supports information sharing, which will promote coordinated control efforts and systems for early warning and detection. These practices have been adopted by the U.S. Forest Service, the National Park Service, the U.S. Fish & Wildlife Service, and many other public and private organizations. See Appendix D for inventory and mapping forms and protocol.
- **PLANT-2.** Delineate infestations of invasive weeds with global positioning systems (GPS) and mapped in ArcGIS, the geographic information system (GIS) software. Update this information periodically depending on the severity of the noxious weeds on lands acquired for mitigation.
- **PLANT-3.** Create and maintain a weed geodatabase for tracking weed locations, treatment methods, and population trends.

5.6.2 Control Plan Actions

As with other portions of the PLMP these control plan actions will follow established and relevant Tribal Code and management plans (including the IRMP and CRMP), and incorporate the 3P Process to ensure that appropriate review and coordination occurs. This is particularly relevant to the biological and chemical treatment actions, outlined below.

- **PLANT-4.** Prioritize control of noxious weeds on acquired lands based on the classes of noxious weeds present, the potential for those species to spread to other properties, and the potential impacts on fish and wildlife and habitat elements (e.g., aquatic, riparian, and upland habitats). Introduced plants with minimum occurrence and high spread potential will be prioritized for treatment.
- **PLANT-5.** Develop a weed control plan for each acquired property where noxious weeds occur. Select the best control methods to remove noxious weeds and avoid their recolonization, and promote the establishment of native plant communities.
- **PLANT-6.** Implement control plans that include the complete removal of high-priority noxious weeds. Use integrated methods such as hand pulling, mechanical weed control, competition seeding, targeted grazing, proven biocontrols, and chemical control. Monitor effectiveness of control plans.

- **PLANT-7.** Identify and control of sources and vectors of invasive plants. Adopt suppression plans that will reduce and ultimately eliminate seed production and vegetative growth.
- **PLANT-8.** Develop a notification plan to inform the public about noxious weed spraying

5.6.2.1 Mechanical Weed Control

Mechanical weed control methods (mowing and hand-pulling) are effective and have relatively low operational costs. However, these methods have high initial capital costs, may damage non-targeted species, may disturb fauna, increase the spread of rhizomatous noxious weeds by stimulating growth, and are difficult to use on wet or steep terrain.

- **PLANT-8.** Use hand-pulling as a cost-effective method of control on a small scale. Use this method to remove whole immature plants with shallow or strong roots, but not plants with brittle or rhizomatous root systems.
- **PLANT-9.** Use targeted mowing to prevent seed-set and repeat several times annually to be effective, depending on targeted species. Mowing may encourage establishment and expansion of non-native plants which regenerate from vegetation rather than seed.
- **Plant-10.** Use targeted prescribed burning to control noxious weeds and follow-up with native planting and seeding to replace weed infestations.
- **Plant-11.** Use of activated carbon treatments which can decrease the benefits non-native plants realize from soil organisms and decreases the effects of soil pathogens on native plants.

5.6.2.2 Biological Control

Biological control agents are usually introduced insects that target a specific plant. Typically, the establishment of such an insect is slow and sometimes difficult. There are many variables in determining whether a particular agent may work in any given site. These insects do not eradicate weeds, but may prove effective in controlling their spread or reducing plant populations to a level where other control methods are more feasible.

- **PLANT-12.** Use biological control agents to assist in areas where other controls may not be used and to reduce herbicide residues; for example, against large or growing weed populations in riparian or forested areas where herbicide or mechanical controls are not appropriate.

5.6.2.3 Chemical Control

Chemical control requires the application of pesticides through spot-spraying or broadcast application. Careful timing and proper chemical concentrations are necessary to avoid mortality of desirable plants. Some species on acquired lands may only be effectively controlled with the use of specific herbicides. Implementation of such actions will comply with existing Tribal Code CTCR management plans, including CTCR Hydraulic Practices Handbook and the CRMP,

- **PLANT-13.** Ensure that BPA-funded herbicide treatment activities meet BPA and National Oceanic and Atmospheric Administration Habitat Improvement Program conditions. These conditions limit specific herbicide and adjuvant usage in riparian zones.
- **PLANT-14.** Keep records of all plants and areas treated, amounts and types of herbicide used, and dates of application for all types of control: mechanical, biological and chemical control. This information is important in evaluating the project's success and improving methodologies.

In addition, it documents procedures for future site managers and biologists. Recording abundance and condition of targeted weeds and nearby desirable plants before and after treatment helps evaluate the effectiveness of herbicides.

- **PLANT-15.** Provide training and applicator licensing fees for staff.

5.6.2.4 Public Control

Cultural control purposefully manipulates crop management, planting, and cultivation; and employs grazing measures to limit seed distribution.

- **PLANT-16.** Coordinate with adjacent property owners to promote efficient weed control methods and reduce weed spread across boundaries.
- **PLANT-17.** Employ measures such as controlling access to the acquired properties, limiting access to designated entry points, inspecting and decontaminating vehicles, forming cooperative agreements with contractors and other parties that need regular access to the site, and providing educational programs.

5.6.3 Monitoring Actions

- **PLANT-18.** Annually survey areas of treatment or areas of weed species presence. Document the noxious weeds present, number of weeds or area occupied by noxious weeds, and condition of native plants planted as part of the treatment. Provide photographs to document changes in vegetation over time. Track monitoring results for weed species using ArcGIS.
- **PLANT-19.** Evaluate the impacts of weed control measures on non-targeted native plant species.
- **PLANT-20.** Develop post-monitoring strategies to address the results and track treatment effectiveness.

5.7 Fish and Wildlife

The CTCR Fish & Wildlife Department is responsible for managing fish (anadromous and resident), wildlife (native and desired nonnative), and habitat resources (restoration, enhancement, and protection) within the Colville Indian Reservation. Fish & Wildlife coordinates with state and federal agencies to manage of fish and wildlife resources in the North Half and U&A areas. Fish management objectives, defined in the Fish & Wildlife Resource Management Plan (CTCR2006c) ensure that fish and wildlife, as well as their habitats, are managed holistically, for the benefit of Tribal Members and the public at large.

5.7.1 Fish Management Objectives

The primary objective of fish management is to protect and improve habitat conditions of anadromous salmonids and other native species, and promote their recovery in the Okanogan Subbasin.

Habitat restoration can be defined as:

- the re-establishment of predisturbance riparian or stream functions and related biological, chemical, and physical processes in an ecosystem;
- actions taken to return a habitat, an ecosystem, or a community to its original condition after damage resulting from a natural disturbance or an anthropogenic perturbation; or
- the re-establishment of fish stocks or populations that were eliminated or reduced as a result of anthropogenic actions (Armantrout 1998).

Enhancement can be defined as:

- an improvement of ecological conditions for aquatic, terrestrial, or recreational resources, or
- any change that improves a structural or functional attribute for a species or habitat. Some enhancement activities that result in a positive impact on a single species or specific component of an ecosystem may negatively affect others (Armantrout 1998).

5.7.1.1 Restoration and Enhancement

Habitat restoration and enhancement measures may alter the landform, fauna, or vegetation in order to create a suitable riparian habitat.

5.7.1.1.1 Actions

- **FISH-1.** Remove nonnative species mechanically, depending on the extent and size of vegetation to be removed.
- **FISH-2.** Remove nonnative species by hand on lands with minimal nonnative vegetation consisting of sparse clusters or relatively few individual plants within an otherwise native riparian corridor.
- **FISH-3.** Plant riparian corridor with native species appropriate for the Okanogan Subbasin (Table 5-1); use live stakes from stock growing in the Okanogan Subbasin to maximize potential for survival.
- **FISH-4.** Provide soil amendments and irrigation to planting areas as required. Acquire amendments from an appropriate source, and ensure that they are free of pollutants or nutrients that may affect water quality of adjacent surface waters.
- **FISH-5.** Protect revegetated areas, fencing out livestock and wildlife as needed. Maintain temporary fencing until woody vegetation reaches an average height of 5 feet.

Table 5-1: Native Vegetation for Replanting Riparian Corridors

Common Name (<i>Scientific Name</i>)	Notes
Seeding – upland seed mix	Native drought-tolerant grasses and forbs, from locally gathered seeds, will be used whenever possible. If these are not available, native seed mix cultivars could be used. These cultivars may include pinegrass (<i>Calamagrostis rubescens</i>), slender wheatgrass (<i>Elymus trachycaulus</i>), needle-and-thread grass (<i>Stipa comata</i>), silky

Common Name (<i>Scientific Name</i>)	Notes
Seeding – riparian seed mix	lupine (<i>Lupinus sericeus</i>), and nine-leaf lomatium (<i>Lomatium triternatum</i>) Locally gathered native seeds of grasses and forbs suitable for a wetter environment will be used whenever possible. If these local species are not available, native cultivars may be used, which typically include tufted hairgrass (<i>Deschampsia cespitosa</i>), thickspike wheatgrass (<i>Elymus lanceolatus ssp.</i>), western mannagrass (<i>Glyceria occidentalis</i>), fowl mannagrass (<i>Glyceria striata</i>), and bluejoint (<i>Calamagrostis canadensis</i>).
Red-osier dogwood (<i>Cornus stolonifera</i>)	Container plant or live stake
Douglas maple (<i>Acer glabrum</i>)	Container plant
Black cottonwood (<i>Populus trichocarpa</i>)	Container plant
Mountain alder (<i>Alnus incana</i>)	Container plant
Ponderosa pine (<i>Pinus ponderosa</i>)	Container plant
Western redcedar (<i>Thuja plicata</i>)	Container plant
Nootka rose (<i>Rosa nutkana</i>)	Container plant
Coyote willow (<i>Salix exigua</i>)	Live stakes, should be harvested from the Okanogan Subbasin.
Pacific willow (<i>Salix lasiandra</i>)	Live stakes, should be harvested from the Okanogan Subbasin
Sitka willow (<i>Salix sitchensis</i>)	Live stakes, should be harvested from the Okanogan Subbasin
Bebb's willow (<i>Salix bebbiana</i>)	Live stakes, should be harvested from the Okanogan Subbasin
Scouler's willow (<i>Salix scouleriana</i>)	Live stakes, should be harvested from the Okanogan Subbasin
Snowberry (<i>Symphoricarpos albus</i>)	Container plant
Blue elderberry (<i>Sambucus cerulea</i>)	Container plant
Twinberry honeysuckle (<i>Lonicera involucrata</i>)	Container plant
Black hawthorne (<i>Crataegus douglasii</i>)	Container plant
Serviceberry (<i>Amerlacher alnifolia</i>)	Container plant

Restoration and enhancement efforts will include appropriate monitoring to ensure the creation and enhancement of habitat suitable for a diversity of species. Monitoring will be used to define habitat and species population trends, determine if desired goals and objectives are being met, and to provide evidence supporting the continuation of the program management actions.

Vegetation monitoring and evaluations include combined stratified random sampling with systematic sampling. Monitoring sites are stratified by cover types (strata) to provide homogeneity within strata, which tends to reduce the standard error, allows for use of different sampling techniques between strata, improves precision, and allows for optimal allocation of sampling effort resulting in possible cost savings.

Areas planted with native shrubs/trees and/or seeded with herbaceous/grass cover will be monitored annually, with plant species systematically collected and analyzed for frequency, abundance, density, height, and percent cover to describe vegetative trends through time. In addition, the presence of all noxious weeds will be mapped and characterized. This information is used to identify causes of seeding or planting failure (e.g., depredation, weather impacts, poor site conditions, poor seed/shrub quality), modify planting methods and site preparation, develop an annual exotic vegetation control plan, evaluate the effectiveness of noxious weed control methods, and adjust management plans (adaptive management) accordingly (WDFW 2006).

5.7.1.2 Culverts and Other Barriers

Culverts and other barriers on streams can impede the passage of fish and limit their access to key habitats. Removing these barriers can provide fish passage and promote recovery of native migratory or anadromous species, particularly salmon and steelhead.

5.7.1.2.1 Actions

- **FISH-6.** Identify all culverts on fish-bearing streams on the property and determine status (e.g., complete barrier, partial barrier or 100% passable). Determine whether each culvert located on the property is required for property access or other critical need. If not, determine if removal of the culvert is appropriate.
- **FISH-7.** Evaluate the benefit of barrier removal or replacement by conducting a habitat inventory upstream and downstream of the barrier culvert to determine potential anadromous access and habitat gain. Provide an inventory of additional barriers and a qualitative assessment of the habitat and potential fish use upstream and downstream of the barrier culvert.
- **FISH-8.** Remove designated culverts and restore the channel in the immediate vicinity of the road crossing (e.g., contour banks and construct channel to match upstream and downstream bank slopes and channel conditions). Restore floodplain (remove the road prism) if the road prism affects the ecological function of the floodplain (e.g., creates flooding upstream, disconnects floodplain habitat, increases water velocity within the active channel, causes bank erosion).
- **FISH-9.** Design and install replacement culverts per the WDFW's fish passage criteria (Washington Department of Fish & Wildlife 1999).

5.7.1.3 Off-Channel Habitat

Off-channel habitat is significant for juvenile rearing. In the United States portion of the Okanogan Subbasin, off-channel habitat has been lost through roads and levee construction and residential, commercial, and agricultural development.

Floodplains typically contain sloughs, side-channels, and other features that provide important spawning and rearing habitat and refugia during high flows. Additionally, floodplain storage can increase the groundwater table during floods, recharging wetlands, off-channel areas, shallow aquifers, and the hyporheic zone, which can release water to the stream in the summer through a process called hydraulic continuity. This process ensures adequate flows and water temperatures to support native fish species during the warm and low flow summer months, and reduces the possibility of high-energy flood events that can destroy salmonid redds (nests) during the winter months (Benda et al. 2001 and National Marine Fisheries Service 2008).

Properties with historic or disconnected channels, oxbows sloughs, and floodplains will be considered for purchase, restoration or enhancement as appropriate.

5.7.1.3.1 Actions

- **FISH-10.** Develop a range of reasonable alternatives for restoration or enhancement of off-channel habitats, including full reconnection (upstream and downstream connection with no flow restriction), partial reconnection (upstream and downstream reconnection with flow restriction), or downstream only reconnection (backwatering of off-channel habitat).
- **FISH-11.** Evaluate the range of reasonable alternatives based on construction feasibility, cost, public comments, hydraulic impacts, and biological benefit. Select the alternative that will best protect and support native fish species, and to meet salmon and steelhead recovery objectives in the Okanogan Subbasin.
- **FISH-12.** Complete a hydraulic analysis of off-channel habitat to identify any potentially negative impacts on flow conditions upstream and downstream, including increased risk of flooding.
- **FISH-13.** Provide high-quality habitat through riparian planting (for shade, allochthonous input, and cover), in-channel large woody debris and rocks (cover from predators and refuge from high water velocities), and appropriate floodplain connectivity (increased flood storage, sediment inputs, macroinvertebrate production, and large woody debris recruitment).

5.7.1.4 Instream Habitat

Within the Okanogan Subbasin, instream habitat has been degraded through residential, commercial, and agricultural development; levee construction; channelization; and streambank armoring. Habitat in the main stem is generally considered degraded. The lower 17 miles of the Okanogan River are affected by Wells Dam in the Columbia River, forming an elongated pool. Upstream of the pool, the Okanogan River is generally characterized as a broad, shallow, low-gradient, channel with relatively homogenous habitat with few pools and limited large woody debris. Highways border the river on either side for much of its length.

Restoration or enhancement of instream habitat will address habitat-limiting factors such as decreased habitat complexity within the mainstem and tributary streams. Measures may include supplementing substrate material with suitable spawning substrate, modifying the streambank, installing instream structures, improving main stem holding and rearing habitat, creating pool-riffle complexes in channelized and uniform stream reaches, replacing nutrients, and augmenting flow.

5.7.1.4.1 Actions

- **FISH-14.** Identify the target species and life-history stages to benefit from restoration or enhancement of instream habitat.
- **FISH-15.** Determine the causes of degraded instream habitat conditions at the reach scale. For example, a uniform channel profile may create scour at the reach scale during high flow events, resulting in a loss of suitable spawning substrate for steelhead. Placement of appropriately sized gravels may not achieve the desired outcome unless boulders or other features are installed to protect the spawning material. It may be necessary to remove riprap or armoring, or to apply softer streambank protection in order to promote habitat-

forming processes or improve floodplain connectivity while reducing water velocity through the reach.

- **FISH-16.** Develop a reach-scale two-dimensional hydraulic model to assess existing conditions and evaluate the impacts of potential prescriptions if necessary.
- **FISH-17.** Based on two-dimensional hydraulic model results, determine the appropriate prescription to restore or enhance instream habitat for target species and life history stages.

5.7.1.5 Passive Restoration and Enhancement

Passive restoration or enhancement actions are less intensive and include changes in management practices or use of existing landscape features or processes to facilitate natural recovery. Passive restoration or enhancement of riparian corridors aims to promote the natural reproduction of native vegetation and natural river processes such as channel migration, large woody debris recruitment, groundwater recharge, flow modification, and improved water quality.

5.7.1.5.1 Actions

- **FISH-18.** Discontinue livestock grazing that is detrimental to fish or plant resources on lands acquired for mitigation.
- **FISH-19.** Develop a rotation schedule to allow grazing on portions of the property outside of the riparian corridor, if deemed beneficial to the land.
- **FISH-20.** Install fencing excluding livestock from accessing the riparian corridor.
- **FISH-21.** Discontinue bank stabilization measures (e.g., installing riprap, large woody debris, weirs, or other measures).
- **FISH-22.** Discontinue activities associated with tree harvesting in the riparian corridor to promote natural recruitment of large woody debris.
- **FISH-23.** Discontinue seasonal push-up dam work related to irrigation diversions on acquired lands. These push-up dams generally wash out each spring and must be reconstructed each year. The dams create pools deep enough to pump water from or to direct water to a gravity-fed irrigation canal, and such activities can negatively affect fish habitat.

5.7.2 Wildlife Management Objectives

The primary objectives of wildlife management are to maintain and protect viable populations (numbers and distribution of reproductive individuals) of native and desired nonnative species of wildlife and their supporting habitats while meeting the cultural, subsistence, recreational, and economic needs of the Tribal Membership.

5.7.2.1 General Management Actions

- **WILD-1.** Continued participation in fish and wildlife resource agreements, such as the State-Tribal Forest and Fish Agreement, as funding permits. Participate in other intra- and interagency initiatives that affect Tribal fish and wildlife resources.

- **WILD-1.** Propose, implement, participate in, or support fish and wildlife management and research projects that contribute to the benefit of the Tribal membership and the achievement of desired future conditions.
- **WILD-2.** Use best available science to implement an adaptive management strategy to achieve the desired future conditions specified in the IRMP.
- **WILD-3.** Ensure that all actions are compliant with Tribal, state, and federal protections and permits, including Tribal Code, NEPA, the ESA, the Clean Water Act (sections 401 and 404), Executive Order 11990 Protection of Wetlands, Executive Order 11988 Floodplain Management, the Rivers and Harbors Act of 1879 (section 10), and the IRMP.

5.7.2.2 Habitat Actions

- **WILD-4.** Maintain habitat for species that create or utilize cavities by leaving quality snags. Quality snags are those currently used by wildlife or those with the structural features to become wildlife trees.
- **WILD-5.** Monitor big game and other species to ascertain trends relating to newly planted riparian vegetation. Address ungulate browse issues. Protect riparian vegetation or other sensitive plants from livestock. Protection of vegetation would be ensured by limited grazing, fencing, upslope incentives or deterrents.
- **WILD-6.** Protect and avoid disturbing bird nesting sites in late spring and early summer.

5.7.2.3 Fishing and Hunting Actions

- **WILD-8.** Ensure cooperation between the WDFW, State and County Police and the CTCR Natural Resource Department Fish & Wildlife Program and the Tribal parks and recreation and police officers in their efforts to enforce fish and wildlife regulations, and to maintain public safety.

5.7.3 Rangeland Management Objectives

The goal of rangeland management is to promote the health and vigor of native perennial vegetation and desired nonnative perennial vegetation to support the conservation of anadromous fish and other threatened, endangered, special-status and culturally important species (Klock 2001).

5.7.3.1 Actions

- **RANGE-1.** Base rangeland treatments that alter the vegetative composition of a site (e.g., prescribed fire, seeding, or plantings) on site potential. Treatments should contribute to the functioning of the hydrologic cycle, mineral cycle, and the processes of succession and photosynthesis on that site.
- **RANGE-2.** Follow criteria for seeding of disturbed rangeland as shown in guideline RV-G4.17 (Confederated Tribes of the Colville Reservation 1998a). Design management activities to prevent an increase in noxious weed populations and distribution.
- **RANGE-3.** Create a mosaic of desirable rangeland plant communities with diverse forbs, grasses, and shrubs that optimize ecosystem processes (photosynthesis, hydrologic cycle, nutrient cycle) (Klock 2001). Plant communities will meet the needs of anadromous fish population recovery, watershed health, wildlife, and tribal membership.

- **RANGE-4.** Maintain ecosystem health, community structure, and species composition in areas where rangeland is currently at or near the identified optimum plant association condition.
- **RANGE-5.** Improve or maintain the ecosystem health of rangeland that is currently in fair or poor condition by emphasizing an improvement in plant characteristics, such as species composition and community structure (Klock 2001).

5.7.4 Agricultural Land Use Objectives

Agricultural lands may include lands associated with food crops, conservation programs like the Conservation Reserve Enhancement Program (CREP), and livestock grazing. The objective for the management of agricultural lands is to ensure the land is managed in such a way as to not further degrade aquatic habitat conditions and to contribute to a functioning aquatic ecosystem. As noted in the Okanogan Subbasin Plan (KWA Ecological Sciences et al. 2004), not all agriculture provides negative impacts on fish, wildlife, and their habitats. Only those agricultural activities that negatively affect fish and fish habitat will be discontinued on acquired lands, and agricultural activities that do not negatively affect fish and fish habitat may be allowed to continue, but may require modifications.

5.7.4.1 Cropland

Agricultural properties that are acquired will include both irrigated and non-irrigated croplands within the U.S. portion. Irrigated properties have water rights, most or all of which will be transferred to a water trust for instream flow, if the property is located off reservation. CTCR may continue crop production on the acquired lands. Any revenues generated from crop production on the acquired lands will be put into an account managed by the project under which the land was acquired or by the project under which the land is being managed.

5.7.4.1.1 Actions

- **AGR-1.** Evaluate the current agricultural activities on the acquired lands and determine whether they affect fish and fish habitat (e.g., compromised riparian conditions, reduced floodplain connectivity, increased sediment input to the stream).
- **AGR-2.** Determine whether discontinuing or modifying agricultural activities will improve conditions. Identify those activities that should be discontinued or modified and identify the modifications that must be implemented.
- **AGR-3.** Prioritize the actions to be implemented in areas where agricultural activities will be eliminated or modified (e.g., restoration or enhancement actions, preservation actions, changes in use of water rights). Consider biological benefit, feasibility, cost, and community support for the actions.
- **AGR-4.** Fish and wildlife will evaluate the best use for that water right, given the prioritized actions to be implemented on the property (e.g., irrigation of riparian plantings, supplementing instream flow).
- **AGR-5.** Develop conceptual plans for the actions to be implemented, identifying where actions will replace agricultural activities, where agricultural activities will be allowed, and the type of allowed agricultural activities (e.g., livestock grazing, non-irrigated crops). Develop an implementation schedule.

- **AGR-6.** Implement and monitor actions on the acquired lands.

5.7.4.2 Conservation Reserve Enhancement Program

CTCR may enroll select agricultural mitigation properties in the CREP incentive program for CTCR. CREP is funded by the USDA Farm Service Agency and the State of Washington. Enrollment may provide income to support riparian restoration and enhancement activities. CREP provides funding to property owners to help conserve priority salmon stocks. CTCR could enroll land located along water bodies with priority salmonid stocks. Participants are reimbursed for 100% of the eligible costs to establish the buffer and receive an annual rental payment per acre enrolled. The program may also pay the maintenance costs during the 15-year enrollment period. CREP-enrolled acreages may not be grazed or hayed, and thus require fences and off-channel cattle watering facilities. Any payments received from enrollment in the CREP program will be put into an account managed by the project under which the land was acquired or by the project under which the land is being managed.

5.7.4.3 Grazing Lands

Grazing on the mitigation properties will only be initiated when it can be done in a manner that will not negatively affect fish or wildlife. Select mitigation properties may serve as models if they can exhibit productive grazing operations while providing healthy habitat and water quality. Effective grazing managed carefully can be used as a tool for riparian restoration, wildlife habitat enhancement, and noxious weed control. The use of livestock to enhance wildlife forage in pastures may help alleviate wildlife grazing pressure within riparian areas. These strategies can accelerate riparian area restoration by reducing browse impacts, allowing trees and shrubs to attain heights that can endure wildlife-browsing pressure (Knight 1996). Properly timed grazing may also reduce the growth and spread of weeds by preventing seed head formation and reducing nutrient supply to the root systems of weed species.

Livestock grazing will be used to create desired vegetation in meadows and riparian areas for the benefit of fish and wildlife through careful rotation and monitoring of forage conditions. Forage resources will be managed to increase production and improve plant community health, while protecting and enhancing all natural resources.

Grazing initiated on fee lands held by the CTCR and purchased with MOA funds will be managed by the Fish and Wildlife department of the CTCR. Once lands are put into trust status the Fish and Wildlife department will coordinate with BIA leasing to develop lease agreements. Any revenues generated from grazing leases on the acquired lands in fee status will be put into an account managed by the project under which the land was acquired or by the project under which the land is being managed.

All grazing land actions will be planned and implemented by a restoration ecologist, realty specialist, principal engineer and biologists employed by the CTCR.

5.7.4.3.1 Grazing Land Actions

- **AGR-7.** Use the State and Transition Model to classify the condition of rangeland vegetation and determine appropriate range management activities (Confederated Tribes of the Colville Reservation 1998a in Klock 2001).

- **AGR-8.** Identify and determine the modifications that must be implemented to improve habitat conditions (e.g., restrict grazing to upland areas; prohibit livestock access to riparian and aquatic habitats, including wetlands and restoration or enhancement actions, preservation actions).
- **AGR-9.** Develop grazing plans based on monitoring, grazing, and climate data from past years. Incorporate interdisciplinary resource concerns and timeframes that do not conflict with species recovery goals and objectives.
- **AGR-10.** Evaluate and apply range management best management practices on acquired lands. Implement measures to ensure that livestock utilization will not exceed the available forage in any pasture. Measures include cross fencing, establishing riparian pastures, rotation grazing, out-of-riparian water points, graveled stream watering and crossing points, and off-stream salting locations (Klock 2001).
- **AGR-11.** Promote grazing in late spring and summer to allow meadow soils to dry, avoid soil compaction, eliminate erosion of stream banks, and allow forage plants ample growing time prior to grazing to meet habitat needs. Rotate livestock through pastures to support regrowth and maturation of key grass species by the end of the growing season. Maintain stocking rates to leave an adequate volume of wildlife forage at the end of the grazing season. Grazing periods will be shorter in forested plant communities than in meadow systems.
- **AGR-12.** Construct additional fences to contain stock in pastures and exclude from sensitive areas.
- **AGR-13.** Construct livestock watering facilities to ensure appropriate rotation and stream bank protection.

5.7.4.3.2 **Grazing Lease Actions**

- **AGR-23.** Consider entering into multi-year lease periods to ensure the lessee's long-term commitments to land and riparian health.
- **AGR-24.** Provide detail in grazing leases on livestock stocking audits, facilities maintenance, pasture utilization, and rotation schedule.
- **AGR-25.** Allow flexibility for management, but emphasize conservation practices to foster resource rehabilitation. Construct leases to maintain property goals and to attract flexible and resource-conscious grazing operators.
- **AGR-26.** Monitor grazing activities periodically for stocking levels, pasture timing and use, weather data, Grazing Response Index values, incidence of use on woody stems, stubble heights of key species at rotation, and significant events. Periodically complete a full audit of pasture production.

5.8 Recreation and Public Access

5.8.1 Management Objectives

The management objective for recreation resources and public access is to provide public and tribal access to acquired lands, as long as access does not negatively affect fish and wildlife habitat conditions. Access may be permitted on a case-by-case basis for recreational activities (e.g., wildlife viewing, river access, regulated hunting and fishing, education).

While providing public access is important to CTCR, the properties will be considered private land under tribal ownership. Access will be regulated to ensure aquatic, riparian, and upland habitats are preserved and protected. Individuals caught trespassing, vandalizing, or otherwise causing harm or damage to the property, in conflict with established property regulations, will be subject to prosecution and may be required to pay for repairs resulting from their neglect and willful disregard for the law and/or terms and conditions of public access to the property.

5.8.1.1 Actions

- **PUB-1.** Evaluate opportunities to provide public access for recreational activities such as wildlife viewing, river access, regulated hunting and fishing, and education in a manner that does not negatively affect aquatic, riparian, or upland habitat conditions.
- **PUB-2.** Provide signage at the primary point of public access to indicate the areas where access is permitted or prohibited. If paths are provided, indicate the locations of the paths on the signage.
- **PUB-3.** Clearly mark with signage and fencing all areas where access is prohibited to protect aquatic, riparian, and upland habitats.
- **PUB-4.** Provide clear signage that states which recreational activities are prohibited on a property.
- **PUB-5.** As appropriate and funding allows, provide educational signage that indicates the types of habitats that occur on the property, the species of wildlife that occur in those habitats, species and plant associations, and species of cultural significance to CTCR and its members.
- **PUB-6.** Provide *No Trespassing* signage that indicates the consequences of trespassing if individuals are caught trespassing.
- **PUB-7.** Clearly mark the property boundaries at points where public access may occur (e.g., along public rights-of-ways, edge of waters).

5.9 Built Environment

5.9.1 Hatcheries

CTCR will construct and operate the Chief Joseph Dam Hatchery located just downstream of the Chief Joseph Dam on the right bank of the Columbia River. The Chief Joseph Dam Hatchery will produce Summer/Fall Chinook salmon (22,600lbs released in Okanogan River Subbasin and

60,000lbs released in Columbia River) as well as Spring Chinook salmon (11,000lbs released in Okanogan River Subbasin and 43,333lbs released in Columbia River). The Chief Joseph Dam Hatchery will include facilities for collecting adult Chinook salmon returning to the Okanogan subbasin and the hatchery, sorting and holding area for adult fish, spawning building (collection of eggs and milt), freezer facilities for freezing adult carcasses, facilities for incubating and hatching salmon eggs and raceways for rearing juvenile salmon. The hatchery will also provide paved parking for employees and visitors, support facilities (i.e., office space, residences, laboratories, water intake, conveyance and discharge, backup power and visitor accommodations).

CTCR also operates the Colville Tribal Fish Hatchery located approximately two miles downstream of the Chief Joseph Dam on the right bank of the Columbia River. The Colville Tribal Fish Hatchery has a minimum production goal of 50,000lbs of fish annually, producing redband/rainbow trout, Lahontan cutthroat trout and eastern brook trout (for lakes). The Colville Tribal Fish Hatchery has an existing plan in place that address spill prevention, spill response and discharge practices to avoid and minimize the release of pollutants from the facility as well as an Operational Plan that addresses production of resident fisheries within the Colville Reservation portion of the Upper Columbia, Sanpoil and Okanogan Subbasins. This PLMP incorporates these existing plans and is intended to be applied in concert with these existing plans.

5.9.2 Acclimation Ponds

Acclimation ponds will acclimate salmon and steelhead raised at Chief Joseph Dam Hatchery, Cassimer Bar Hatchery and other hatchery facilities, but released by CTCR prior to release to the river environment. Acclimation ponds provide opportunities for these fish to acclimate and imprint to the Okanogan River and the tributary streams where the ponds will be located. Imprinting ensures that these fish return as adults to the Okanogan River and its tributaries, where the hope is that they will re-establish sustainable, naturally spawning populations of Chinook salmon and steelhead for ceremonial, subsistence and recreational harvest by tribal members as well as recreational harvest by non-tribal members. Acclimation ponds will be developed on acquired properties as well as through easements and agreements with private property owners for the use of existing irrigation settling ponds that may be suitable for acclimation during non-irrigation periods.

5.9.3 Hatchery, Acclimation Pond, and Other Related Infrastructure

Infrastructure associated with the hatchery and the acclimation ponds includes roads, water conveyance systems, power transmission systems, and administrative, operational and visitor related facilities. Hatchery related infrastructure is in various stages of construction, from constructed and operational (e.g., acclimation ponds, Colville Tribal Fish Hatchery, residences for key staff of Chief Joseph Dam Hatchery), to conceptual in nature (e.g., steelhead acclimation ponds in Okanogan River tributaries and a fish weir at river mile (RM) 16 on the Okanogan River).

Currently CTCR has identified six (6) acclimation ponds for both Summer/Fall Chinook salmon and Spring Chinook salmon. For the summer/fall Chinook salmon, two (2) existing irrigation settling ponds (Tonasket Pond and Bonaparte Pond) are owned and operated by the Omak-Tonasket Irrigation District. Three (3) other acclimation ponds have been identified; two ponds are located on property currently owned by CTCR (Omak Pond and Riverside Pond). A third pond is owned and

operated by WDFW (Similkameen Pond). Two (2) additional ponds are currently proposed for spring Chinook salmon; one (1) is located on the Okanogan River (Ellisforde Pond), which is an existing irrigation settling pond, and; the other is located on Omak Creek (St. Mary's Pond) which must be constructed. No steelhead acclimation ponds have been identified at this time, but will likely be located in one or more of the Okanogan River tributaries.

Modifications to existing settling ponds may be required to make them suitable for use as acclimation ponds. Modification may include the installation of predator protection (i.e., overhead netting to deter avian predation), installation of outlet structure/pipe for volitional movement to the riverine environment, installation of inlet distribution pipe, installation of telemetry systems to warn of potential problems related to water temperatures, dissolved oxygen, flow conditions or security.

Infrastructure that may be associated with acclimation ponds includes; construction of the pond, roads, road improvements, installation of power pumps, inlet and outlet pipes, pump stations, and construction of inlet/outlet channels. Construction of the Colville Tribal Fish Hatchery was completed and began operations in 1990, with a goal of producing a minimum 50,000lbs of trout annually. The hatchery was designed to rear eggs obtained from other agencies or from wild broodstock, but it was not designed for holding broodstock. Since 1991, CTCR have contracted the operation of net pens within Rufus Woods Reservoir for holding redband broodstock or redbands being held for special purposes (e.g., educational, fishing derbies, etc.). The Colville Tribal Fish Hatchery will continue to operate per established operational protocols developed by CTCR specific to this hatchery.

Residences for the Chief Joseph Dam Hatchery include four (4) manufactured homes and three (3) concrete pads and covered ports for recreational vehicle/mobile homes. These residential structures will be used to house key staff required for the operation of the hatchery and to ensure quick response in the event of a catastrophic failure during key periods of hatchery operations. All infrastructure associated with the residences will be maintained according to Tribal housing policies and specific policies that may be developed for the hatchery residences. These facilities will also adhere to current CTCR Tribal law, and the laws of the State of Washington

Steelhead acclimation ponds may be developed by CTCR to re-establish a sustainable run of summer steelhead within the Okanogan subbasin. No specific plans have been developed or properties identified where steelhead acclimation ponds may be established. CTCR is still exploring and researching the potential to develop such acclimation ponds. It is anticipated that steelhead acclimation ponds will be managed and operated similarly to Chinook salmon acclimation ponds and will likely require very similar features (e.g., predator protection, inlet and outlet structures, telemetry/early warning systems).

An additional potential feature associated with hatchery operations and monitoring efforts is the installation of a weir at RM 16 on the Okanogan River, near the point where the current Wells Reservoir backwater ends on the Okanogan River. The purposes of the weir include: 1) to determine the origin of adult fish entering the Okanogan River Subbasin and assess run escapement; 2) to manage the proportion of hatchery origin spawners/the percent natural influence of fish on spawning grounds in the Okanogan and Similkameen Rivers; 3) to collect broodstock for the Chief Joseph Dam Hatchery, and; 4) to effectively manage harvest.

5.9.4 Hatchery and Acclimation Pond Management Objectives

The Chief Joseph Dam Hatchery will produce approximately 2,000,000 summer/fall Chinook salmon annually (1.1 million for conservation purposes and 900,000 for harvest) (Confederated Tribes of the Colville Reservation et al. 2004). Due to the important ceremonial and subsistence importance of the spring Chinook salmon for CTCR, the restoration of a stable spring Chinook salmon fishery is a particularly high priority for CTCR. Initial plans call for the increase of Carson stock spring Chinook salmon destined for the Okanogan subbasin to approximately 900,000 smolts.

The primary objectives associated with Hatchery Management are to produce Chinook salmon for recreational, subsistence and ceremonial harvest for Tribal Members and to produce a self-sustaining population of Chinook salmon within the Okanogan Subbasin for the benefit of both Tribal members and non-members.

The Colville Tribal Trout Hatchery has a production goal of 50,000lbs of trout annually. These fish are ultimately released into reservation waters, including boundary waters, to provide ceremonial, subsistence and recreational fisheries for Tribal Members, as well as recreational fisheries for non-members. The resident trout produced by CTCR are intended to partially mitigate for the loss of anadromous fish associated with the Grand Coulee and Chief Joseph Dams.

5.9.4.1 Actions Related to Hatcheries and Acclimation Ponds and Related Infrastructure

- **FAC-1.** Comply with the requirements for Chinook salmon hatchery properties outlined in the MOA, and SPIFs for the various properties, including those elements associated with Summer/Fall Chinook Salmon Components, the Monitoring and Evaluation Program, and the Proposed Spring Chinook Salmon Program.
- **FAC-2.** Adhere to the measures outlined in the Colville Tribal Trout Hatchery Operations Plan (CTCR 2011), the Colville Tribal Trout Hatchery Best Management Practices and the Hatchery Biosecurity documents.
- **FAC-3.** CTCR does and will manage a variety of administrative and operational offices, laboratories, and staff facilities, at either the Colville Tribal Trout Hatchery, the Chief Joseph Dam Hatchery or the Cassimer Bar steelhead hatchery. Staff residency will be required during periods of significant activity associated with returning adult salmon, incubation of eggs, or rearing of juveniles to ensure that any equipment malfunction or power outage does not result in catastrophic loss of fish.
- **FAC-4.** CTCR will provide public access and use of hatchery lands as described in the MOA and when such access does not impact operations, result in potential dangers to visitors or hatchery staff and will not negatively affect fish produced at the hatchery. Public access and use will be focused on the viewing of fish and education of the public on issues related to CTCR, salmon, and the purpose and operation of the hatchery. Public access/use of the acclimation ponds will not be permitted.
- **FAC-5.** Provide public education and outreach as appropriate at hatchery facilities to encourage support of CTCR hatchery operations and success of salmon recovery efforts within the Okanogan Subbasin, as well as to highlight for tribal members and non-members the opportunities that exist on CTCRs waters to harvest trout to provide economic opportunity for the CTCR.

- **FAC-6.** The Chief Joseph Hatchery will have a fence around the entire facility to avoid trespassing and vandalism as well as to keep rodents and small mammals out of the facility that may be attracted to the juvenile fish rearing facilities. The fence will extend a minimum of one-foot below the surface of the existing ground elevation to prevent animals from digging beneath the fence. The fence will be inspected and repaired as necessary to prevent loss of fish to predation.
- **FAC – 7.** Maintain critical hatchery and acclimation pond facilities (i.e., pumps, screens, water quality measures, pipes, raceways) in a clean and properly functioning condition at all times to ensure proper hatchery operations and to maximize fish production and fish health.
- **FAC-8.** Chief Joseph Dam Hatchery effluent will be required to meet WAC 173-221A, as outlined in the Chief Joseph Dam Hatchery Program Master Plan.
- **FAC-9.** CTR Fish and Wildlife is currently preparing documents that outline specific protocols associated with operation of the Chief Joseph Hatchery. Water quality monitoring will be required to ensure and document compliance with water quality standards. Monitoring of specific water quality parameters will include total suspended solids (TSS), settle-able solids (SS), water temperatures, and dissolved oxygen (DO). Monitoring will ensure fish health and survival as well as maintain water quality standards for hatchery effluent prior to discharge to the Columbia River. The manuals will also outline specific actions to be taken should water quality monitoring indicate effluent exceeds water quality standards, and will be dependent upon the parameter that falls outside the specified range.
- **FAC-10.** Spill Prevention, Control and Countermeasures Plan – CTR will prepare a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with Title 40 of the Code of Federal Regulations Part 112. An SPCC Plan will be required for the Chief Joseph Dam Hatchery if fuel is stored in above ground storage tanks greater than 660 gallons. The SPCC Plan will outline the procedures, methods, and equipment necessary to comply with the U.S. Environmental Protection Agency oil spill prevention, control and countermeasures standards, and inspection reporting, training and record keeping requirements.
- **FAC-11.** A detention pond has been constructed to allow effluent to settle at least one-hour before discharge back to the Columbia River. The detention pond will be sized to provide one hour of detention at a peak flow of 50 cubic feet per second and will be lined with a plastic liner covered with suitable soil to maintain wetland plants. The wetland plants will be monitored for a period of five years to ensure 80 percent survival of the plants at the end of the five-year monitoring period.
- **FAC-12.** All solids and other materials collected during treatment of water (both water withdrawn for hatchery use and effluent) and generated through hatchery operations will be disposed of at an upland facility appropriate for the disposal of such materials. Such solids may include, but not be limited to solids collected from treatment of water withdrawn from Rufus Woods Reservoir for use in the Chief Joseph Hatchery, dead fish, fish waste and unconsumed food and solids settled out of the source water (sediments).
- **FAC-13.** Chemicals and drugs will be required for hatchery operations, to treat water and fish and ensure a safe, clean, disease free environment for fish and other animals. Chemicals and drugs that will be used at the Chief Joseph Hatchery include: Erithromycin; Florfenicol; Oxytetracycline; Buffered Iodophor; Chloramine-T; Formalin; Hydrogen Peroxide; Sodium Chloride (salt); Chlorine; Lime Type-S; Sodium Thiosulfate; Tricane methane sulfonate (MS-

222). CTCR is preparing a plan that will identify the appropriate storage, use and disposal of these chemicals and drugs, and will require compliance with the measures outlined in the plan.

- **FAC-14.** Surplus Fish – CTCR will retain carcasses of adult fish once the milt and eggs have been extracted. These carcasses will be frozen and disposed of at a landfill due to the treatment of these fish with tranquilizers and antibiotics, which makes the use of these fish in any nutrient enrichment program inappropriate.
- **FAC-15.** Surplus Fish –CTCR may collect adult fish that end up being surplus to the need of the Chief Joseph Dam Hatchery and will determine the most beneficial uses for the surplus fish on a case-by-case basis. Surplus fish not used in producing eggs and milt will not be tranquilized or treated with any antibiotics. Beneficial uses of such fish may include distribution of fish carcasses fit for human consumption to Tribal Members or the local community food banks (early-season fish). Fish carcasses unfit for human consumption due to their disposition (late-season fish), may be used in a nutrient enrichment program. CTCR will prepare a plan that outlines the specifics of when, where and how adult carcasses can be used for nutrient enrichment. Because adult fish spawned at the hatchery are tranquilized and treated with antibiotics, use of these fish in a nutrient enrichment program is inappropriate. CTCR will coordinate with local, state and federal agencies in development of the nutrient enrichment program plan, as appropriate.

5.9.5 Infrastructure Management Objectives

Existing facilities associated with acquired lands may include access roads, culverts, bridges, gates, fences, houses, offices, garages, barns, outbuilding, silos, septic systems, and other commercial, residential, or agricultural facilities. Hatchery facilities may also be present. These facilities may currently be operational or abandoned and in a state of disrepair. Management or preservation of these facilities depends on long-term goals for the acquired lands. Likewise, CTCR Fish and Wildlife may need to construct certain facilities on acquired lands to provide or prohibit access, improve conditions, or allow for effective and efficient management.

For existing facilities that are currently operational and expected to remain operational, the management objective is to maintain the facilities and ensure that operations do not hinder salmon and steelhead recovery efforts. CTCR Fish and Wildlife will be responsible for managing and maintaining these facilities.

Nonoperational facilities do not provide any essential purpose, are unsafe or in a state of disrepair, or are in transition from Tribal ownership to private ownership. In such cases, management activities will temporarily implemented until the facility is either decommissioned or removed or ownership is transferred from Tribal ownership to another entity. CTCR Fish and Wildlife will manage existing nonoperational facilities to avoid and minimize potential hazards, liability, and financial costs. The goal for the short-term management of nonoperational facilities is to decommission or remove the structures or transfer ownership in a timely manner to minimize expenditures.

5.9.5.1 Actions Related to Buildings

- **FAC-16.** Inventory each structure on the property and document all deficiencies and necessary repairs and required maintenance for continued or future use of the structure.

- **FAC-17.** Determine the historic significance of all structures and eligibility for listing on the national register of historic places (Section 106 of the NHPA). Consult with the THPO to evaluate the historical significance of the structure.
- **FAC-18.** Determine the appropriateness of retaining existing structures or constructing new structures considering the future plans for the property. Document that an existing or new structure provides benefit to future plans for the property, meets a need of CTCR, and/or will not hinder the potential future habitat potential of the property.
- **FAC-19.** Determine what additional facilities may be required meet the needs of the mitigation plans, where they will be located, and their design parameters. Site all new facilities in areas where they will impose the least impact on ecological functions.
- **FAC-20.** Request and obtain funding from BPA to implement required repairs, enhancements, or replacements, and provide schedule and cost estimates for ongoing maintenance of these structures and facilities.
- **FAC-21.** Implement all required repairs, enhancements, or replacements, and document the scope and costs of these activities.
- **FAC-22.** Remove all structures determined to be unusable, potentially dangerous to the public, in conflict with habitat restoration actions, or too costly to repair.
- **FAC-23.** Dispose of all debris at an appropriate disposal site for such material.

5.9.5.2 Actions Related to Roads

- **FAC-24.** Inventory existing roads and identify which are required for property access and which are nonessential.
- **FAC-25.** Determine if new roads are necessary to meet the needs of CTCR and identify the proposed design parameters for the new roads.
- **FAC-26.** Ensure that new roads avoid and minimize direct impacts on sensitive habitats such as streams, wetlands, and riparian areas, and avoid and minimize impacts on ecological functions such as floodplain connectivity and capacity and sediment transport.
- **FAC-27.** Maintain existing roads and any newly constructed roads to minimize impacts associated with erosion, obstructed fish passage, and dispersal of nonnative vegetation as well as to maintain property access and meet the needs of CTCR.
- **FAC-28.** Develop a decommissioning plan for roads that will be removed, including removal of culverts, bridges, fords, elevated road prisms within floodplains, and roads that intersect streams, wetlands, riparian areas and other sensitive habitats.
- **FAC-29.** Implement the decommissioning plan, including design and permitting for any restoration or enhancement elements to be constructed in the footprints of decommissioned roads.

5.9.5.3 Actions Related to Fences

- **FAC-30** Inventory all existing fence lines and identify those that protect riparian and aquatic habitats (including wetlands), protect significant terrestrial habitats, contain livestock to grazing-appropriate areas, delineate property boundaries, and prevent trespassing. Identify where fence lines will need to be installed for these same purposes.

- **FAC-31.** Repair and maintain existing fence lines determined to be necessary.
- **FAC-32.** Remove existing fence lines determined to be unnecessary. Dispose of all removed fence materials at an approved disposal site.
- **FAC-33.** Install temporary fence lines to protect areas while native vegetation is re-established. Temporary fence lines may be established for up to 5 years.
- **FAC-34.** Install permanent fence lines where permanent protection is required, such as to prohibit livestock grazing, discourage public access, or establish property boundaries.

5.9.5.4 Actions Related to Septic Systems

- **FAC-35.** Inventory all onsite septic systems and evaluate the need for these systems. Identify deficiencies, necessary repairs, and required maintenance.
- **FAC-36.** Maintain and repair onsite septic systems determined to be necessary.
- **FAC-37.** Develop and implement a decommissioning plan for onsite septic systems determined to be unnecessary. Address removal and disposal of the system components and affected soils.

5.9.5.5 Actions Related to Nonoperational Facilities

- **FAC-38.** Inventory and document the conditions of nonoperational facilities.
- **FAC-39.** Determine the historic significance of nonoperational facilities.
- **FAC-40.** Develop a plan for each nonoperational facility addressing its condition, essential purpose (if any), state of disrepair, and ownership. Outline schedule for the intended removal or decommissioning of the facility or the transfer of ownership.
- **FAC-41.** Prioritize the following factors in determining whether a facility will be decommissioned and removed:
 - condition and related public safety concerns,
 - historical significance,
 - cost of decommissioning and removal, and
 - habitat benefits and opportunities associated with decommissioning and removal.

5.9.6 Security

Following acquisition the mitigation properties and facilities will be assessed by CTCR Fish and Wildlife for security risk by evaluating ease of access, the area, neighbors, value of contents in facilities or on property (i.e., vehicles, machinery, infrastructure etc...). Once the level of risk is determined, a security plan will be developed.

- **SEC-1.** Access points: entrances to property or to facilities will be secured as necessary and inspected regularly to verify gate function and integrity.
- **SEC-2.** Property boundaries will be clearly marked with fences, gates, or signage. It may be necessary to install fencing and gates as a means to control entry. CTCR Fish and Wildlife

will maintain warning signs and monitor the presence and condition of signage; CTCR shall maintain the fence so as to minimize the possibility of trespass.

- **SEC-3.** The facilities will be well lit and well maintained.
- **SEC-4.** Trespass, vandalism, or damage shall be reported to the Omak Police Department and the Tribal Police Department non-emergency contact and other Tribal authorities within twenty-four hours of discovery. Inspector shall note all deficiencies for property, fencing, or gates on a checklist, and damages shall be photographed.

5.9.7 Hazardous Materials Management Objectives

Hazardous materials may be stored on properties acquired by CTCR and covered under this PLMP. Hazardous materials uncovered on properties acquired may include such materials as petroleum products, fertilizers, pesticides, herbicides, and other potentially hazardous materials (e.g., paints, solvents, cleaners, wood preservers, asbestos, batteries, lead, pharmaceuticals, and drugs). The identification, handling, storage, and disposal of hazardous wastes and materials will be in accordance with Washington State regulations (WAC 173-033) and facilitated by CTCR Fish and Wildlife.

5.9.7.1 Actions

- **HAZ-1.** Identify materials that are discovered or believed to be present, employing a contractor with expertise in identification of hazardous materials if necessary. Suspected materials will not be moved until they have been identified.
- **HAZ-2.** Store identified hazardous materials in accordance with applicable regulations and manufacturer recommendations until they can be disposed of properly. This may require a contractor with expertise in storing hazardous materials.
- **HAZ-3.** Handle identified hazardous materials in accordance with applicable regulations and manufacturer recommendations. This may require a contractor with expertise in handling of hazardous materials.
- **HAZ-4.** Dispose of hazardous materials in accordance with applicable regulations and manufacturer recommendations. This may require a contractor with expertise in the disposal of hazardous materials.

6.1 Monitoring

Monitoring is a critical element of the PLMP and will be used as a tool to establish the baseline condition on acquired properties, document changes implemented on the acquired property (e.g., specific management prescriptions) and track the trends over time regarding how the existing conditions change (e.g., improve or maintain) in light of the management prescriptions implemented on the property.

- **Property SPIF's and Baseline Assessments** - Characterize management objectives in the SPIF and existing conditions, and provide the baseline information for monitoring and assessing future activities. SPIF and Baseline Assessments will be developed on all mitigation properties within one year of acquisition of the property, additional SPIF's will be completed over time to track management goals and status of desired future conditions,
- **Interval Monitoring** –Determines whether or not the prescribed management direction as identified was implemented as designed and in accordance with PLMP management goals and objectives. In addition to specific property monitoring, supplemental implementation monitoring may occur on habitat restoration actions.
- **Effectiveness Monitoring** - Demonstrates if management directions were effective in meeting objectives. The intent is to focus on cause and effect relationships between land management activities and achieving desired future conditions and management goals and objectives. Currently, the CTCR Fish and Wildlife Anadromous Fisheries Department monitors habitat conditions and fish populations within the Okanogan Subbasin through the Okanogan Basin Monitoring and Evaluation Program (OBMEP). OBMEP is specifically designed to monitor key components of the ecosystem related to anadromous salmonids including biological, physical habitat and water quality parameters. The OBMEP approach addresses questions specifically related to the Endangered Species Act for the Upper Columbia River steelhead and other salmon recovery efforts with the Upper Columbia River and specifically the Okanogan River Basin.

OBMEP will continue to be implemented and will provide insight over the long-term regarding how management actions implemented on mitigation properties are affecting habitat conditions and salmonid populations within the Okanogan Subbasin as a whole. If more specific data on specific actions implemented on mitigation properties are required, CTCR Fish and Wildlife may coordinate internally to collect those data and incorporate them within OBMEP. The CTCR Fish and Wildlife Anadromous Fisheries Department submits an annual OBMEP report to BPA that provides an overview and highlights accomplishments. Specific reports are tiered off of the OBMEP annual report (e.g., environmental compliance, snorkel surveys, screw trap enumeration, spawner surveys, water quantity and quality).

In addition to existing OBMEP efforts throughout the Okanogan Subbasin, effectiveness monitoring may be implemented on mitigation properties to monitor the effectiveness of specific management goals and objectives. Effectiveness monitoring may include pre-project habitat assessments on mitigation properties to document the existing conditions prior to implementing any management

actions on the property. Parameters to be monitored will be property specific and dependent upon the management actions to be implemented on the property. Parameters to be monitored may include air temperature, water temperature, water flow, groundwater, fish use, terrestrial and avian fauna use, and vegetation.

Research by independent parties may also provide monitoring opportunities on the properties, independent of any monitoring efforts implemented by CTCR Fish and Wildlife.

6.2 Adaptive Management

Adaptive management is an iterative process intended to address uncertainty by identifying the uncertainties and establishing methods to test hypotheses regarding the uncertainties. Thus, adaptive management provides opportunities to learn about systems, and refine management goals and objectives based on what is discovered about the uncertainties.

For the management goals and objectives identified in the PLMP, the following process will be implemented as the adaptive management strategy:

1. **Consider the various actions to meet management objectives.**

The management actions are described in Chapter 3 of this PLMP. The PLMP lumps the categories of lands to be acquired by CTCR Fish and Wildlife (e.g., agricultural, restoration/enhancement, preservation and hatchery properties) and the management goals and objectives to be implemented for the various categories lands and the resources, facilities and other considerations that may occur on these properties

2. **Predict the outcomes of these management actions based on what is currently known.**

The management goals and objectives have been developed to address the condition of resources, facilities and other considerations likely to be encountered on properties acquired by CTCR Fish and Wildlife within the Okanogan Subbasin, based on what is currently known about the Okanogan Subbasin. However, this is a programmatic approach to land management and while the approach attempts to cover resources, facilities and other considerations that may occur on properties acquired by CTCR, potential for elements not addressed within this programmatic approach does exist. For any elements not addressed by this programmatic, the conditions will be addressed on a site by site basis.

3. **Implement the management actions.**

The management actions are described in Chapter 3 as the goals and objectives. Management actions address: Easements; Cultural and Historic Resources; Facilities; Fish and Wildlife; Forest and Rangeland; Agriculture; Public Access; Hazardous Waste, and; Fish Habitat Restoration.

4. **Monitor to observe the results of the management actions.**

Monitoring will be implemented and based on property-specific actions and will also be specific to evaluation of the effectiveness of the goals and objectives for a particular property. Monitoring may include one of more of the following: status and trend monitoring; property-specific monitoring; habitat assessments, and/or; effectiveness monitoring, as described above.

5. **Use results to increase knowledge and adjust future management actions accordingly.**

The results of the monitoring will provide greater understanding of the management actions and whether the goals and objectives are meeting the intent of the management actions on each property implemented.

If the intents of the goals and objectives are being met, no refinement of the goals and objectives will be necessary. However, if the intents of the goals and objectives are not being met, they may need to be refined. Any refinement of the goals and objectives will be built around the results of the monitoring efforts to ensure that knowledge gained through monitoring is applied and tested.

Chapter 7

Administrative, Regulatory, and Financial Responsibilities

The sections below describe the administrative responsibilities associated with the mitigation properties, including public involvement, Tribal, federal, and state regulatory compliance and permitting, and financial obligations and requirements.

7.1 Administration

Administrative responsibilities by CTCR to carry out the management goals and objectives outlined above will require staff time, equipment, engineering and environmental consultants, and construction contractors to effectively implement the goals and objectives. CTCR Fish and Wildlife will be responsible for the administration of staff, inventory and upkeep of the necessary equipment, and the selection of consultants and contractors, the administration of associated contracts, leases and easements and other obligations associated with the management goals and objectives.

Additionally, CTCR Fish and Wildlife will prepare annual reports that provide a summary of the annual costs and expenditures associated with the mitigation properties. These annual reports will be provided to BPA to provide information related to the acquisition of properties, management actions, monitoring efforts, problems encountered, solutions implemented, and plans for the upcoming year.

7.2 Public Involvement

Public involvement is part of the process for implementing management goals and objectives on the properties acquired with accord funds and covered under this PLMP. Part of the public involvement will include sharing the proposed management plans for mitigation properties through the 3P process to allow all natural resource programs to be aware of F&W activities and to be able to resolve any conflicts in management before management plans have been approved. Beyond the 3P process the public involvement process is anticipated to include the following elements:

1. Public notice of the property acquisition and intended management goals and objectives to be implemented on the property will be published in one or two newspapers of general circulation in Okanogan County. Copies of the notice will be mailed to adjacent property owners and other persons who have expressed interest in CTCR's acquisition of properties in the Okanogan Subbasin. Notice shall also be sent to the BPA Administrator. The public notice shall include the following information:
 - a) The address of the property and intended management goals and objectives to be implemented on the property.
 - b) The deadline for submitting comments.
2. The initial public comment period shall be at least fifteen (15) days.

3. In consultation with BPA, the CTCR shall also request participation from other resource managers as appropriate, the public, and private landowners in the immediate area of the property in developing the management plan. The management plan should identify activities the CTCR believes are necessary to restore, rehabilitate, or enhance the property, and the activities the CTCR believes are necessary to operate and maintain the fish habitat values of the property.

7.3 Regulatory Compliance

7.3.1 Tribal Code

As a sovereign nation, CTCR maintains its own Tribal Code to which all actions on Tribal Trust, Allotted, and Tribally-owned Fee must adhere. Management of acquired lands will, most often, deal with compliance with Tribal Code Title 4: Natural Resources and the Environment. Management plans and activities must be in compliance with the IRMP. CTCR staff will determine if any other local, state or fed environmental regulatory compliance may apply to individual projects/properties.

7.3.2 Federal

National Environmental Policy Act: Because the acquisition of properties is funded with federal monies, the project must comply with NEPA. Compliance would be achieved by coordinating with BPA and determining the appropriate level of documentation necessary for compliance.

National Historic Preservation Act – Section 106: Because the acquisition of properties is funded with federal monies and certain management actions may require permits from a federal agency (i.e., the U.S. Army Corps of Engineers), compliance with Section 106 of the NHPA will be required. Compliance will be achieved through coordinating with BPA, completing a cultural and historic resource field survey and preparing the appropriate documentation prior to ground-disturbing activities. Cultural resource review will also include coordination with CTCR History/Archaeology, in accordance with the 3P review process.

Endangered Species Act: Because the acquisition of properties is funded with federal monies and certain management actions may require permits from a federal agency (i.e., the U.S. Army Corps of Engineers), compliance with the ESA is required. The ESA may require consultation with NMFS due to the presence of Chinook salmon of the Upper Columbia River spring-run ESU and steelhead of the Upper Columbia River DPS within the Okanogan Subbasin. Consultation with the U.S. Fish & Wildlife Service may also be necessary due to the presence of bull trout in the Columbia River DPS and the potential presence of other wildlife species such as the Canada lynx, gray wolf, grizzly bear and northern spotted owl. Ute ladies'-tresses may also occur in Okanogan County. Compliance will be achieved by either preparing a Biological Assessment or a No Effect Letter. If consultation with the NMFS or the USFWS is required for any specific action requested or funded by BPA, then BPA will be the lead federal agency responsible for initiating the Section 7 consultation. CTCR will provide support to BPA as needed during consultation. For actions not requested or funded by BPA, CTCR would be the lead agency for initiation of consultation.

State regulatory compliance is not applicable on Tribal Trust or allotted properties on or off the Reservation.

State Environmental Policy Act: The State Environmental Policy Act (SEPA) may be triggered by certain management actions and the need for permits from State Agencies. Compliance would be achieved by coordinating with WDFW and submitting a SEPA checklist to the “lead agency,” which would likely be WDFW when a permit must be issued by them.

Shoreline Management Act: In 1971 the State of Washington passed the Shoreline Management Act (RCW 90.48) requiring all jurisdictions to adequately manage and protect shorelines of the state. Compliance would be achieved by coordinating with the local jurisdiction (i.e., Okanogan County or incorporated city within Okanogan County) and addressing impacts to shorelines within the Critical Areas Report, per the Okanogan County Code or municipal code of the affected incorporated city.

Critical Areas Ordinance: Okanogan County and the incorporated cities within Okanogan County where properties could potentially be acquired may require the preparation of a Critical Areas Report to implement certain management actions. The purpose of designating Critical Areas is to limit adverse impacts and alteration of critical areas and to protect critical areas in accordance with the Growth Management Act. Any proposal to alter any Critical Area and/or required buffer shall require a Critical Area permit.

7.4 Financial Responsibilities

The management goals and objectives for the mitigation properties to be acquired with Accord Funds identified in this PLMP are only feasible and achievable with the investment of Accord Funds. CTCR does not assume financial responsibility for the mitigation properties in terms of management, monitoring or property upkeep without the investment of Accord Funds. Funds from Accord projects may be used to provide O & M for existing and future habitat projects funded as mitigation for the FCRPS to sustain or enhance their benefits to listed species.

The term of the MOA between CTCR and BPA extends through the end of fiscal year 2017, which is September 30, 2017.

Some properties may generate revenue from existing or future leases or Conservation Reserve Enhancement Program incentives. Revenues produced by each property acquired with Accord Funds will be used for the benefit of the property which generated it, or other properties in the Okanogan Subbasin acquired with Accord Funds. Revenue funds may be reserved for future use to fund emergencies or provide additional funds for restoration/enhancement activities that may be directed through adaptive management, or to apply towards property taxes.

The acquired properties will be transferred from fee lands to trust lands over time by the facilitation of the Fish and Wildlife Realty Specialist; however in the interim, it may be necessary to pay property taxes on acquired properties which the MOA does not allow.. Any revenue generated by the properties may be applied toward paying the property taxes.

Chapter 8

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Appendix A

Memorandum of Agreement

**2008 Columbia Basin Fish Accords
Memorandum of Agreement between the
Colville Tribes and FCRPS Action Agencies**

COLVILLE TRIBES-ACTION AGENCY AGREEMENT

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COLVILLE TRIBES-ACTION AGENCY AGREEMENT

MEMORANDUM OF AGREEMENT BETWEEN THE CONFEDERATED TRIBES OF THE COLVILLE RESERVATION, THE BONNEVILLE POWER ADMINISTRATION, THE U.S. ARMY CORPS OF ENGINEERS, AND THE U.S. BUREAU OF RECLAMATION

I. INTRODUCTION

A. Purpose of this Agreement

The Bonneville Power Administration (BPA), the U.S. Army Corps of Engineers (Corps) and the U.S. Bureau of Reclamation (Reclamation)(the “Action Agencies”) and the Confederated Tribes of the Colville Reservation (“Colville Tribes” or “the Tribes”)(collectively, “the Parties”) have developed this Memorandum of Agreement (“Agreement” or “MOA”) through good faith negotiations. With this Agreement, the Action Agencies provide long-term commitments for funding and implementation activities to support the protection and recovery of salmon and steelhead listed under the Endangered Species Act (ESA), in a manner that recognizes the Colville Tribes as a governmental partner in the pursuit of protection and recovery of Upper Columbia listed evolutionarily significant units (ESUs). In addition to providing certainty and stability to their shared efforts, the Parties also intend this Agreement to resolve for its term a broad range of issues associated with tribal claims and concerns related to the direct and indirect effects of construction, inundation, operation and maintenance of the Federal Columbia River Power System¹ and Reclamation’s Upper Snake River Projects,² (“FCRPS/Upper Snake Projects”) on the fish and wildlife resources of the Columbia River Basin

B. Recital of Colville Tribes’ rights and interests.

The Confederated Tribes of the Colville Reservation assert the following rights and interests:

- The Tribes have critical and fundamental interests in the Okanogan River and the upper Columbia River, including Lake Roosevelt, and the fish and wildlife resources in these rivers.
- Portions of the Columbia River, Lake Roosevelt, and the Okanogan River lie within the boundaries of the Colville Reservation, as established in the Executive Order of July 2, 1872, and described in the Agreement of May 9, 1891, and the Act of July 1, 1892, 27 Stat. 62.

¹ For purposes of this Agreement, the FCRPS comprises 14 Federal multipurpose hydropower projects. The 12 projects operated and maintained by the Corps are: Bonneville, the Dalles, John Day, McNary, Chief Joseph, Albeni Falls, Libby, Ice Harbor, Lower Monumental, Little Goose, Lower Granite, and Dworshak dams. Reclamation operates and maintains the following FCRPS projects: Hungry Horse Project and Columbia Basin Project, which includes Grand Coulee Dam.

² The Upper Snake River Projects are Minidoka, Palisades, Michaud Flats, Ririe, Little Wood River, Boise, Lucky Peak, Mann Creek, Owyhee, Vale, Burnt River and Baker.

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- The Tribes are a major landowner along the upper Columbia River, including within Reservation boundaries, and also act as the primary manager and regulatory entity for lands within Reservation boundaries.
- The Tribes holds reserved fishing rights within the Colville Reservation and on former reservation lands known as the “North Half” that are protected by the Agreement of May 9, 1891, and the Act of July 1, 1892, 27 Stat. 62. The geographic scope of these fishing rights includes the Columbia and Okanogan Rivers from their confluence to the Canadian border, including Lake Roosevelt.
- The Tribes’ federally protected fishing rights within the Reservation and the North Half include, but are not limited to, the right to harvest a fair share of all fish, including Upper Columbia River (UCR) salmon and steelhead, originating on or passing through the Reservation and the North Half, including all boundary waters, and the right to manage tribal fisheries in these areas. Harvest, hatchery, hydroelectric, and habitat actions and activities in the Columbia Basin downstream from the Colville Reservation affect the numbers of anadromous fish that return to the waters of the Colville Reservation and the North Half. UCR steelhead and Spring Chinook salmon are listed as endangered under the Endangered Species Act (ESA). The Tribes and the Action Agencies have a common interest in promoting the recovery of listed UCR anadromous fish.
- The Tribes have adjudicated water rights within the Reservation for consumptive and instream fisheries purposes, and have unadjudicated claims for federally reserved water rights in the Reservation boundary waters.
- The impoundment of Lake Roosevelt, the development of the FCRPS, and federal licensing of non-federal hydroelectric projects has had significant, long-term adverse effects on the culture, resources, and economy of the Colville Tribes.

Nothing in this Agreement is intended to determine, settle, or concede the precise location of Colville Reservation boundaries or to concede, quantify, settle or diminish any aspects of the Tribes’ water or fishing rights. The intent of the Colville Tribes in entering into this Agreement is to maintain consistency with all the Tribes’ claims of rights and interests, while also aiding the Action Agencies in meeting obligations under the ESA and other laws. The fact that any right or interest of the Colville Tribes, or any claim thereof, is not set forth in these Recitals is not intended to be a waiver thereof.

C. Federal Agencies

The Corps and Reclamation are the federal agencies with the authority and responsibility to operate and maintain the FCRPS/Upper Snake Projects in accordance with federal law. BPA is the federal agency with the authority and responsibility to market the power produced from the FCRPS Projects, and to provide for protection, mitigation, and

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enhancement of fish and wildlife affected by the development and operation of the FCRPS Projects in accordance with federal law.

D. Agreement Principles

This Agreement is founded on the following principles:

- Mitigation for the effects of the FCRPS/Upper Snake Projects should be based first on biologically and economically sound operations of the hydroelectric system which will protect and enhance fish resources, including survival and recovery of ESA listed salmon and steelhead, based on the best available scientific information.
- The Action Agencies will make operational decisions giving consideration to the interests of each affected sovereign state and tribe through agreed-upon forums.
- The Action Agencies will seek to ensure that operational measures aimed at the survival and recovery of ESA-listed salmon and steelhead do not adversely impact non-listed species, and where such impacts are unavoidable, that the impacts are minimized where reasonable to do so, giving consideration to the interests of each affected sovereigns as described in the preceding principle.
- Additional mitigation (non-operations) for the effects of the FCRPS/Upper Snake Projects should consider “All Hs,” including habitat, hatchery, harvest, and predator management measures, and should be biologically effective and cost effective (addressing biological objectives at the least cost for similar results).
- Mitigation funding and operational priorities should reflect the identified biological needs (e.g., the “survival gaps” of the FCRPS/Upper Snake draft Biological Opinion) and limiting factors for ESA listed salmon and steelhead, as well as the magnitude of FCRPS/Upper Snake Projects effects.
- The commitments for funding and implementation activities set out in this Agreement do not establish any new administrative procedures or forums for review or approval of these commitments. Any disputes over the funding and implementation commitments set out in this Agreement will be resolved as set forth in Sections III.F.4 or III.G of the Agreement.
- Each of the Action Agencies, as a part of the federal government, has a general trust responsibility to the Colville Tribes and this Agreement will be implemented in a manner consistent with that trust responsibility.

II. ACTION AGENCY COMMITMENTS

This Agreement provides Action Agency funding and implementation commitments for actions and resource objectives important to the Colville Tribes. It addresses actions for ESA-listed salmon and steelhead as well as other anadromous and resident fish and wildlife resources in the Columbia River Basin. For ESA listed fish, this Agreement builds upon and also contemplates the actions in the Action Agencies’ Proposed Reasonable and Prudent Alternative for the FCRPS/Upper Snake Projects. These funding and implementation commitments are set out in greater detail in the project list and spreadsheet included as Attachment A and the Project Abstracts set forth in Attachment B, each of which is incorporated by reference in this Agreement.

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A. ESA Actions

1. Hydro Operations

A.1.a Performance Standards, Targets, and Metrics:

For the term of this Agreement, the Colville Tribes concur with the hydro performance standards, targets, and metrics as described in the Main Report Section 2.1.2 of the Action Agencies' August 2007 Biological Assessment (pages 2-3 through 2-6) and the draft FCRPS BiOp at RPA No. 51 (pages 63-64 of 85). The Colville Tribes and their representatives may recommend to the Action Agencies actions that may exceed performance standards, which will be considered and may be implemented at the discretion of the Action Agencies.

A.1.b Performance and Adaptive Management:

The Parties agree that the BiOps will employ an adaptive management approach, including reporting and diagnosis, as described in Section 2.1 of the Action Agencies' August 2007 Biological Assessment. The Parties agree that if biological or project performance expectations as described in the BA are not being met over time as anticipated, diagnosis will be done to identify causes, and remedies will be developed to meet the established performance standard. The juvenile performance standard for species or the federal projects will not be lowered during the terms of the BiOps (although as provided in the BA, tradeoffs among Snake River and lower river dams are allowed).

The Parties recognize that new biological information will be available during the term of the MOA that will inform the methods and assumptions used to analyze the effects of hydro operations on fish species covered by this agreement. The Parties will work together to seek agreement on methods and assumptions for such analyses building on analyses performed in development of the FCRPS Biological Opinion as warranted.

As described in the FCRPS BiOp, a comprehensive review will be completed in June, 2012 and June, 2015 that includes a review of the state of implementation of all actions planned or anticipated in the FCRPS and Upper Snake BiOps and a review of the status and performance of each ESU addressed by those BiOps. The Parties agree that they will jointly discuss the development, analyses and recommendations related to these comprehensive evaluations and, in the event performance is not on track, to promptly discuss options for corrective action. This coordination between the Parties is in addition to any coordination that the Action Agencies do with additional regional entities.

This adaptive management process will also include consideration of new information for compliance with performance standards and progress towards meeting targets (and potentially for establishing revised performance standards and targets at the end of the Agreement term). The Colville Tribes may seek to have new information evaluated for

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meeting adult performance standards for upper Columbia River ESUs, including the studies that are funded in this Agreement. In particular, in keeping with Attachment B.2.6-2 of the FCRPS BA, the Parties, in consultation with NOAA and other appropriate entities, may consider the establishment of an adult performance standard for Upper Columbia steelhead should adequate information become available.

The adaptive management process will also include consideration of dry year operations information developed under the terms of this Agreement. Should the investigation of dry water year operations provide results that are cost-effective in achieving needed improvements in survival of ESA listed fish, the Colville Tribes may pursue with the Action Agencies a prompt review of the dry water year flow operations with the Regional Governance Group for implementation on an experimental basis.

John Day Pool Operations

The Action Agencies will meet with the Tribes in the near-term to discuss relevant existing hydraulic and biological information to better understand the biological benefits and/or detriments associated with John Day reservoir operations.

A.1.c Research, Monitoring, and Evaluation.

Maintaining and improving research, monitoring, and evaluation programs is critical to informed decision making on population status assessments and improving management action effectiveness. The Parties agree that a program of research, monitoring, and evaluation is provided in the draft FCRPS and Upper Snake BiOps. Specifically, this Agreement provide a comprehensive RM&E program for the ESU populations of particular concern to the Colville Tribes. The Parties further agree that the Action Agency efforts should be coordinated with implementation partners including other fishery managers.

The Colville Tribes rely on the services of the Fish Passage Center. If a change in Fish Passage Center functions impacts the Tribes' ability to monitor and verify performance of the FCRPS BiOp or this Agreement, BPA would provide funding to the Tribes or an agreed-upon alternative to continue this work.

A.1.d. Spill/Transport

The spill and fish transportation measures proposed in the draft BiOps are of concern to the Colville Tribes only as they affect Upper Columbia species. Subject to adaptive management as provided in the BA, the Parties agree for the term of this Agreement that these measures satisfy ESA and Northwest Power Act requirements with respect to salmon and steelhead affected by the FCRPS and Upper Snake Projects.

A.1.e. Flow Actions

The Parties agree to the following actions in addition to those in the draft FCRPS BiOp:

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To address the Tribes' concerns regarding dry year operations of the FCRPS, particularly Lake Roosevelt, the Parties agree as follows:

(i). **Summer Drafting.** As described in the draft FCRPS Biological Opinion (October 2007)(draft FCRPS BiOp), currently Lake Roosevelt is drafted to elevation 1280 feet by August 31 when the April through August water supply forecast (WSF) is greater than 92 million acre feet (MAF) (wettest 50 percent of water years) at The Dalles. When the WSF is less than 92 MAF (driest 50 percent of water years), Lake Roosevelt is drafted to elevation 1278 feet (see draft FCRPS BiOp, Reasonable and Prudent Action (RPA) No. 4, Storage Project Operations, Table 1, Grand Coulee, pages 4 and 6 of 85). A study to evaluate drafting Lake Roosevelt to 1278 feet only in the lowest 20 percent of water years and to 1280 feet in all other water years (see FCRPS Biological Assessment) (August 2007) (FCRPS BA) at Section B.2.1, page B.2.1-9) will be initiated jointly by BPA and Reclamation in consultation with the Colville Tribes within 60 days of completion of the FCRPS BiOp and a draft report will be prepared within nine months of study initiation. The study results will be reviewed by the Action Agencies and the Regional Governance Group to determine whether to draft Lake Roosevelt to elevation 1278 only in the driest 20% of water years.

(ii). **Other Dry Year Operations.** An investigation of Dry Water Year Operations other than summer drafting will be initiated by BPA and Reclamation and a technical workgroup formed by the Action Agencies within 60 days of the issuance of the FCRPS Bi-Op as outlined in RPA No. 14 in the draft FCRPS BiOp (RPA No. 14: Dry Year Strategy, draft FCRPS BiOp page 15 of 85). The workgroup will be composed of representatives from BPA, Reclamation, and the Colville Tribes. NOAA Fisheries and other interested parties will be invited to participate. The workgroup will report preliminary results by nine months after its formation.

The Dry Water Year Operations investigation described above will include:

- (1) Modeling of FCRPS operations, fish survival modeling (using COMPASS, the Comprehensive Fish Passage Model), and consideration of Non-Treaty Storage operations consistent with RPA 12 in the Draft BiOp.
- (2) The system flood control shift from Brownlee and Dworshak to Grand Coulee will be reviewed as part of the Dry Water Year Operations investigation to determine if the operation contributes to reduced mid-Columbia flows in the spring of low water years. Under current operations, system flood control shift from Brownlee and Dworshak to Grand Coulee in dry years does not result in additional draft of Lake Roosevelt. Changes in operations, implemented as a result of the dry year study, could require Lake Roosevelt to draft for the flood control shift. Avoiding the flood control shift in the 20% driest water years may become part of a fish flow strategy to aid recovery of ESUs with the greatest survival gaps and most affected by FCRPS operations.
- (3) Operational constraints and guidelines under the discretion of the Action Agencies and the fishery management entities will be relaxed, as needed and

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appropriate, to ensure consideration, evaluation, and development of options to improve spring flows in dry water years. Biological and economic effects of various dry water year flow options will be estimated. Changes in administrative procedures and agreements necessary to implement a given option will be documented and assessed.

- (4) Washington State's Columbia River Water Management Program (CRWMP), early action Lake Roosevelt drawdown includes a streamflow enhancement component. This component would allow for an additional release of up to 27,500 acre-feet in 96 percent of water years and 44,500 acre-feet in the driest 4% of water years. In most years that water will likely be released from Lake Roosevelt in July and August to benefit summer migrants, except that pursuant to a December 17, 2007, Agreement between the State of Washington and the Colville Tribes and as set forth in the FCRPS BA Appendix B, Attachment B.1-4 at B.1-4-6, in the driest 20% of water years the CRWMP streamflow enhancement component will be released in April-June to benefit UCR migrants. This investigation will provide additional evaluation regarding release of the CRWMP water to benefit spring migrants in the driest 20% of water years.

In contrast to the study described in paragraph (i) above ("Summer Drafting") that evaluates the effects of drafting Lake Roosevelt to elevation 1278 feet by the end of August in the driest 20% vs. 50% of water years evaluates the effects to benefit summer migrants, the study called for in this paragraph (ii) ("Dry Water Year Operation") evaluates possible hydroelectric system operations to benefit UCR steelhead and spring chinook salmon and other spring migrants.

(iii). The two studies provided for in paragraphs (i) and (ii) above may be conducted either separately or simultaneously. However, the results of the studies called for in those paragraphs shall be evaluated in concert. Should the studies provided for in those paragraphs above demonstrate that the proposed Summer Drafting or Dry Water Year Operations, separately or together provide equal or greater survival of ESA listed fish in relation to normal operations provided for in the BiOp at the same or less cost, or the ESUs are not trending toward recovery, the Action Agencies will promptly review the Summer Drafting or Dry Water Year Flow Operations with the Regional Governance Group for implementation on an experimental or regular basis.

(iv). As with the Policy Working Group, any FCRPS operational forum and/or governance process will be advisory to the Federal government. The Action Agencies will consider the advice and information of each sovereign and will use adaptive management principles, see FCRPS BA at section 2.1; see also RPA Nos. 1, 2, and 3 of the Draft FCRPS BiOp at pages 1 and 2 of 85, to make principle-based decisions. Any planned changes to operational criteria for Lake Roosevelt or Rufus Woods Lake will be specifically coordinated, on a government-to-government basis with the Colville Tribes.

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(v). The Action Agencies will avoid taking actions that would preclude their ability to implement an adopted dry year operation resulting from the investigation (see Section I.A.1.e (ii) and (iii) , to the best of their ability consistent with their statutory and other legal obligations. Should any Action Agency proceeding be likely to result in an action that could affect the Action Agencies' ability to implement a cost-effective Summer Drafting or Dry Water Year Operations strategy as determined by the studies, the Action Agency shall promptly notify the Colville Tribes pursuant to the Good Faith section of this Agreement (Section III.H) for appropriate consultation aimed at preserving the Agencies' ability to implement such dry year strategy.

(vi) The Parties agree to the following actions in addition to those in the draft FCRPS BiOp:

- Improve forecasting methods and tools to optimize reservoir use for fish operations, see Attachment C.
- Federal Government coordination with Tribes on objectives and strategies for Treaty/Non-Treaty water negotiations, see Attachment D.
- Libby/Hungry Horse Operations – Implementation of the Libby/Hungry Horse Operations as described in the 2003 Council Mainstem Amendments and the Draft FCRPS BiOp for modifications to the storage reservoirs in Montana.

A.1.f Emergency Operations for Unlisted Fish

The Action Agencies agree to take reasonable and prompt actions to aid non-listed fish during brief periods of time due to unexpected equipment failures or other conditions and when significant detrimental biological effects are demonstrated. Where there is a conflict in such operations, operations for ESA-listed fish will take priority.

2. Habitat

a. BPA Funding for Habitat

BPA will provide expense and capital funding for the ESA-focused habitat projects identified in Attachment A (Projects 1 through 6). BPA's funding commitment in Attachment A is subject to the adjustments noted in Sections II.E and II.F. Projects funded under this Agreement are linked to biological benefits based on limiting factors for listed fish, as described in the abstracts for the projects, Attachment B. The projects include: on-going actions addressing ESA-listed salmon and steelhead; expanded actions in support of FCRPS BiOp implementation; and new actions benefiting ESA-listed species. Once upper Columbia River ESA-listed species demonstrate a trend toward recovery, the Parties, per Section II.E.3, may allocate some habitat funds for broader FCRPS fish and wildlife mitigation needs.

b. General Provisions For All Projects

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In addition to the general principles for the Agreement described above, the Parties intend that habitat projects implemented pursuant to this Agreement will:

1. Give priority to addressing water temperatures, instream flows, access to historical habitats, or recovery of riparian habitat.
2. Be consistent with applicable recovery plans, the Northwest Power and Conservation Council's Fish and Wildlife Program (including subbasin plans), and the Colville Tribes' reserved rights.
3. Provide estimated benefits from the projects to a population or populations of fish based on key limiting factors. The Colville Tribes will estimate these benefits based on expert-derived methods and will support and defend these benefits as confirmed by monitoring and evaluation.

c. Bureau of Reclamation

Reclamation will provide funding to the Colville Tribes for up to 500 acre-feet (AF) annually of willing-seller leased water in addition to the 700 AF already secured by the Colville Tribes-Okanogan Irrigation District MOA of 2006, to assist with the immediate restoration of instream flow in lower Salmon Creek to allow for viable natural production of UCR Steelhead. This funding will be provided through an implementation agreement to be developed. Further details regarding this commitment are provided in Attachment B. This annual 500 AF increment is authorized and contemplated in the 2006 Colville-OID MOA. Consistent with that MOA, for 2009 through 2017, Reclamation will fund the 500 AF increment in the amount of \$72 per AF. In the event that OID and the Colville Tribes subsequently negotiate a higher cost per AF, Reclamation may provide additional funding for the 500 AF up to an amount equal to an annual inflation adjustment of 2.5 percent. Reclamation will ask NOAA Fisheries to count the 500 AF increment of instream flow as an additional benefit to Upper Columbia steelhead in the FCRPS BiOp (and thereby become part of the baseline in the Okanogan Project consultation). Reclamation will conclude its ESA consultation on the Okanogan Project as promptly as possible.

3. *Hatchery & Harvest*

a. BPA Commitments

For FY 2008, 2009, and 2010 BPA will make available capital funding for new facility construction and/or expansion of existing facilities, as described in Attachments A and B (Projects 7, 8, 15 and 30). The capital funding provided for this Agreement may be carried over in full for the term of this Agreement if construction is delayed due to circumstances beyond the control of the Colville Tribes. Starting with the FY 2010 rate period, BPA will collaborate with the Colville Tribes to develop a capital spending plan in advance of each new rate period that arises during the Agreement, so as to ensure that adequate rate period capital budgets are available for funding the capital actions in this Agreement. In addition, BPA will provide funding for Project 10 regarding selective gear

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deployment. BPA's funding commitment in Attachment A is subject to the adjustments noted in Sections II.E and II.F. Prior to receiving the capital funding, the Tribes will identify the biological benefits associated with a hatchery project based on expert-derived methods. Following the construction of the hatchery, the Tribes will confirm these estimates of biological benefits by monitoring and evaluation.

b. COE

The COE will carry out government-to-government discussions with the Colville Tribes concerning any modifications that may be made to production practices in the hatchery mitigation program for John Day/The Dalles projects.

The COE will continue to support the planning, design, and construction (including siting) of Chief Joseph Hatchery consistent with this Agreement's provisions relating to this project.

c. Principles for hatchery & harvest investments:

In addition to the general principles for the Agreement described above, the Parties intend that hatchery projects implemented pursuant to this Agreement will:

1. Minimize risk to ESA listed fish
2. Support recovery trends for natural-origin fish
3. Obtain all regulatory reviews and clearances.
4. Support the Colville Tribes' reserved fishing rights.
5. BPA's funding will be in addition to and not replace funding for hatcheries authorized or required of other entities, including but not limited to funding provided by Congress pursuant to the Mitchell Act.
6. If a hatchery action identified in this Agreement cannot be implemented within the term of this Agreement due to any circumstance beyond the control of the Parties, the Action Agencies are not obligated to fund a replacement or alternative project, the unused hatchery funds will not be required to be shifted to non-hatchery projects.

4. Research, Monitoring & Evaluation (RME)

a. BPA Commitments

BPA will provide expense funding for the RM&E projects identified in Attachment A, (Projects 9 and 11, and 12 through 14), and as described in the project abstracts, Attachment B. BPA's funding commitment in Attachment A is subject to the adjustments noted in Sections II.E and II.F. Projects funded under this Agreement are linked to biological benefits based on limiting factors for the fish and wildlife species, as described in the abstracts for the projects, Attachment B.

B. Non-ESA Actions

1. BPA Commitments

BPA will provide expense funding for the anadromous fish, resident fish, and wildlife projects identified in Attachment A, Projects 15 through 29B, and 30, and capital funding for Projects 15 and 30. BPA's funding commitment in Attachment A is in the form of an annual planning budget for each project, and is subject to the adjustments noted in sections II.E and II.F. Projects funded under this Agreement are linked to biological benefits based on limiting factors for the fish and wildlife species, as described in the abstracts for the projects, Attachment B.

2. COE, in lieu fishing sites.

The Colville Tribes intends to pursue Congressional authorization and appropriations for the planning, acquisition and development of in-lieu fishing sites within the Colville Reservation or the North Half, and will coordinate with and provide notice to COE of this activity. The COE will support any resulting authorization and appropriations. To the extent BPA has any repayment obligation related to such resulting authorization and appropriations (i.e., related to the power function), BPA will support such repayment. This program will include: land acquisition, boat ramps, cleaning stations with processing for personal use; restrooms, development of scaffold sites, and central Tribal cooler/freezer storage of subsistence harvest.

C. General Provisions for All BPA-funded Projects

All projects funded pursuant to this Agreement shall:

1. Be consistent with BPA's applicable policies, including but not limited to BPA's *in lieu* policy and BPA's capital policy, as amended.
2. Report results annually (including ongoing agreed upon monitoring and evaluation) via PISCES and/or other appropriate databases.
3. Remain in substantive compliance with any applicable project contract terms.
4. The Parties will coordinate their RM&E projects with each other and with regional RM&E processes (particularly those needed to ensure consistency with the FCRPS BiOp RM&E framework), as appropriate and agreed to among the Parties.
5. For actions on federal lands, the Tribes will consult with the federal land managers and obtain necessary permits and approvals.

D. Northwest Power Act Coordination:

1. The Parties agree that the BPA funding commitments in this Agreement are ten-year commitments of the Bonneville Fund for implementation of projects. The Parties believe

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that this Agreement and the specific projects are consistent with the Northwest Power and Conservation Council's (Council) Program.

2. The Parties will work with the Council to streamline and consolidate Independent Scientific Review Panel project reviews by recommending that the ISRP (1) review projects collectively on a subbasin scale; (2) focus reviews for on-going or longer term projects on future improvements/priorities and; (3) unless there is a significant scope change since the last ISRP review, minimize or abbreviate re-review of on-going projects.

3. The Parties will consider reasonable adjustments to non-hatchery projects based on ISRP and Council recommendations. The decision on whether or not to make such reasonable adjustments will require agreement of the Tribes and BPA. If the reasonable adjustment results in a reduction of a project budget, the Tribes and BPA will select another project to use the funds equal to the amount of the reduction. If the Tribes and BPA cannot agree on whether a recommended adjustment should be made, a replacement project that meets the requirements of this Agreement will be identified. In any event, BPA's financial commitment to non-hatchery projects will not be reduced to an aggregate level below that specified in this Agreement so long as a replacement project that meets the requirement of this Agreement could be identified. See Section II.E, below.

4. Funding for any new hatchery projects is subject to ISRP and Council 3-step review processes, recognizing that the ultimate decision to implement the projects is for BPA subject to the terms of this Agreement. Capital funding for any new hatchery project is subject to these review processes. The Parties will consider reasonable adjustments to hatchery projects based on ISRP and Council recommendations. The decision on whether or not to make such reasonable adjustments will require agreement of the Tribes and BPA.

E. Replacement Projects and Adaptive Management

1. General Principles:

- This section does not apply to hatchery projects (Projects 7, 8, and 15). Should a hatchery project not be implemented during the term of this Agreement due to any issue beyond the control of the Parties, the Action Agencies are not obligated to negotiate a replacement.
- The Parties agree that a non-hatchery project identified in this Agreement may not ultimately be implemented or completed due to a variety of possible factors, including:
 - Problems arising during regulatory compliance (e.g., ESA consultation, NEPA, NHPA review, CWA permit compliance, etc);
 - The project does not meet BPA's in lieu policy or does not meet BPA's capital policy;
 - New information regarding the biological benefits of the project (e.g., new information indicating a different implementation action is of higher

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priority, or monitoring or evaluation indicates the project is not producing its anticipated benefits);

- Changed circumstances (e.g., completion of the original project or inability to implement the project due to environmental conditions); or
 - Substantive non-compliance with the implementing contract.
- Should a non-hatchery project not be implemented due to one or more of the above factors, the pertinent Action Agency and the Tribes will promptly negotiate a replacement project.

2. Replacement Projects:

- A replacement project should be the same or similar to the one it replaces in terms of target species, limiting factor, mitigation approach, geographic area and/or subbasin and biological benefits.
- A replacement project may not require additional Council or ISRP review if the original project had been reviewed.
- A replacement project shall have the same or similar planning budget as the one it replaces (less any expenditures made for the original project) and will take into account carry-forward funding as agreed to by the Parties.

3. Adaptive Portfolio Management

In addition to project-specific adaptation described above, the Parties may mutually agree to adaptively manage this shared implementation portfolio on a more programmatic scale based on new information or changed circumstances.

F. BPA Commitments: Inflation, Ramp Up, Planning v. Actuals, Carry-over:

1. Inflation.

Beginning in fiscal year 2010, BPA will provide an annual inflation adjustment of 2.5 percent to all BPA-funded projects in Attachment A.

2. Treatment of Ramp-up of new/expanded work:

In recognition of the need to “ramp up” work (timing of Agreement execution, contracting, permitting, etc), the Parties agree that average BPA expense spending for the new projects and the expanded portion of ongoing projects in fiscal year 2008 is expected to be approximately one-third of the average planning level shown for the project-specific spreadsheets; and for fiscal year 2009, it is expected to be up to 75 percent of the average planning level, with full planning levels expected for most new and expanded projects starting in fiscal year 2010. This provision does not apply to the commitments to fund capital spending for Projects 7, 8, 15 and 30 or to fund the expanded portions of Project 1 and 12.

3. Assumptions regarding Planning versus Actuals

Historically, the long-term average difference between BPA's planned expenditures for implementing the expense component of the Power Council's Fish and Wildlife Program, and actual spending (what BPA is invoiced and pays under the individual contracts), has been about seven percent, with the actual spending averaging 93 percent of planned spending. While BPA will plan for spending up to 100 percent of the funding commitments described in this Agreement, nevertheless, due to a variety of factors, BPA's actual expenditures may be less. As a result, the Parties agree that provided BPA's actual spending for the totality of project commitments in this Agreement is at least 93% of the aggregate annual planning amount, BPA is in compliance with its funding commitments. If BPA is not meeting the 93% annual aggregate amount due to circumstances beyond the Parties control, BPA will not be in violation of this Agreement, but the Parties will meet to discuss possible actions to remove the impediments to achieving at least 93%. The Parties also agree that, for the reasons given above regarding ramp up, expense funding for new projects and projects expansions during their FY08 and FY09 ramp up phase will be excluded from this calculation.

4. Unspent funds, and pre-scheduling/rescheduling.

Except for capital expenditures for Projects 7, 8, 15 and 30, annual project budgets may fluctuate plus or minus 20% in relation to the planning budgets for each project, to allow for shifts in work between years (within the scope of the project overall), if work will take longer to perform for reasons beyond the Colville Tribes' control (reschedule), or can potentially be moved to an earlier time (preschedule). Fluctuations within an overall project's scope of work, but outside of the 20 percent band, can also occur if mutually agreeable for reasons such as, but not limited to, floods, fires, or other *force majeure* events, or to hasten progress towards achieving an ESU's trend toward recovery.

.Except for capital expenditures for Projects 7, 8, 15 and 30, unspent project funds (excluding new/expanded projects subject to ramp-up assumptions covered in Section F.2 above) that are carried over per the reschedule/preschedule provisions above (i.e., within +/- 20% of the annual project budget and within the project's scope of work) may be carried forward from one contract year (i.e., Year 1), to as far as two contract years (i.e., Year 3) into the future before such funds are no longer available. However, for the on-going projects that are expanded and new projects, it is reasonable to anticipate that spending in FY 08 and FY 09 may be substantially less than planned (as set forth in Attachment A). For the purpose of budget planning, up to 67 % of the FY08 and 25% of the FY 09 project-specific budgets may be carried over to the following fiscal year. However, if project-specific spending due to circumstances within the Tribes' control is less than 33% in FY 08 or 75% in FY 09 of the planning budgets, then the difference between what is actually spent and these percentages cannot be carried over to the following fiscal year.

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The planning budget for capital projects (projects 7, 8, 15 and 30) is a commitment for the term of this Agreement and is not subject to limitations or carryover provisions discussed above.

III. FORBEARANCE, WITHDRAWAL, DISPUTE RESOLUTION, AND OTHER PROVISIONS

A. Forbearance

A.1. The Parties will discuss the appropriate means of alerting the district court in *NWF v. NMFS* of this Agreement, and will undertake any agreed-upon approach within 14 calendar days of the effective date of the Agreement.

A.2. In consideration of the long-term commitments for funding and implementation activities to support protection and recovery of ESA listed fish and the other fish and wildlife benefits set out in this Agreement, the Tribes covenant that during the term of this Agreement:

- a. The Tribes will not initiate, join in, or support in any manner ESA, Northwest Power Act, Clean Water Act, or Administrative Procedure Act suits against the Action Agencies or NOAA regarding the legal sufficiency of the FCRPS Proposed Action, FCRPS BiOp, Upper Snake BiOp and/or conforming implementing Records of Decision.
- b. The Tribes will not initiate, join in, or support in any manner ESA, Northwest Power Act, Clean Water Act or Administrative Procedure Act suits against the Action Agencies or NOAA regarding the effects on fish resources and water quality (as to water quality, the forbearance addresses water quality for anadromous fish, including temperature and dissolved oxygen, but is not intended to include other Clean Water Act regulatory activities, such as the Corps' 404 program) resulting from the operations of the FCRPS and Upper Snake Projects that are specifically addressed in the FCRPS Proposed Action, FCRPS BiOp, Upper Snake BiOp and/or conforming implementing Records of Decision.
- c. The Tribes' participation in ongoing and future BPA rate proceedings (ratemaking, approval, or review) will be consistent with the terms of this Agreement.

B. Affirmation of Adequacy

B.1. The Tribes agree that, provided that the Action Agencies fulfill their commitments under this Agreement, the Action Agency commitments under this Agreement and the draft FCRPS and Upper Snake BiOps are adequate for meeting their fish and wildlife obligations under the Endangered Species Act (for currently listed species), the Northwest Power Act, and the Clean Water Act (as applied to gas levels and

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water temperatures in anadromous fish waters) and all other laws in relation to the FCRPS/Upper Snake Projects during the term of the Agreement. The Tribes' determination of adequacy under applicable law is premised on several important assumptions and understandings which the federal parties to this Agreement concur:

- The specific actions identified in this Agreement and/or funding for such actions is provided by the federal parties in a full and timely manner;
- Other actions not specifically identified in this Agreement, but committed to in the FCRPS BiOp are carried out in a timely manner;
- The biological performance and status of the species affected by the development and operation of the FCRPS and Upper Snake hydroprojects are diligently and comprehensively monitored, analyzed, and reported to the Tribes and others as provided in this Agreement (Sections II.A.1.a and II.A.1.b) and the BiOps; and
- Adaptive management will be used as described in Section II.A.1.b to ensure achievement of performance objectives for the FCRPS. That if during the 2012 or 2015 comprehensive review called for in the BiOps it is found that the status of ESA covered species are not improving as anticipated in the Adaptive Management section of the BA, that the Tribes will have the opportunity to advocate that actions over and above those in the Agreement and/or BiOps should be implemented in the future, consistent with the terms of this Agreement.

B.2 The Tribes further agree to affirmatively state the position set forth in Section III.B.1 as requested by the Action Agencies, and to not take any position in an administrative or judicial forum nor support any third party who takes a position that is inconsistent with the position stated in Section III.B.1 above. Applicable forums include any administrative or agency forums (including for example, technical forums, such as the Technical Management Team (TMT), any BPA rate case proceeding or public process preceding a rate case, and the Federal Energy Regulatory Commission (FERC)), and any court. The Tribes may determine, in consultation with the Parties, the most appropriate form of communicating the position in Section III.B.1 on a forum-by-forum basis, and shall not be required to become an amicus or party in any litigation in order to meet its obligations under this paragraph. These commitments apply actions taken by persons in their official capacity as Tribal representatives, including tribal staff, any persons hired, under contract for them, any representative or organization under their guidance or control, and any person or entity that acts as an agent for them, including but not limited to representatives participating in the Columbia Basin Fish and Wildlife Authority and the Upper Columbia United Tribes.

B.3. This Agreement does not address or resolve the Tribes' requests under the Northwest Power Act relating to BPA funding of assessments for operational losses to wildlife from the FCRPS Projects. The Parties agree that the Tribes may request or advocate for BPA funding for assessing operational losses to wildlife from the FCRPS Projects under the Northwest Power Act, that BPA may decline such requests, and the Tribes may seek recourse for BPA decisions; none of these actions by the Tribes or BPA will violate the terms of this Agreement.

C. Council Program Amendment Process

C.1. During the term of the Agreement, any comments or recommendations for Program Amendments that the Colville Tribes or Action Agencies submit to the Northwest Power and Conservation Council (“Council”) shall be consistent with this Agreement. The Tribes and Action Agencies will coordinate in advance on these recommendations, which will not include comments or recommendations that seek to require any of the Action Agencies to fund specific projects or funding amounts as a Program requirement.

C.2. Neither the Tribes nor the Action Agencies waive the right to assert that, if adopted by the Council based on its own recommendations, or recommendations of third parties, an amendment that is contrary to this Agreement is either lawful or unlawful under the Northwest Power Act, or any other law, provided they act consistent with the terms of this Agreement.

D. Dam Breaching

The Tribes will not directly or indirectly advocate or support the implementation of FCRPS dam breaching as part of this Agreement or for the duration of this Agreement

E. Consistency with Trust and Reserved Rights

Nothing in this Agreement is intended to nor shall in any way abridge, abrogate, or resolve any rights reserved to the Colville Tribes by treaty, statute, Executive Order, or other federal law. The Parties agree that, for the term of this Agreement, this Agreement as it pertains to effects of the FCRPS is consistent with the federal reserved rights of the Colville Tribes and the United States’ trust obligation to the Tribes as long as the commitments herein are implemented by the Action Agencies in good faith. The Tribes specifically represent and warrant that no approval of this Agreement by the Secretary of the Interior or the Bureau of Indian Affairs or any other federal agency or official is required in order for the Tribes to execute this Agreement or for this Agreement to be effective and binding upon the Tribes.

F. Changed Circumstances, Renegotiation/Modification, Withdrawal

F.1. The Parties enter into this Agreement with the Assumption that NOAA will issue final biological opinions for the FCRPS and Upper Snake projects. The Parties assume these BiOps will conclude that the respective proposed actions, with reasonable and prudent alternatives if any, are not likely to jeopardize the continued existence of any ESA-listed salmon and steelhead or result in the destruction or adverse modification of critical habitat of such species.

F.2. If any court, regardless of appeal, finds that the BiOp or agency action is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law, and

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subsequently remands the BiOp to NOAA Fisheries, this Agreement shall remain in force. If any court, regardless of appeal, finds that the BiOp or agency action is arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law, the Parties will seek to preserve this Agreement, and will meet promptly to determine the appropriate response as described below:

- (a) In the event that a portion(s) of this Agreement is in direct conflict with a court order or resulting or resulting amended BiOp, the Parties shall meet and agree on an appropriate amendment to that section, or, if such amendment is not possible under the terms of the court order or resulting amended BiOp, then a substitute provision shall be negotiated by the Parties.
- (b) If the court-ordered FCRPS operations or resulting amended BiOp require additional actions that are either financially material to an Action Agency or that materially constrain the Corps or Reclamation from meeting FCRPS purposes, Section III.F.4 shall apply.
- (c) The Parties will participate in any court-ordered process or remand consultation in concert with Sections III.F.4 and III.H.
- (d) The Parties intend that determinations of materiality will only be made in cases of great consequence.

F.3. Regardless of any legal challenge, BPA will take steps to:

- Ensure that the commitments in this Agreement are not modified or reduced based on agency-wide streamlining or other cost-cutting effort
- Imbed the estimated cost of implementing this Agreement in the agency's revenue requirement to be recovered through base wholesale power rates
- Propose and, if established after a Northwest Power Act section 7(i) hearing, exercise rate risk mitigation mechanisms as needed to maintain the funding commitments in this Agreement (e.g., cost recovery adjustment clauses); and
- Consider agency cost reductions, or other measures to maintain the funding commitments in this Agreement.

F.4 In the event of the occurrence of any of the material effects in Section III.F.2, or in the event of material non-compliance with the Agreement not resolved by dispute resolution, the affected Party or Parties shall notify the other Parties immediately, and identify why the event is considered material. The Parties shall utilize dispute resolution if there is a disagreement as to whether the event is material. The affected Party may withdraw from the Agreement, but prior to any withdrawal, the Parties will first make a good faith effort to renegotiate mutually agreeable modifications to the Agreement. Only an affected Party may initiate a withdrawal from the Agreement. If renegotiation is not successful, the affected Party may notify the other Parties in writing of its intent to withdraw by a date certain. If renegotiation is not successful, at the time the withdrawal is effective, all funding commitments and/or other covenants made by the withdrawing Party cease, and the withdrawing Party shall have no further rights or obligations pursuant to the Agreement, and reserves any existing legal rights under the applicable

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statutes, including all arguments and defenses, and this Agreement cannot be used as an admission or evidence.

In the event of material non-compliance with the Agreement not resolved by dispute resolution, if the affected Party does not withdraw, that Party may challenge in any appropriate forum the asserted non-compliance with the terms of this Agreement, provided that judicial review of disputes arising under this Agreement is limited to BPA.

The Parties may, by mutual agreement, consider negotiations or withdrawal for changed circumstances other than those enumerated above. The provisions of this Agreement authorizing renegotiation, dispute resolution, withdrawal and challenge in appropriate forums provide the sole remedies available to the Parties for remedying changed circumstances or disputes arising out of or relating to implementation of this Agreement.

If one Party withdraws from the Agreement, any other Party has the option to withdraw as well, with prior notice.

F.5. Savings. Notwithstanding Section III.F.4, in the event of withdrawal, BPA will continue providing funding for projects necessary for support of BiOp commitments (as determined by the Action Agencies), and will provide funding for other on-going projects or programs that the Parties mutually agree are important to continue.

G. Dispute Resolution

G.1 Negotiation

G.1.a. The Parties shall attempt in good faith to resolve any dispute arising out of or relating to this Agreement³ in accordance with this section and without resort to administrative, judicial or other formal dispute resolution procedures. The purposes of this section is to provide the Parties an opportunity to fully and candidly discuss and resolve disputes without the expense, risk and delay of a formal dispute resolution.

G.1.b. If the Parties are unable to resolve the dispute through informal dispute resolution, then the dispute shall be elevated to negotiating between executives and/or officials who have authority to settle the controversy and who are at a higher level of management than the person with direct responsibility for administration of this Agreement. To elevate, any Party shall give any other Party written notice of any such dispute. All reasonable requests for information made by one Party to the other will be honored, with the Action Agencies treating “reasonable” within the context of what would be released under the Freedom of Information Act.

G.2. Mediation

³ “Relating to this Agreement” means relating to the terms and conditions of this MOA and its implementation, excluding disputes that arise in terms of implementation of an intergovernmental contract issued to fulfill this Agreement, which shall be governed by the disputes provisions of that contract.

COLVILLE TRIBES-ACTION AGENCY AGREEMENT

In the event the dispute has not been resolved by negotiation as provided herein, the disputing Parties may agree to participate in mediation, using a mutually agreed upon mediator. To the extent that the disputing Parties seeking mediation do not already include all Parties to this Agreement, the disputing Parties shall notify the other Parties to this Agreement of the mediation. The mediator will not render a decision, but will assist the disputing Parties in reaching a mutually satisfactory agreement. The disputing Parties agree to share equally the costs of the mediation.

H. Good Faith Implementation and Support

This Agreement was developed by the Parties with bargained for consideration. Best effort good-faith implementation and support of this Agreement is the general duty to which all Parties agree to be bound. Nonetheless, the Parties understand that from time to time questions or concerns may arise regarding a Party's compliance with the terms of this Agreement. In furtherance of the continuing duty of good faith, each Party agrees that the following specific actions or efforts will be carried out:

1. On a continuing basis, it will take steps to ensure that all levels of their government/institution is made aware of the existence of this Agreement and the specific commitments and obligations herein, and emphasize the importance of meeting them;
2. Each Party will designate a person to be initially and chiefly responsible for coordinating internal questions regarding compliance with the Agreement;
3. Each Party will make best efforts to consult with other Parties prior to taking any action that could reasonably be interpreted as inconsistent with any part of this Agreement. To assist in this, the Parties will designate initial contact points. The formality and nature of the consultation will likely vary depending on circumstances. The initial contact points are initially charged with attempting to agree on what form of consultation is required. In some instances, the contact between initial contact points may suffice for the consultation, while in others, they may need to recommend additional steps. The Parties agree that consultations should be as informal and with the least amount of process necessary to ensure that the Parties are fulfilling the good-faith obligation to implement and support the Agreement.
4. If a Party believes that another has taken action that is contrary to the terms of the Agreement, or may take such action, it has the option of a raising a point of concern with other Parties asking for a consultation to clarify or redress the matter. The parties will endeavor to agree upon any actions that may be required to redress the point of concern. If after raising a point of concern and having a consultation the Parties are unable to agree that the matter has been satisfactorily resolved, any Party may take remedial actions as it deems appropriate, so long as those remedial actions do not violate the terms of the Agreement.

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I. Modification

The Parties by mutual agreement may modify the terms of this Agreement. Any such modification shall be in writing signed by all Parties.

IV. MISCELLANEOUS PROVISIONS

A. Term of Agreement

The term of this Agreement will extend from its effective date through the end of fiscal year 2018 which is midnight on September 30, 2018. The Parties agree to meet at least one year prior to termination to discuss wind up of commitments, or, if appropriate, renewal of the Agreement.

B. Applicable Law

All activities undertaken pursuant to this Agreement must be in compliance with all applicable laws and regulations. No provision of this Agreement will be interpreted or constitute a commitment or requirement that the Action Agencies take action in contravention of law, including the Administrative Procedure Act, the National Environmental Policy Act, the Endangered Species Act, Federal Advisory Committee Act, Information Quality Act, or any other procedural or substantive law or regulation. Federal law shall govern the implementation of this Agreement and any action, whether mediated or litigated, brought or enforced.

C. Authority

Each Party to this Agreement represents and acknowledges that it has full legal authority to execute this Agreement.

D. Effective Date & Counterparts

The effective date of this Agreement shall be the date of execution by the last Party to provide an authorized signature to this Agreement. This Agreement may be executed in counterparts, each of which is deemed to be an executed original even if all signatures do not appear on the same counterpart. Facsimile and photo copies of this Agreement will have the same force and effect as an original.

E. Binding Effect

E.1. This Agreement shall be binding on the Parties and their assigns and successors. Each Party may seek dispute resolution in accordance with Section III.G if the dispute is not resolved.

COLVILLE TRIBES-ACTION AGENCY AGREEMENT

E.2. This Agreement is not intended to, and does not, create any trust responsibility, substantive or procedural, enforceable at law or equity, by any person or entity, including a Party, against any Party, its agencies, officers, or assigns that is not already authorized under existing law, nor is it intended to deny the existence of, or diminish, any such responsibility that is already authorized under existing law.

F. No Third-Party Beneficiaries

No third party beneficiaries are intended by this Agreement.

G. Entire Agreement

All previous communications between the Parties, either oral or written, with reference to the subject matter of this Agreement are superseded, and this Agreement duly accepted and approved constitutes the entire Agreement between the Parties.

H. Waiver, Force Majeure, Availability of Funds

H.1. The failure of any Party to require strict performance of any provision of this Agreement or a Party's waiver of performance shall not be a waiver of any future performance of or a Party's right to require strict performance in the future.

H.2. No Party shall be required to perform due to any cause that constitutes a force majeure event including fire, flood, terrorism, strike or other labor disruption, act of God or riot. The Party whose performance is affected by a force majeure event will notify the other Parties as soon as practicable of its inability to perform, and will make all reasonable efforts to promptly resume performance once the force majeure is eliminated. If the force majeure event cannot be eliminated or addressed, the Party may invoke the dispute resolution under Section III.F.4.

H.3 The actions of the Corps and Reclamation set forth in this Agreement are subject to the availability of appropriated funds. Nothing in this Agreement shall be construed to require the obligation or disbursement of funds in violation of the Anti-Deficiency Act.

I. Reservation of Rights

This Agreement does not address or resolve the Tribes' claims and concerns relating to: (1) BPA funding of assessments under the Northwest Power Act for operational losses of wildlife from the FCRPS Projects; (2) harvest, harvest rights, or harvest allocation of the fish and wildlife resources of the Columbia River Basin unrelated to the FCRPS and Upper Snake projects; (3) the boundaries of the Colville Reservation; or (4) the Tribes' federally reserved water rights to the Columbia or Okanogan Rivers, including rights for instream flows.

COLVILLE TRIBES-ACTION AGENCY AGREEMENT

J. Notice

1. Any notice permitted or required by the Good Faith provisions of this Agreement, Section III.G, may be transmitted by e-mail or telephone to a Party's initial contact points, as that person is defined pursuant to the Good Faith provisions.
2. All other notices permitted or required by this Agreement shall be in writing, delivered personally to the persons listed below, or shall be deemed given five (5) days after deposit in the United States mail, addressed as follows, or at such other address as any Party may from time to time specify to the other Parties in writing. Notices may be delivered by facsimile or other electronic means, provided that they are also delivered personally or by mail. The addresses listed below can be modified at any time through written notification to the other Parties.

Notices to BPA should be sent to:

Vice President, Environment Fish & Wildlife
Mail Stop KE-4
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208-3621

Notices to the U.S. Army Corps of Engineers should be sent to:

U.S. Army Corps of Engineers, Northwestern Division
Chief, Planning, Environmental Resources and Fish Policy Support Division
1125 NW Couch Street
Suite 500
P.O. Box 2870
Portland, OR 97208-2870

Notices to the U.S. Bureau of Reclamation should be sent to:

Deputy Regional Director
Bureau of Reclamation
Pacific Northwest Region
1150 N. Curtis Rd., Suite 100
Boise, ID 83706

Notices to the Colville Tribes should be sent to:

Chairperson, Colville Business Council
Confederated Tribes of the Colville Reservation
P.O. Box 150
Nespelem, WA 99155

COLVILLE TRIBES-ACTION AGENCY AGREEMENT

Attachments

A—Project Spreadsheet

B—Project Abstracts

C—Forecasting Commitments

D—Canadian Treaty Commitments

SIGNATURES

/s/ Stephen J. Wright

May 2, 2008

Stephen J. Wright

Date

Administrator and Chief Executive Officer

Bonneville Power Administration

/s/ Steven R. Miles, P.E.

May 2, 2008

Steven R. Miles, P.E.

Date

Colonel, U.S. Army Corps of Engineers

Division Commander

/s/ Tim Personius

May 2, 2008

(for) J. William MacDonald

Date

Regional Director

U.S. Bureau of Reclamation

Pacific Northwest Region

/s/ Michael Marchand

May 2, 2008

Michael Marchand

Date

Chairperson

Colville Business Council

Confederated Tribes of the Colville Reservation

BPA/BOR/Colville Tribes MOA Project Abstracts

REVISED 4/21//2008

(Note: Projects with a BPA number have additional detailed information available in products developed in the Northwest Power and Conservation Council's 2007-2009 F&W Program process)

ESA PROJECTS

1. Implement Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan (New)

Abstract: This comprehensive, programmatic plan is the centerpiece for mitigation, recovery and conservation in the Okanogan River and is driven by the Colville Tribes (CCT)-developed Okanogan Initiative Plan that arose from subbasin and recovery planning. The project will focus on the sequenced steps necessary to successfully implement habitat-related projects in the Okanogan Subbasin (project development, local landowner interaction, etc.). Projects will be targeted in priority tributaries and the mainstem of the Okanogan and will be directed at known factors limiting UCR Steelhead, UCR Spring Chinook and UCR Summer/fall Chinook, and sockeye production, including water quantity, barriers, warm water temperatures and excessive amount of fine sediment.

Riparian vegetation is important in tributaries of the Okanogan River because these tributaries are typically narrow (i.e. 10 to 15 ft. base flow width) and during the summer the flow is likely to be 10 cfs or less. Thus solar input can greatly increase water temperature making the environment uninhabitable for salmonids. Efforts will be made to rehabilitate, maintain, or enhance riparian vegetation along tributaries within the Okanogan River subbasin.

Priority will be on habitat protections for ESA-listed species. Later, funds may be used to increase the viability of sockeye salmon population and for reestablishing coho salmon, in the Okanogan River basin as listed stocks are demonstrated to be on a trend to recovery. Funds may also be used for prioritized land and water acquisition opportunities. Most of the current recovery priorities are detailed in Table 5.9 of the Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: ~64% increase in Okanogan steelhead survival (Recovery Plan, Table 5.11); See also Figure 5.5 for improvements in Okanogan steelhead diversity, productivity and abundance. The FCRPS PA indicated a 14% increase in habitat quality improvement and survival (Habitat Proposed Action Summary, page 3 and 18) for the projects included in the Proposed Action.

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- **References:** See CCT proposal # 200722400 in the NPPC's 2007-2009 F&W Program process; pages 6 – 26 of the July 2006 Okanogan Initiative and page 198 of the Upper Columbia Salmon Recovery Plan (Recovery Plan).

2. Omak Fish Passage (Ongoing – Expanded)

Abstract: This project supports continuing habitat rehabilitation efforts to address sources of fine sediment and improve passage for UCR Steelhead and spring Chinook. In addition, monitoring and evaluation efforts will assess effectiveness of ongoing activities.

Omak Creek is a unique tributary to the Okanogan, since it is hydrologically unaltered and currently supports UCR Steelhead and to a lesser extent spring Chinook salmon. Range and forest management practices have diminished the quality of habitat that exists within Omak Creek and its tributaries. A recognizable source for reducing the quality of habitat is the extreme amount of fine sediment within Omak Creek, which reduces the incubation success of salmonid eggs. The primary source of fine sediment is from forest roads. These roads contribute sediment from the road prism (chronic) and from washouts of undersized culverts (acute). Efforts have been made by the CCT-Environmental Trust and Fish and Wildlife to identify the undersized culverts and replace them prior to failure. The expected result is to reduce the amount of fine sediment delivered to the waterways within the Omak Creek watershed and ultimately increase steelhead and spring Chinook production.

- **Target ESU/Populations:** UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- **Projected Benefits:** 25% increase in Omak steelhead production (pg 21, Okanogan Initiative)
- **References:** See CCT proposal # 200000100 in the NPCC's 2007-2009 F&W Program process; pages 18-22 of the July 2006 Okanogan Initiative and the implementation schedule of the Recovery Plan.

3. Salmon Creek Project (Ongoing-Expanded)

Abstract: Salmon Creek was historically-renowned for abundant anadromous salmonids. During the early 1900's the water in Salmon Creek was diverted for irrigation, thereby terminating these runs. In a continuing effort to recover federally-listed and depressed anadromous fish stocks, the Colville Tribes have signed an MOA with the Okanogan Irrigation District (OID) to provide 700 acre-ft annually to provide fish passage from the mouth of Salmon Creek to upstream of the OID's diversion dam. The Colville Tribes' Salmon Creek project is directed at reconnecting this productive tributary of the Okanogan River. This project initially involves a 12-year water lease with

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the Okanogan Irrigation District and construction of a low flow channel (and subsequent maintenance that may be necessary) within the lower reach.

In the event that water (above average snow pack) is available, additional water could be purchased and fish passage could be extended. The result would be an increased number of steelhead accessing the high quality habitat that exists in Salmon Creek thereby increasing natural production of endangered Upper Columbia River Steelhead. This project is related to the Chief Joseph Hatchery Project, as Salmon Creek will provide the primary habitat in the U.S. Okanogan for reintroduction of UCR Spring Chinook. The long-term objective of the Tribes is use of about 3,500 acre-feet of water annually to allow natural production of both UCR Steelhead and UCR Spring Chinook.

(A) BPA funds will be used to acquire, lease, and/or pump additional water (additional to the 700 AF under the existing CCT/OID arrangement, and additional to the BOR commitments of (B), below) through arrangements with OID and/or through use of the Bureau of Reclamation's Shellrock Pump Station.

(B) Consistent with Section II.A.2.c of the Agreement to which this Attachment B is attached, Reclamation will provide funding to the Colville Tribes (by separate agreement) for up to 500 acre-feet (AF) annually of willing-seller leased water in addition to the 700 AF already secured by the Colville Tribes-Okanogan Irrigation District MOA of 2006, to assist with the immediate restoration of instream flow in lower Salmon Creek to allow for viable natural production of UCR Steelhead. This annual 500 AF increment is authorized and contemplated in the 2006 Colville-OID MOA. Reclamation will fund the 500 AF increment in the amount of \$72 per AF. If in any given year the 500 AF increment, or any portion thereof, is not available on a willing seller or willing lessor basis, Reclamation and the Tribes, in partnership with the District, may utilize the Reclamation funding identified in this paragraph to attempt to provide the additional water needed to achieve the full 500 AF increment by means of pumping from the Shellrock Pump Station, or other mutually agreeable means, to the extent permitted under applicable State law. In any year in which leased or pumped water may be available in excess of the 500 AF increment, and where agreeable to the Tribes, OID and Reclamation, within the limits of the funding provided in this paragraph, additional waters may be provided for Salmon Creek flows, with attendant fishery benefits estimated. The Colville Tribes will assist in any consultations with the Washington Department of Ecology necessary to seek authorization of the pumping or other means of providing the water for instream purposes. Reclamation will ask NOAA Fisheries to count the 500 AF increment of instream flow as an additional benefit to Upper Columbia steelhead in the FCRPS BiOp (and thereby become part of the baseline in the Okanogan Project consultation). Reclamation will conclude its ESA consultation on the Okanogan Project as promptly as possible.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.

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- **Projected Benefits:** Estimated production is 200,000 steelhead fry and 300,000 spring Chinook fry (pg 18, Okanogan Initiative); 980 natural-origin adult steelhead and 800 natural-origin adult spring Chinook (S.Smith, Benefits of the Salmon Creek Project, July 16, 2004)
- **References:** See CCT proposal # 199604200 in the NPCC's 2007-2009 F&W Program process; the July 2006 Okanogan Initiative, and the limiting factors analysis of the Recovery Plan.

4. Okanogan Habitat (New)

Abstract: Funds will be used by the Colville Tribes for identifying and prioritizing land and water acquisitions within the Okanogan River subbasin, targeting habitat enhancement and protection opportunities. ESA-listed species will be the focus of activities to improve habitat that can allow steelhead and spring Chinook to trend to recovery. Projects will be based on addressing limiting factors as outlined in the Recovery Plan and the Okanogan Initiative. Up to \$75,000 of this funding will be available to investigate and plan for cost-effective and needed habitat enhancements in the Canadian Okanogan watershed for the benefit of Chinook salmon and steelhead trout; these habitat enhancements would then be implemented with funds other than those provided by BPA.

- **Target ESU/Populations:** UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- **Projected Benefits:** see Project #1
- **References:** see Project #1

5. Okanogan River Water Acquisition (Ongoing)

Abstract: The CCT will work with the Washington Water Trust on water transactions within the Okanogan River subbasin. This project funds water right transactions to restore streamflows and focused riparian easements on critical fish-bearing tributaries. This project is already funded by BPA for BiOp implementation. The Action Agencies have agreed to target some of that funding from the water transactions project specifically for Okanogan acquisitions.

- **Target ESU/Populations:** UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- **Projected Benefits:** Provides critical instream flow necessary for the targeted species.

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- References: See Project # 200201301

6. Land and Water Acquisition (New)

Abstract: The Colville Tribes will implement additional land and water acquisition projects. These funds will be applied to enhance ESA-listed species, and may be applied for more general FCRPS fish and wildlife mitigation when listed species are demonstrating a trend towards recovery. These funds and those in Projects #1 and # 4 may also be used to provide O&M for existing and future habitat projects funded as mitigation for the FCRPS to sustain or enhance their benefit to listed species.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: see Project #1
- References: see Project #1

7. Develop Locally Adapted Okanogan Steelhead Broodstock and Recondition Steelhead Kelts. (New)

Abstract: This project is directed at augmenting the production of wild steelhead by increasing capabilities to collect local, naturally-produced adult steelhead and rearing the F1 progeny at Cassimer Bar Hatchery. Current capacity is 20,000 steelhead smolts. As habitat conditions within tributaries are rehabilitated, production needs of locally adapted steelhead is estimated to increase to 200,000 smolts. In addition, a program to recondition an estimated 200 kelts is proposed. This kelt program may be adjusted based on the reproductive success of the kelts in the wild. Some alterations at Cassimer Bar Hatchery may be required for the kelt program.

Developing a locally adapted broodstock to reintroduce or supplement steelhead in rehabilitated Okanogan tributaries can greatly increase the reproductive success of spawning F1 hatchery fish. The current Wells Hatchery steelhead program releases progeny of highly domesticated, hatchery-origin broodstock that are believed to be poor adapted to successful spawning in the natural habitat.

Intensely managing the proportion of hatchery-origin steelhead in the Omak Creek and Salmon Creek watersheds (and possibly above Zosel Dam in Canadian waters) should also increase the productivity of these population components. More broadly, throughout the Okanogan Basin, the proportion of hatchery steelhead in spawning populations can be

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better controlled through more intensive, selective fishing by Colville Tribes and recreational anglers.

Kelt reconditioning has the potential to greatly increase the abundance and productivity of natural spawning steelhead populations by increasing and stabilizing steelhead escapement with well-adapted female steelhead. This project will determine the effectiveness of the relative reproductive success of reconditioned kelt steelhead compared to first time spawners.

- Target ESU/Populations: UCR Steelhead /Okanogan population.
- Projected Benefits: Transitioning from Wells Hatchery steelhead to hatchery fish from a local broodstock can be expected to increase productivity of the steelhead population by 200% to 300%. Potential benefits of reconditioned kelts is high, but remains uncertain.
- References: See CCT proposal # 200721200 in the NPCC's 2007-2009 F&W Program process.

8. Chief Joseph Hatchery (Ongoing)

Abstract: CJHP is designed to increase the abundance, productivity, distribution, and diversity of naturally spawning populations of UCR Summer/Fall Chinook salmon in the Okanogan & Columbia Rivers above Wells Dam and to reintroduce extirpated spring Chinook salmon to historical habitats in the Okanogan subbasin. The Project will initially rear and release unlisted Leavenworth stock spring Chinook until an adequate and stable supply of surplus UCR Spring Chinook eggs are available from the Methow River. Once UCR Spring Chinook are available, then all or part of the Leavenworth spring Chinook production will be replaced with the Methow stock. The project includes education and training for prospective hatchery management personnel and fish culturists in 2008-2012. The funding identified in Attachment A is a maximum, and given anticipated cost-share funding, BPA's share is expected to be lower than this maximum.

This project is related to the Salmon Creek and the Omak Creek Passage projects as UCR Spring Chinook from CJHP will be released into these historical habitats.

- Target ESU/Populations: UCR Spring Chinook/Okanogan population.
- Projected Benefits: Program is designed to increase UCR summer/fall Chinook run past Wells Dam by 6,000-29,000 hatchery-origin adults and 2,700 hatchery-origin adult spring Chinook (CJHP Master Plan, May 2004). Upon availability of UCR Spring Chinook eggs, CJHP will be used to reintroduce the species in the Okanogan subbasin. Subsequent production of natural-origin spring Chinook could be in excess of 800 adults (see Salmon Creek project). Reintroduction of

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spring Chinook into historical habitats is also planned for Omak Creek and the Okanogan River in the United States. Significant benefits may be achieved with reintroduction of spring Chinook into historical Canadian habitats, but such program action would require funds other than BPA.

- References: See CCT proposal # 200302300 in the NPCC's 2007-2009 F&W Program process; CJHP Master Plan, and CJHP Step 2 Report.

9. Selective Harvest Gear Evaluation (Ongoing)

Abstract: The project has evaluated numerous live-capture, selective fishing gears to harvest targeted (non-listed) species while protecting listed UCR Steelhead and UCR Spring Chinook. Results will be useable in the Okanogan and upper Columbia Rivers. Results should also have wide applicability throughout the Columbia Basin to increase harvest of hatchery stocks while providing increased survival of listed wild populations.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: Live-capture selective fishing gears have the potential to harvest 20 to 60 hatchery fish for every wild fish or non-target fish mortality. These gears allow more selective tribal fisheries with much lower mortalities to ESA-listed species. Use of selective gears also removes excess numbers of hatchery-origin fish from escapements, thereby increasing the productivity of the natural spawning populations.
- References: See CCT proposal # 200724900 in the NPCC's 2007-2009 F&W Program process.

10. Selective Gear Deployment (NEW)

Abstract: Funds will be used to deploy selective fishing gear by the Colville Tribes for selective fishing by Tribal members within waters containing ESA-listed species.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: Live-capture selective fishing gears have the potential to harvest 20 to 60 hatchery fish for every wild fish or non-target fish mortality. These gears allow tribal harvests to therefore occur at much lower mortalities to ESA-listed species. Use of the gears also remove excess numbers of hatchery-origin fish from escapements, thereby increasing the productivity of the natural spawning populations.

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- References: See CCT proposal # 200724900 in the NPCC's 2007-2009 F&W Program process.

11. ESA F&W Law Enforcement (New)

Abstract: The Tribes' existing law enforcement program will be enhanced to include the protection of endangered steelhead and Chinook salmon, and resident fish in the Upper Columbia River. Emphasis will be placed on depleted stocks that are listed and petitioned/proposed for listing under the Endangered Species Act. Monitoring of the CCT selective harvesting will be one of the primary work elements of this project. The CCT anticipates implementing portions of this project in 2008 with the hiring of law enforcement personnel (including training) and purchase of necessary enforcement equipment (including enforcement boat, etc.)

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: Increased protection for the listed populations by monitoring of the harvest activities in the Upper Columbia River. To increase survival of anadromous salmonids throughout the Upper Columbia Basin -- by reducing illegal take and protecting critical habitats from degradation caused by violation of water and land use regulations. This project will coordinate with the efforts of project #199202400 to ensure consistency where applicable.
- References: See project proposal #199202400 (Columbia Basin Law Enforcement Program)

12. Okanogan Basin M&E (Ongoing)

Abstract: Monitor and evaluate important biological, water quality, and physical habitat indicators for anadromous fish throughout the Okanogan River subbasin to establish a long-term status and trend data set and determine responses from habitat restoration efforts. The plan is designed to do status, trend and effectiveness monitoring. It addresses questions about habitat conditions and abundance, distribution, life-stage survival, and age-composition of anadromous fish in the Okanogan River Basin. The program ultimately will determine how these factors change over time and determine responses from habitat restoration efforts. The program will eliminate duplication of work, reduce costs, and increase monitoring efficiency. This project will also serve to facilitate data sharing between the Colville Tribes and other regional efforts.

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- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/Okanogan populations.
- Projected Benefits: OBMEP will provide status and effectiveness monitoring for two endangered species that is required in the FCRPS and other BiOps.
- References: See CCT proposal # 200302200 in the NPCC's 2007-2009 F&W Program process;

13. FCRPS Water Management Studies (New)

Abstract: The Tribes will perform evaluation or analyses of alternative FCRPS water management activities, including dry year operations and forecasting, and provide input on Treaty and non-Treaty water use options to address impacts to Upper Columbia River listed ESUs. These alternative operations could provide important improvements in survival of UCR Steelhead, UCR Spring Chinook and other spring migrating ESUs. Through this project the Colville Tribes will assist BPA in scoping, conducting and analyzing modeling results of these alternative FCRPS operations. The Colville Tribes, working and coordinating with the other Action Agencies, NOAA and other sovereigns, will provide reports on costs and benefits of alternative operations of UCR Steelhead, UCR Spring Chinook and other ESUs relative to their current and prospective viability, and the BiOp jeopardy standard. The specific deliverables will be developed in the contracting process with BPA, and the project scope and need will be reviewed by the Parties prior to the start of Year 5.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/All populations. All spring migrant ESUs.
- Projected Benefits: Improved flow management in the month of May in low runoff years is of particular benefit given the poor status of the UCR Steelhead and UCR Spring Chinook ESUs, as well as the status of certain populations within the Snake River Steelhead ESU. Preliminary analyses indicates potential increases in May mid-Columbia flows and lower Columbia River flows in low runoff years can provide a marked increase in juvenile UCR Steelhead passage survival..
- References: see papers submitted during Collaboration and preliminary draft Statement of Work.

14. Adult Salmon and Steelhead Passage Investigations (New)

Abstract: As a part of implementation of proposed RPAs, BPA will be funding analyses to validate the adult survival assumptions used for estimating UCR Steelhead and UCR

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Spring Chinook survival from Bonneville to McNary Dams, on which were based calculations of extinction risk and recovery potential. BPA will fund the Colville Tribes, as provided in Attachment A, to provide a portion of the deliverables for this work, as mutually agreed. Details on the scope of work, methodologies, and contractor(s) will be determined at a later date based on mutual agreement. Additional funding to the Colville Tribes may be appropriate, depending on the further study development. These studies and evaluations will also be coordinated with NMFS and other interested parties.

- Target ESU/Populations: UCR Steelhead and UCR Spring Chinook/All populations; Okanogan sockeye; Okanogan summer/fall Chinook.
- Projected Benefits: Potential to increase adult UCR steelhead survival by 22% and UCR spring Chinook survival by 6% through the lower Columbia River.
- References: Table 12.1 of the FCRPS draft BiOp

NON-ESA PROJECTS

15. Chief Joseph Kokanee Enhancement (Ongoing)

Abstract: The Chief Joseph Kokanee Enhancement Project supports natural production kokanee in the blocked area that includes both Lake Roosevelt and Lake Rufus Woods. At the request of the ISRP in 2000 the project began to study entrainment at Grand Coulee Dam in 2007 the project returned to enhancing natural populations of kokanee in the tributaries within the reservation boundaries and its ceded land that have historically supported healthy kokanee populations. A Three Step process will begin in 2008.

- Target: Naturally reproducing kokanee in Lake Roosevelt and Lake Rufus Woods and selected tributaries.
- Projected Benefits: Restoration of natural kokanee production in Sanpoil and Barnaby Creeks and increase production in the lower Nespelem River to provide for increased harvest and recreational opportunities. An increase in natural production kokanee salmon will provide a source of nutrients for the ecosystem that has been absent since the blockage of anadromous fish migration with the construction of Chief Joseph and Grand Coulee Dam hydro power facilities.
- References: See Project # 199501100 in the NPCC's 2007-2009 F&W Program process; Intermountain Subbasin Plan 38-33 – 38-42, 2004. CCT F&W Management Plan, 2007.

16. Lake Roosevelt Rainbow Habitat Improvement (Ongoing)

Abstract: Lake Roosevelt Habitat/Passage Improvement Project is a resident fish substitution project designed to mitigate for anadromous fish losses. It provides habitat and passage improvements in primarily the Sanpoil Sub-basin and monitors the results. Other activities include nutrient enhancement, riparian and flow enhancements, restoration of hydrologic function, EMAP status and trend monitoring, and adfluvial rainbow trout population monitoring.

- Target: Naturally produced adfluvial rainbow trout, a large bodied rainbow trout genetically tied to the historic steelhead populations in the blocked areas of the Upper Columbia.
- Projected Benefits: Increased natural production of adfluvial rainbow trout will provide for increased harvest and recreation opportunities in the Sanpoil River and Lake Roosevelt. Habitat and passage improvements will benefit not only the adfluvial rainbow trout but native redband rainbow trout and naturally reproducing kokanee as well. The enhancement of nutrients and restoration of hydraulic function will benefit all aquatic species, increase juvenile and adult condition factors and provide for improved flows.
- References: See Project # 199001800 in the NPCC's 2007-2009 F&W Program process; Intermountain Subbasin Plan 38-4 – 38-33 2004. CCT F&W Management Plan, 2007.

17. Colville Hatchery (Ongoing)

Abstract: The Colville Tribal Fish Hatchery is a resident fish substitution project for lost anadromous fish in the blocked areas. It supports resident fish populations in all Reservation waters. Fish are raised at the hatchery and stocked in Reservation Lakes and streams. As part of the project fish populations as well as environmental conditions and angler success rates are monitored and information gained is used to guide hatchery stocking strategies.

The hatchery was first opened in 1990. Because of this much of the equipment is old and will need to be updated. Some of these updates have already been accomplished. Significant funds will need to be spent in the coming years to continue the revitalization of the hatchery.

- Target: Hatchery is in the process of converting to native locally captured redband rainbow trout from triploid coastal rainbow trout.

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- **Projected Benefits:** Repopulation of native redband rainbow trout and conversion from non-native coastal rainbow trout in Reservation tributaries is anticipated to increase survival in the warmer temperatures and lower oxygen levels found locally during the late summer and early fall providing for increased carry over and natural production. The project is designed to provide for increased harvest and recreational opportunities. This project is intended as partial substitution for the loss of anadromous fish due to the creation of the federal hydropower system utilizing resident fish (resident fish substitution).
- **References:** See Project # 198503800 in the NPCC's 2007-2009 F&W Program process; Intermountain Subbasin Plan 31-5 – 31.7, 2004. CCT F&W Management Plan, 2007.

18. Resident Fish RM&E (New)

Abstract: Land acquisitions, fencing, and other passage structures that have been completed or are planned require maintenance, monitoring, and further research is needed into limiting factors for resident fish. This new project would provide that support.

- **Projected Benefits:** This project will provide long term status and trend monitoring as well as maintenance of completed habitat and passage improvements to maintain their benefits to fisheries.
- **References:** CCT F&W Management Plan, 2007.

19. Bridge Creek Water Rights Transfer (New)

Abstract: Low flows in the Sanpoil are a continuous problem for fisheries and landowners that have existing water withdrawal rights for the Sanpoil or its tributaries have been targeted for exchanges in water rights. Cost share with Natural Resource Conservation Service (NRCS) will be utilized to exchange the existing in-stream water right for a well permit. The project will be conducted under the Lake Roosevelt Habitat Improvement Project.

- **Projected Benefits:** Improvement of flows in summer and early fall for increased juvenile to adult survival of adfluvial rainbow trout, improved spawning habitat availability for kokanee, and improved survival of native redband rainbow trout.
- **References:** See Project # 199001800 in the NPCC's 2007-2009 F&W Program process; Intermountain Subbasin Plan 38-4 – 38-33, 2004. CCT F&W Management Plan, 2007.

20. Twin Lakes Enhancement (New)

Abstract: Because of eutrophication and the introduction of invasive fish species the significant trout fishery in these lakes has suffered in recent decades. During the summer trout are restricted to a narrow band of water severely limiting the holding capacity of the lake. The temperature in the top 5 meters of the water column is too warm and water below seven meters is anoxic. Injection of oxygen into the hypolimnion during summer months will greatly increase the volume of water available to trout. This technique has been used successfully in other Eastern Washington Lakes (Newman Lake). Oxygen injection will begin at North Twin. After one season of oxygenation and a year of study a second oxygenation unit will be constructed at South Twin.

- Projected Benefits: Increased oxygen levels in Twin Lakes will increase the amount of usable habitat allowing for increased stocking levels improved survival and allow fish to access available food improving condition factors and improved over winter survival.
- References: Washington State University Summer Habitat Use and Prey Selection of Hatchery Rainbow Trout in Twin Lakes, Washington Report to CCT, 2008.

21. Resident Fish Loss Assessment (New)

Abstract: To date most resident fish work has been proposed and funded as resident fish substitution for lost anadromous fish and their habitat. The subbasin plans and wildlife habitat loss assessments covered some aquatic and riparian habitat and operational losses related to resident fish.. BPA will work with the Colville Tribes to develop a plan to better integrate resident fish habitat protection as part of the ecosystem-based approach to fish and wildlife mitigation begun with the wildlife loss assessment and subbasin plans. This project will include approaches for addressing the creditable value of past and on-going BPA-funded measures for resident fish.

- Projected Benefits: Provide an assessment of unaddressed resident fish habitat losses from inundation by Federal Hydropower facilities at Chief Joseph and Grand Coulee Dams relative to existing efforts. Develop a crediting system to track mitigation of resident fish losses. .
- References: Intermountain Subbasin Plan, 342 – 34-6 2004.

22. Rufus Woods Harvest Augmentation with Feminized Triploid Rainbow Trout and Creel (New)

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Abstract: Because of early escapes from commercial net pens and subsequent purchase and release of net pen reared triploid rainbow trout by the Colville Tribes a popular fishery has developed. In 2008 and 2009 this project will continue to release net pen reared feminized triploid rainbow trout fish as well as monitoring the fishery to determine angler catch rates, the optimal number and size of fish to be released, the origin of fish caught and the primary factors affecting the quality of this fishery. In years 2010-2012 the study will be expanded to better understand the primary productivity of the reservoir and to answer questions raised by the 2008-2009 study.

- Projected Benefits: Increased understanding of the origin of rainbow trout stocks in Lake Rufus Woods and the optimum stocking numbers and well as the contribution to the fishery from fish stocked in Lake Roosevelt and angler pressure. References: See Project # 200740500 in the NPCC's 2007-2009 F&W Program process.

23. Lake Roosevelt Habitat Enhancement Structures (New)

Abstract: This conceptual proposal is intended to mitigate for the annual operational impacts at Grand Coulee Dam associated with the spring drawdown for flood control and summer drawdown to benefit downstream ESA listed species. Annual de-watering and desiccation occurs with normal operations and impact the native resident fish species, macrophytes and macro-invertebrates that utilize the near shore littoral habitat of Lake Roosevelt. Desiccation of eggs and increased predation on the young of year has reduced populations of native resident fish and thereby reducing available forage species within the lake; subsequently, increasing predation on focal species such as kokanee and rainbow trout. The placement of artificial substrates and hiding structures will increase juvenile to adult fish survival and production of macrophytes and macro-invertebrates providing additional food sources to increase productivity and reduce predation on focal game species.

- Projected Benefits: This project will improve survival and productivity of shoreline spawning native and non-native prey species that have been impacted by hydropower operations at Grand Coulee Dam. An increase in available prey species will reduce the dietary overlap between rainbow trout and kokanee in the lake and reduce predation on trout and kokanee by walleye by providing additional food source for game species and improving their return to creel.
- References: CCT F&W Management Plan 2007, Columbia River Water Management Plan EIS 2008.

24. Lake Roosevelt Burbot Population Assessment (New)

Abstract: Burbot populations are decreasing and this conceptual study would assess the current population status and determine any limiting factors impacting their success in

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Lake Roosevelt. Enhancement work, and associated reprogramming of Agreement funding (see Section II.E.3) may be proposed as a result of this proposed study.

- **Projected Benefits:** Burbot populations are decreasing in Lake Rufus Woods and Lake Roosevelt. This project will assess the population status and determine the limiting factors so that projects can be developed to increase their numbers.
- **References:** Intermountain Subbasin Plan 30-8, 2004. CCT F&W Management Plan, 2007.

25. White Sturgeon Enhancement (New)

Abstract: This project is would build on the results of the many studies currently being conducted to address limiting factors for sturgeon in Lake Roosevelt and enhance their populations.

- **Projected Benefits:** Currently population studies are assessing the location and population status of sturgeon and the Lake Roosevelt Risk Assessment under the Comprehensive Environmental Recovery Cost and Liability Act (CERCLA) is looking at the impacts from heavy metal and other contaminants in Lake Roosevelt that may have in part led to the juvenile recruitment failure. This project will build on that information and address the determined limiting factors with habitat improvements projects to recover sturgeon populations in the Lake.
- **References:** Intermountain Subbasin Plan 30-6 – 30-8, 2004. CCT F&W Management Plan, 2007. Trans-boundary Sturgeon Recovery Plan, 2002.

26. Rufus Woods Redband Rainbow Trout Broodstock Net Pens (New)

Abstract: The Colville Tribal Hatchery was not designed to hold broodstock. One of the primary goals of the Hatchery is to convert from raising a coastal strain of rainbow trout to the native red band rainbow. To do this at least 1/3 of the holding capacity of the hatchery will have to be used for holding broodstock if another holding location can not be developed. There are no acceptable lakes readily available. Rufus Woods Reservoir has proved to be an excellent location for raising rainbow trout in net pens. Tribally owned net pens in Rufus Woods would be used to hold up to four age classes of redband broodstock as well as to raise triploid rainbow trout for release into Rufus Woods to support the fishery.

- **Projected Benefits:** Hatchery operations are limited due to the small size of the hatchery. This project would provide additional area to raise broodstock and

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stocks for planting in Rufus Woods eliminating the need to purchase fish for planting, increasing the number of fish for planting and increasing harvest and recreational opportunities

- References: See Project # 200740500 in the NPCC's 2007-2009 F&W Program process.

27. Lake Roosevelt Floating Habitat Enhancement Structures (New)

Abstract: This conceptual proposal is intended to mitigate for the annual operational impacts at Grand Coulee Dam associated with the spring drawdown for flood control and summer drawdown to benefit downstream ESA listed species. Annual de-watering and desiccation occurs with normal operations and impact the native resident fish species that utilize the near shore littoral habitat of Lake Roosevelt. Desiccation of eggs and increased predation on the young of year has reduced populations of native resident fish and thereby reducing available forage species within the lake; subsequently, increasing predation on focal species such as kokanee and rainbow trout. The placement of artificial floating spawning and rearing beds will increase egg to juvenile fish survival providing additional food sources to increase productivity and reduce predation on focal game species.

- Projected Benefits: This project will increase egg to juvenile survival providing additional food sources to increase productivity and reduce predation of focal game species increasing harvest and recreational opportunities in Lake Roosevelt.
- References: CCT F&W Management Plan 2007, Columbia River Water Management Plan EIS 2008.

28. Colville Tribes Wildlife Land Acquisitions (Ongoing)

Abstract: Continuing segment of the Colville Tribes overall goal of mitigating for wildlife losses associated with Grand Coulee and Chief Joseph Dam Projects. This project is the expense portion of the budget to support pre-acquisition activities necessary for potential addition of additional land to the existing mitigation base by acquiring management rights to adjacent or similar lands within the project area. In FY 07 part of the Jacobsen property was acquired, for FY 08 the Tribes intend to acquire similarly appropriate parcels. CCT has approximately 1,844 HU's still unmitigated and one of these parcels will help meet the Tribes goal of mitigation for hydropower impacts. This project covers the costs of evaluating, compiling, and implementing the steps necessary to acquire this parcel. Approximately \$120,000 funding per year is needed to complete

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this pre-acquisition work in addition to the actual property costs. (See associated project abstract entitled Omak Lake Parcel Acquisition)

- References: See Project # 199506700

29.A Wildlife Mitigation, Hellsgate Project, O&M (Ongoing)

Abstract: The Colville Confederated Tribes (CCT) Wildlife Mitigation Project is an ongoing project (Hellsgate Big Game Winter Range Wildlife Mitigation Project). The original Hellsgate project was initiated in 1992 with land purchases within the bounds of the CCT Hellsgate Wildlife Game Reserve, but at present the project manages 57,418 acres spread across the 1.4 million acres of the CCT Reservation and three Inter-mountain Province (IMP) Sub-basins. The CCT Wildlife Mitigation Project is proposed as the only project to address partial mitigation for habitat losses that the Colville Tribes sustained as a result of Chief Joseph and Grand Coulee Hydropower Projects. The CCT Wildlife Mitigation Project protects and manages core habitat areas for the biological requirements of managed wildlife species. The majority of mitigation lands are located on or near the Columbia River (Rufus Woods Lake and Lake Roosevelt) and surrounded by Tribal land. To date a total of 34,576 habitat units (HUs) have been acquired towards a total of 35,820 HUs lost from hydropower development (USDOE, 1986 and USDOE, 1992). The goal of the CCT Wildlife Mitigation Project is to protect, restore and enhance enough land to compensate for hydropower losses and then manage, enhance, and maintain those habitats for the life of the hydropower projects. Wildlife management will focus on these areas as well as state-threatened or endangered species, species of concern, and species that are important for traditional cultural and/or subsistence use. This project is similar in scope and nature to other projects in the IMP and will continue to protect, restore, and enhance lands acquired for mitigation until fully mitigated. After all acquisitions are completed then this project will become the Hellsgate O&M project to continue protecting the acquired HU's and any enhancements for the life of the project. The Hellsgate Operation and Maintenance Project will conduct all of the O&M activities on project lands. We are mitigating to offset wildlife losses from Grand Coulee and Chief Joseph Dam Projects. Currently 57,418 acres have been enrolled in the project for protection.

For FY 08 & 09, the Hellsgate Project will contribute toward a united UCUT RM&E proposal. The UCUT Wildlife Monitoring and Evaluation Project (UWMEP) is a 5-nation cooperatively managed, habitat and wildlife monitoring program, focused on determining the efforts and outcomes of protection and restoration projects in and proximate to the reservations and aboriginal lands of the Tribes. The UWMEP will focus on the effect of management related changes to habitat on neo-tropical breeding birds, small mammals, vegetation, amphibians, and insects/invertebrates. Other species of concern (e.g., sage and sharp-tailed grouse, traditional foods, and medicines) and/or studies that relate to specific habitat cover types may be added in the future. Five percent of the budget of the Hellsgate project (RM&E work element) for FY 08 & 09 is dedicated for this effort. In 2010 we will again continue RM&E on project lands. This will include collecting biological data as well as periodic monitoring of all mitigation lands on a 5-year schedule.

- References: See BPA Project # 1992204800

29.B Wildlife Mitigation, Hellsgate Project, O&M (New)

Abstract: These Operation and Maintenance funds will be used to conduct all of the O&M management activities to provide protection on the approximately 60,000 acres of mitigation land. The mitigation is addressing wildlife losses from Grand Coulee and Chief Joseph Dam projects.. Currently 57,418 acres have been enrolled in the project for protection.

30. Omak Lake Parcels Acquisition (New)

- **Abstract:** Continuing segment of the Tribes' overall goal of mitigating for wildlife losses associated with Grand Coulee and Chief Joseph Dam Projects. This project provides for funding the acquisition of management rights to adjacent or similar lands stemming from pre-acquisition supported by project #28.

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ATTACHMENT C

Actions To Improve Forecasting Methods And Tools To Optimize Reservoir Use For Fish Operations

- The Action Agencies and Treaty Tribes (as defined in the Three Treaty Tribes-Action Agency MOA) will convene a Columbia River Forecast and Data Committee described below.¹ The Action Agencies agree to consider the committee outcomes and recommendations in their implementation processes.

The primary function of the group will be to promote and support the advancement of forecasting skill, products and techniques in the Columbia Basin. It will provide an open forum for sharing, discussing, evaluating and potentially implementing new forecasting techniques into the operation and planning of the Columbia Basin system. The term forecasting will refer to both water supply forecasting and streamflow forecasting.

The group will be composed of technical representatives from the Action Agencies, the Three Treaty Tribes and the Colville Tribes, but will be open for participation from any representative of a governmental organization willing to contribute to the effectiveness and success of the group. The group will be chaired by a representative from the core group and will rotate annually. General business meetings of the group will occur no less than quarterly but more frequently if workload and projects require it. In addition to business meetings, there will be an annual meeting in the early fall to review the performance of various operational and experimental forecast procedures over the previous water year, to report on any new approved procedures being implemented next year, and to plan committee work for the coming year.

Responsibilities of the group will include tracking and reviewing the performance of current forecasting procedures and techniques and sharing, discussing, and investigating the potential of new forecasting techniques and modeling. When promising research or techniques are discovered or introduced for consideration, the group will develop a strategy for either investigating the potential improvements with available technical staff or providing recommendations or proposals to the Action Agencies for possible funding and support. The group as a whole will oversee the progress and results of any work initiated and supported by the group. The group will also set up criteria for determining the level of "improvement" to the forecasting required to warrant implementation. The group will participate in the evaluation of new forecast procedures, models, and techniques and provide recommendations on the incorporation of the new procedures into the planning and operation of the Columbia River system.

Also within the scope of the group will be facilitating the sharing of data, where possible, and the monitoring of the data network and systems which enhance and support the forecasting capabilities of the region. When necessary, the group will provide recommendations on improvements and enhancements to the network.

¹ Possible names: Columbia River Forecast and Data Committee (CRFDC), Columbia River Advancement in Forecasting Team (CRAFT)

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The group will also have an educational role, providing forums for the exchange of technical information and research. This will take the shape of open workshops with presenters speaking on current research and forecast projects. The group will also have a role in educating users on forecasting products and on specific forecast areas, providing the technical expertise and platform for conducting seminars on topics such as ESP forecasting, climate change impacts to forecasting, etc.

Potential Initial Items for CRWMG to address:

Forecasting:

1. Evaluation of the NRCS daily statistical water supply forecast procedure
2. Evaluate the benefits/problems with increased frequency of water supply updates
3. Review the indices evaluated and selected when the Libby forecast procedure was last updated. Assess the need and/or merits of updating the procedure with other indices, such as the Trans-Niño index.
4. Consider coordinating several agencies' forecasts into one forecast.
5. Consider climate change impacts on future forecasting needs and priorities.

Data:

1. Evaluate the benefits to additional SNOTEL sites, particularly in the Canadian portion of Columbia drainage.

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ATTACHMENT D

Treaty and Tribal Action Agency Consultation Regarding Columbia River Treaty

Consistent with BPA and Corps Tribal Policies, BPA and the Corps will coordinate with the Colville Tribes (“Tribes” as defined in the accompanying Colville Tribes-Action Agency MOA) concerning annual operations under the Columbia River Treaty of 1964 (“Treaty”), potential future non-Treaty storage use, and BPA and Corps actions related to possible future U.S.-Canada discussions of post-2024 matters under the Treaty, as follows.

Annual Treaty/Non-Treaty Operations and Treaty Operating Plans

Consistent with the Proposed Action identified in the August 2007 FCRPS Biological Assessment, each operating year, BPA and the Corps will coordinate with the Tribes to discuss Treaty and non-Treaty operations and Treaty operating plans. This coordination will include meeting in the fall to discuss Treaty and non-Treaty operations that occurred during the preceding fish passage season, and to seek tribal input, ideas, and information on planned operations for the next fish passage season. BPA and the Corps also will inform the Tribes of the final operating plan and/or planned operations once finalized. Typical agenda items for the fall meeting would include a review of Treaty and non-Treaty operations for preceding year (including supplemental operating agreements), a review of the current year Detailed Operating Plan and possible supplemental operating agreements, an update on the most-recently prepared Assured Operating Plan and upcoming Detailed Operating Plan. One additional meeting will be held during the fish passage season to provide an update on Treaty and non-Treaty operations.

Potential Non-Treaty Storage

Consistent with the Proposed Action identified in the August 2007 FCRPS Biological Assessment, BPA will seek to negotiate a new long-term agreement with BC Hydro regarding non-Treaty storage use once BPA and BC Hydro have made substantial progress in refilling non-Treaty storage space, and the collective U.S. interests in terms of such a new agreement are established. BPA also will seek to negotiate an annual agreement if a new long-term agreement is not in place or does not address flows for fisheries purposes. If BC Hydro is interested in negotiating a new annual or long-term non-Treaty storage agreement, BPA will coordinate with the Tribes prior to any negotiation to obtain ideas and information on possible points of negotiation. If negotiations occur, BPA will report on major developments during negotiations and will report to the Tribes on any new agreement resulting from negotiations.

Post-2024 Treaty Matters

BPA and the Corps will take the following specific measures to coordinate with the Tribes concerning their actions related to possible U.S.-Canada discussions of post-2024 Treaty matters:

1. Consult with the Tribes during planning activities for post-2024 Treaty matters by holding discussions with the Tribes at a government-to-government level to seek tribal input and identify general issues of concern to the Tribes. Although the schedule for these planning

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activities is currently uncertain, it is possible that these activities may continue through 2013 or beyond.

2. Coordinate with tribal staff at a technical level during the expected planning activities for post-2024 Treaty matters to identify possible methods for addressing tribal issues of concern.

3. Provide the results of both the government-to-government and technical discussions with the Tribes to the U.S. Entity under the Treaty for consideration.

4. If formal Treaty negotiations occur, report on a periodic basis to affected Tribes on major developments relative to Corps and BPA actions related to tribal interests.

5. If formal Treaty negotiations occur, consult with the Tribes to assure that tribal rights and concerns are considered by BPA or the Corps regarding their actions.

6. If formal Treaty negotiations occur, strive to resolve issues and encourage the U.S. government to arrive at decisions that appropriately consider identified tribal concerns.

As organizational structures are set in place by BPA, the Corps, and possibly the U.S. and Canadian governments to discuss issues related to post-2024 Treaty matters, BPA and the Corps will coordinate with the Tribes and discuss mutually acceptable changes in the role of the Tribes in post-2024 matters related to BPA and Corps actions.

Corps and BPA consultation and coordination with the Tribes on post-2024 Treaty matters as set forth herein will be conducted to the extent appropriate and permitted under applicable policies, procedures, laws and regulations including United States principles of international treaty discussions and negotiations and to the extent permitted by the U.S. Department of State.

Appendix B

Specific Property Information Form (SPIF)

Baseline Assessment Form (BAF)

SPECIFIC PROPERTY INFORMATION FORM (SPIF)



Confederated Tribes of the Colville Reservation Programmatic Land Management Plan

Date:

Property Name:

BPA Project #:

Focal Fish Species:

Mitigation Property Category:

- ☐ Water Conservation Property
- ☐ Restoration/Enhancement Property
- ☐ Preservation Property
- ☐ Hatchery Property

For Mitigation Properties Acquired with Accord Funds
The SPIF is a supplement to the Programmatic Land Management
Plan (PLMP) to outline management objectives specific to a
property for submittal to the Bonneville Power Administration.
To be filled out in combination with the Property Baseline
Assessment Form (BAF). *Version 1.3 - October 2011.*

Has a Baseline Assessment Form been completed? ☐ Yes ☐ No

If yes, is it attached? ☐ Yes ☐ No

Brief description and
purpose of property:

Tribal Representative:

Name: Title:

Address:

City: State: Zip:

Telephone: Email:

Data Collected By:

Name/Date:	<input type="text"/>	Title:	<input type="text"/>
Name/Date:	<input type="text"/>	Title:	<input type="text"/>
Name/Date:	<input type="text"/>	Title:	<input type="text"/>
Name/Date:	<input type="text"/>	Title:	<input type="text"/>

General Property Information :

Address:

City: State: Zip:

Waterbody/HUC:

Acreage: ☐ On Reservation ☐ Off Reservation ☐ On North Half

Tax Parcel Identification No:

Property Ownership Information:

Current Legal Property Owner: Contact Phone:

Contact Name:

If applicable, describe the
Lease or Land Use
Agreement between the
current legal property
owner and the CCT:

Applicable Management Goal(s) and Objective(s) for the Property (please check all applicable categories as outlined in the PLMP):

- | | |
|--|---|
| <input type="checkbox"/> Private Land and Easement Management (Section 3.1) | <input type="checkbox"/> Fish and Wildlife Management [includes Agricultural] (3.7) |
| <input type="checkbox"/> Water Rights Management (3.2) | <input type="checkbox"/> Recreation and Public Access Management (3.8) |
| <input type="checkbox"/> Cultural and Historic Resource Management (3.3) | <input type="checkbox"/> Built Environment (Hatchery Facilities) Management (3.9) |
| <input type="checkbox"/> Forest Management (3.4) | <input type="checkbox"/> Security Management (3.96) |
| <input type="checkbox"/> Riparian Area, Floodplain, & Wetland Management (3.5) | <input type="checkbox"/> Hazardous Materials Management (3.97) |
| <input type="checkbox"/> Nonnative Species and Noxious Weeds Management (3.6) | <input type="checkbox"/> Monitoring (4.1) |

Refer to Sections in PLMP for programmatic management goals and objectives to be implemented on the mitigation property. Specific property goals and objectives will be identified below.

Private Land and Easement Management: ☐ Applicable ☐ Not Applicable

Type of easement:

Is the CCT entering into an easement agreement with a property owner: ☐ Yes ☐ No

Is there an existing easement on a property the CCT will acquire? ☐ Yes ☐ No

Describe the terms and conditions of the easement:

Describe any management considerations or further information associated with this easement:

Water Rights Management: ☐ Applicable ☐ Not Applicable

Describe the Water Rights situation on this property:

Has Ecology made a determination as to the existence and extent of the Water Right? ☐ Yes ☐ No

If no, is Ecology reviewing the Water Right? ☐ Yes ☐ No

Describe the determination (i.e. approval for transfer, extent of transfer, etc.):

If reviewing, what is the timeline for making a determination?

Define the water right in terms of allotted withdrawals:

☐ All ☐ most ☐ none of the water right will be transferred to the:

☐ Trust Water Rights Program (TWRP): ☐ Colville's Water Trust Program (CWTP)

If all or most, what will the designated use be for the portion of the water right transferred to the TWRP/CWTP? Describe use of the portion of the Water Right that is not transferred:

Describe other important information associated Water Rights within this property:

Cultural and Historic Resources Management: ☐ Applicable ☐ Not Applicable

Are any ground-disturbing activities proposed on the property by the CCT? ☐ Yes ☐ No

(If yes, implement the Cultural & Historic Resource Management protocols as outlined in the PLMP Section 3.3.)

Cultural survey completed? ☐ Yes ☐ No

Are any historic properties potentially eligible for listing on the National Register of Historic Properties? ☐ Yes ☐ No

Describe the cultural status
and any management
considerations:

Forest Management: ☐ Applicable ☐ Not Applicable

Describe the forest habitat
present on the property
(e.g., area of forest, age of
trees, tree species, trees per
acre, include a map):

Have these forest habitats been managed for timber harvest in the past? ☐ Yes ☐ No

Will timber harvest be required to manage the forest for the benefit of salmonids? ☐ Yes ☐ No

Are excessive fuels present on the property? ☐ Yes ☐ No

If yes, describe:

Will prescribed fire/burn be used for removal of non-native plant species and establishment of native plant species? ☐ Yes ☐ No

If yes, describe current
vegetation and desired future
vegetation conditions:

Describe other important
information associated with
forest management on this
property:

Riparian Area, Floodplain and Wetland Management: ☐ Applicable ☐ Not Applicable

Describe the current condition
of the riparian and floodplain
habitat (e.g. riparian
vegetation, floodplain habitat,
levees, development, etc.):

Do wetlands, ponds, bogs and/or lakes occur on the property? ☐ Yes ☐ No

If yes, describe :

Have these features been formally delineated? ☐ Yes ☐ No

Describe other important information associated
with water resource management on this property:

☐ Provide figure of delineated Streamside Management Emphasis Areas (SMEAs) on the property, including the following:

- Flood-prone areas, channel migration, riparian vegetation, soil type, side slope sensitivity, and areas where vegetation can provide stream shade and LWD recruitment
- New and existing fence lines to protect riparian, wetland, lake, bog, pond and similar habitats
- Areas to be planted with native riparian vegetation
- Areas where non-native riparian vegetation will be removed
- Non-essential roads, culverts, bridges, etc. to be removed
- Delineated wetlands and lakes per the characteristics outlined in the PLMP

Nonnative Species and Noxious Weeds Management: ☐ Applicable ☐ Not Applicable

Has a noxious weed inventory been completed on the property? ☐ Yes ☐ No

Are any Class A invasive species present on the property? ☐ Yes ☐ No

Are any Class B invasive species present on the property? ☐ Yes ☐ No

Are any Class C invasive species present on the property? ☐ Yes ☐ No

Describe the plan to address the invasive species on the property:

Rare Plants: ☐ Applicable ☐ Not Applicable

Was a rare plant survey completed? ☐ Yes ☐ No

Were rare plant/s found? ☐ Yes ☐ No

Describe species & plan for protection of rare species on property:

Fish Management / Restoration and Enhancement: ☐ Applicable ☐ Not Applicable

Which of the following will the CCT implement?

- ☐ Riparian habitat restoration and/or enhancement ☐ Remove, replace or repair to a fish passage barrier
- ☐ Off-channel habitat/floodplain function ☐ Instream habitat ☐ Other Actions

If yes, describe:

Describe other important information associated with fish management on this property:

Wildlife Management: ☐ Applicable ☐ Not Applicable

Describe the focal wildlife species and their status on the property:

Describe any special management concerns or priorities related to species that occur on the property:

☐ Provide a figure that depicts the area(s) on the property suitable for focal wildlife species and areas of species management concern.

Rangeland Management: ☐ Applicable ☐ Not Applicable

Describe the rangeland that exists on the property, current composition of vegetation on the property, and the history of the property as rangeland:

Describe the desired future condition of the property and specific goals and objectives associated with this property:

Describe any lease or land use agreement associated with this property:

Agricultural Management:

☐ Applicable

☐ Not Applicable

Which of the following occur on the property?

☐ Cropland ☐ Conservation Reserve Enhancement Program (CREP) ☐ Livestock grazing ☐ Other (orchard, etc.)

Describe activity:

Will the agricultural activities be allowed to continue on the property? ☐ Yes ☐ No

If yes, describe the plan and activities to be implemented:

Describe any lease or land use agreement associated with this property or any special concerns:

☐ Provide a figure(s) that depicts the areas of current agricultural activities, future agricultural activities and future desired condition.

Recreation and Public Access Management:

☐ Applicable

☐ Not Applicable

What public access opportunities will the CCT provide?

☐ Pedestrian

☐ Non-motorized

☐ Motorized

Will public access be limited on the property: ☐ Yes ☐ No

If yes, describe where, how and why public access will be limited:

Describe any special management concerns related to public access to the property:

☐ Provide figure(s) depicting where public access will be allowed and prohibited, including any fencing and signage that will be installed to deter access.

Built Environment (Hatchery-Related Facilities) Management: ☐ Applicable ☐ Not Applicable

The property is intended for the following:

- ☐ Chief Joseph Dam Hatchery ☐ Colville Tribal Fish Hatchery
☐ Acclimation ponds ☐ Other Related Infrastructure (e.g. residences, roads, water conveyance, etc.)

These facilities are: ☐ existing ☐ under construction ☐ proposed

Describe any existing or proposed facilities and their purpose (e.g. number, type, size, condition are they used for collecting, holding and sorting adult fish; collection of eggs and milt; freezer facilities for adult carcasses; incubation of eggs; facilities for rearing of juveniles; facilities associated with visitors, operations, administration; acclimation ponds; water conveyance, access roads; etc.):

If existing, are these facilities operational/functional? ☐ Yes ☐ No

Will existing facilities be maintained or decommissioned? ☐ Maintained ☐ Decommissioned

Describe any special management concerns related to hatchery management on the property:

Attach or cite any relevant documents (e.g. documents detailing operational protocols, SPCC Plan, the storage, use and disposal of hatchery related chemicals and drugs, the use of surplus fish carcasses in a nutrient enrichment program).

Describe relevant documents:

- ☐ Provide figure(s) depicting all existing and proposed facilities as well as facilities that will be removed or decommissioned for the benefit of salmonids and their habitat.

Security Management: ☐ Applicable ☐ Not Applicable

Describe the property features/facilities that pose a security risk and level of risk:

Describe measures to reduce the security risk:

Are there any liability concerns on this property and discuss solutions:

- ☐ Provide figure(s) that depict the property features/facilities that pose a security risk and the measures to be implemented to reduce the risk (e.g. location of fencing, signage, gates, etc.).

Hazardous Materials Management:☐ Applicable☐ Not Applicable

If known, describe the known or suspected hazardous materials that occur on the property:

Describe the plan for the handling, storage, removal and/or disposal of the hazardous materials:

If applicable, attach name and contact information of contractor hired to perform any handling, storage, removal and/or disposal of hazardous materials.

Monitoring: Key management objectives that need to be monitored and tracked over time.

- | | | |
|---|---|--|
| <input type="checkbox"/> Cultural and Historic Resources Management | <input type="checkbox"/> Forest and Agricultural Management | |
| <input type="checkbox"/> Fish and Wildlife Management | <input type="checkbox"/> Fish Habitat Restoration | <input type="checkbox"/> Invasive Plant Species Management |
| <input type="checkbox"/> Built Environment Management | <input type="checkbox"/> Public Access Management | <input type="checkbox"/> Hazardous Waste Management |

If yes, describe:

Regulatory Compliance/Permitting

Based upon the management actions to be implemented, identify the regulations that will be triggered and permits that may be required.

Regulatory Compliance:

- | | |
|---|--|
| <input type="checkbox"/> National Environmental Policy Act (NEPA) | <input type="checkbox"/> National Historic Preservation Act (NHPA) |
| <input type="checkbox"/> Endangered Species Act (ESA) | <input type="checkbox"/> State Environmental Policy Act (SEPA) |
| <input type="checkbox"/> Shoreline Management Act | <input type="checkbox"/> County or City Critical Areas Ordinance |

Required Permits:

- | | | |
|--|--|------------------------------------|
| <input type="checkbox"/> Clean Water Act Section 404 Permit (Corps) | <input type="checkbox"/> Rivers and Harbor Section 10 Permit (Corps) | |
| <input type="checkbox"/> Clean Water Act Section 401 Water Quality Certification (Ecology) | <input type="checkbox"/> Hydraulic Project Approval (WDFW) | |
| <input type="checkbox"/> Aquatic Resources Use Authorization (WDNR) | <input type="checkbox"/> County or City Shoreline Permit | <input type="checkbox"/> Exemption |
| <input type="checkbox"/> County or City Floodplain Development Permit | <input type="checkbox"/> County or City Critical Areas Ordinance Permit | |
| <input type="checkbox"/> County or City Clearing and Grading Permit | <input type="checkbox"/> Within Colville reservation boundary: Tribal permits will apply | |

Describe key permitting compliance requirements:

Provide all documents associated with regulatory compliance and permitting, including copies of the permits obtained to implement specific actions on the property to BPA.

Other Management Considerations:

Describe any other special management concerns related to this property:

Adjoining Land Owners:

Name	Address	Contact #	Location

Property Contacts/Staff:

Name	Title	Contact #	Role

BASELINE ASSESSMENT FORM (BAF)

Property Baseline Information

Property Name:

Observer/Date:

Observer/Date:

Observer/Date:

Observer/Date:



Confederated Tribes of the Colville Reservation

For Confederated Colville Tribes Fish & Wildlife Department:
For Mitigation Properties Acquired with Accord Funds

The BAF is a supplement to the Programmatic Land Management Plan (PLMP) for documentation of baseline conditions on individual mitigation properties to track changes overtime. In addition, the information documented in this form is designed to be utilized to populate the property management goals and objectives required in the Specific Property Information Form (SPIF) for submittal to the Bonneville Power Administration. *Version 1.2 October 2011.*

Property Location:

Township: Range: Section(s):

Latitude: Longitude:

UTM Zone: UTM Easting (x): UTM Northing (y):

UTM Source: ☐ GPS ☐ Map ☐ Description Attached: ☐ Topo ☐ Sketch ☐ Photo ☐ Website ☐ N/A

Directions to Property:

Elevation (ft.): Slope (degrees): ☐ Aspect ☐ N ☐ S ☐ E ☐ W ☐ NE ☐ NW ☐ SE ☐ SW

Tax Parcel #:

Property Ownership and Use History

OWNERS:

Current Owner: Dates:

Previous Owners: (if known) Dates:

PAST USE OF SUBJECT PROPERTY AND ADJACENT LANDS:

☐ Open Space ☐ Forest Land ☐ Homesite
☐ Agricultural Land ☐ Grazing ☐ Other

ACQUISITION TYPE:

☐ Property Purchase ☐ Conservation Easement (if so, please attach)

Is there currently another easement associated with the property? ☐ Yes ☐ No

Water Rights

Are there water rights associated with the property? ☐ Yes ☐ No

If yes, will these water rights be transferred into Trust? ☐ Yes ☐ No

Will the water rights be used for anything other than instream flow? ☐ Yes ☐ No

☐ Habitat Restoration/Enhancement ☐ Hatchery Operations ☐ Other

Property Inventory

STRUCTURES ON PROPERTY (house, garage, barn, etc.): Please identify the type of structure(s) and describe the approximate size and general condition (e.g. livable/useable, degraded/dilapidated, unusable) (use back if needed): ☐ Not Applicable

Structure:		Size and condition:	
Structure:		Size and condition:	
Structure:		Size and condition:	
Structure:		Size and condition:	

Management
Observations:

--

ROADS ON PROPERTY (gravel or paved): ☐ Not Applicable

Road Type:		Length (feet or miles):	
Road Type:		Length (feet or miles):	
Road Type:		Length (feet or miles):	
Road Type:		Length (feet or miles):	

Management
Observations:

--

CULVERTS ON PROPERTY (Corrugated Metal, Pre-Cast Concrete, Bottomless Arch, etc.) ☐ Not Applicable

Type :		Span (ft. or m.)		Rise (ft. or m.)	Unique identifier:	
Type :		Span (ft. or m.)		Rise (ft. or m.)	Unique identifier:	
Type :		Span (ft. or m.)		Rise (ft. or m.)	Unique identifier:	
Type :		Span (ft. or m.)		Rise (ft. or m.)	Unique identifier:	

Management
Observations:

--

NUMBER OF ACRES PER LAND USE (fields, pasture, riparian, woodlands, conifer woodlands, etc.):

Land Use:		Acres:	
Land Use:		Acres:	
Land Use:		Acres:	
Land Use:		Acres:	
Total Acres:			

Management
Observations:

--

UNIQUE NATURAL FEATURES ON PROPERTY (beaver dams, rock outcrops, cliffs, caves, etc.): ☐ Not Applicable

Feature:		Location:	
Feature:		Location:	
Feature:		Location:	
Feature:		Location:	

WATER FEATURES (Lakes, Ponds, Wetlands, River or Streams (Perennial, Intermittent, or Ephemeral [flow <30 days])):

Type/Name:		Length through property (ft. or mi.):	
Type/Name:		Length through property (ft. or mi.):	
Type/Name:		Area (sq. ft.):	
Type/Name:		Area (sq. ft.):	

OTHER FEATURES ON THE PROPERTY:

<input type="checkbox"/> Fencing	<input type="checkbox"/> Trails	<input type="checkbox"/> Ditches	<input type="checkbox"/> Irrigation Equipment
<input type="checkbox"/> Signs	<input type="checkbox"/> Utilities/Lighting	<input type="checkbox"/> Hazardous Waste/Dumping	
<input type="checkbox"/> Hazardous Waste/Dumping on Adjacent Property	<input type="checkbox"/> Other		

List Management
Needs/Observations:

Forest, Riparian Resources and Vegetation Community

STAND STRUCTURE:	<input type="checkbox"/> Single Structure	<input type="checkbox"/> Two Canopies	<input type="checkbox"/> Multiple Canopies	<input type="checkbox"/> Unspecified	
SERIAL STAGE:	<input type="checkbox"/> Pioneer	<input type="checkbox"/> Early (20-39 years)	<input type="checkbox"/> Mid (40-79 years)	<input type="checkbox"/> Late (80-200 years)	<input type="checkbox"/> Climax
FIRE PRESENCE:	<input type="checkbox"/> Absent	<input type="checkbox"/> Partly Scorched	<input type="checkbox"/> Moderately Scorched	<input type="checkbox"/> Highly Scorch	<input type="checkbox"/> Completely Burned
GENERAL OBSERVATIONS:	<input type="checkbox"/> Insect Damage	<input type="checkbox"/> Disease Damage	<input type="checkbox"/> Beaver Presence	<input type="checkbox"/> Other:	

Common Overstory Species (Check if Present)

- ☐ Ponderosa pine
 ☐ Western hemlock
 ☐ Other:
 ☐ Other:
- ☐ Douglas fir
 ☐ Bigleaf maple
 ☐ Other:
 ☐ Other:
- ☐ Grand fir
 ☐ Quaking aspen
 ☐ Other:
 ☐ Other:
- ☐ Noble fir
 ☐ Black cottonwood
 ☐ Other:
 ☐ Other:
- ☐ Engelmann spruce
 ☐ Lodgepole pine
 ☐ Other:
 ☐ Other:

Common Understory Species (Check if Present)

- ☐ Vine maple
 ☐ Serviceberry
 ☐ Oregon Grape species
 ☐ Other:
- ☐ Douglas fir
 ☐ Ceanothus
 ☐ Mountain big sagebrush
 ☐ Other:
- ☐ Ocean spray
 ☐ Bitterbrush
 ☐ Other:
 ☐ Other:
- ☐ Bitterbrush
 ☐ Shiny-leaf spirea
 ☐ Other:
 ☐ Other:
- ☐ Rose species
 ☐ Bitter cherry
 ☐ Other:
 ☐ Other:
- ☐ Snowberry species
 ☐ Pachistima
 ☐ Other:
 ☐ Other:

CURRENT FOREST CONDITION: ☐ Not Applicable

- ☐ Mature example of the community type; natural processes intact; no exotics
- ☐ Some minor alteration of vegetation structure and composition, such as by selective logging; minor alterations in ecological processes; exotics species present in low abundance
- ☐ Significant alteration of vegetation structure and composition, such as by heavy logging; alteration of ecological processes are significant, but community recovery/restoration is likely; exotic species are abundant and control will take significant effort
- ☐ Ecological processes significantly altered to the point where vegetation composition and structure are very different from a highly ranked condition and restoration/recovery is unlikely; exotic species are abundant or control will be difficult

CURRENT RIPARIAN CONDITION:

- ☐ Mature example of the community type; natural processes intact; no exotics
- ☐ Some minor alteration of vegetation structure and composition, such as by selective logging; minor alterations in ecological processes; exotics species present in low abundance
- ☐ Significant alteration of vegetation structure and composition, such as by heavy logging; alteration of ecological processes are significant, but community recovery/restoration is likely; exotic species are abundant and control will take significant effort
- ☐ Ecological processes significantly altered to the point where vegetation composition and structure are very different from a highly ranked condition and restoration/recovery is unlikely; exotic species are abundant or control will be difficult

STATE AND FEDERALLY PROTECTED PLANT SPECIES: Identify all Endangered, Threatened, Sensitive, and Candidate species that occur or may occur on the property (Consult Appendix D in the PLMP for species lists).

Common Name	Scientific Name	Status (State E,T,S,X,R1,R2) (Fed LE,LT,PE,PT,C, SC)	Number of Individuals	Location/GPS Coordinates

CULTURALLY SIGNIFICANT PLANT SPECIES: Identify all Endangered, Threatened, Sensitive, and Candidate species that occur or may occur on the property (Consult Appendix D in the PLMP for species lists).

Common Name	Scientific Name	Number of Individuals	Location/GPS Coordinates

Non-Native and Invasive Plant Species

INVASIVE PLANT SPECIES PRESENT: (see Appendix D of the PLMP for weed inventory protocols and forms)

Has a Noxious Weed Inventory been completed per the protocols established by the North American Weed Management Association? ☐ Yes ☐ No

If No – Complete the inventory.

If Yes – Provide the Noxious Weed Inventory Form (Appendix D of the PLMP)

Identify the noxious weeds that have been identified on the property in the table below.

Common Name	Scientific Name	Class (A, B, C)	Area (Sq. Feet)	Infested Area Size/ GPS Polygon

☐ Provide a figure that depicts the area(s) where invasive species occur and the areas where specific controls methods (biological, chemical, cultural) will occur.

Wildlife

STATE AND FEDERALLY PROTECTED SPECIES AND PRIORITY HABITAT: Identify all Endangered, Threatened, Sensitive, Species of Concern and Priority Habitats (Consult Appendix F in the PLMP for species lists) that occur or may occur on the property (both listed and proposed).

Common Name	Scientific Name	Status (E, T, S, SC)	Priority Habitat (Y/N)

Agriculture and Grazing

MOST RECENT CROP PRODUCED: ☐ Not Applicable

☐ Orchard ☐ Alfalfa/Grass ☐ Hay ☐ Other

CURRENT CONDITION:

☐ Fallow ☐ Field Abandonment ☐ Grazing ☐ Other

IF GRAZED, TYPE OF ANIMAL ☐ Not Applicable

☐ Cattle ☐ 1-5 ☐ 5-10 ☐ 10-25 ☐ 25-50 ☐ 50-75 ☐ 75-100 ☐ 100+

☐ Sheep ☐ 1-5 ☐ 5-10 ☐ 10-25 ☐ 25-50 ☐ 50-75 ☐ 75-100 ☐ 100+

☐ Horses ☐ 1-5 ☐ 5-10 ☐ 10-25 ☐ 25-50 ☐ 50-75 ☐ 75-100 ☐ 100+

☐ Other ☐ 1-5 ☐ 5-10 ☐ 10-25 ☐ 25-50 ☐ 50-75 ☐ 75-100 ☐ 100+

BIOMASS REDUCTION ☐ Not Applicable

☐ 0-15% ☐ 15-50% ☐ 10-25 ☐ 50-75% ☐ 75-100%

Soils

SOIL TEXTURE: ☐ Clay ☐ Clay Loam ☐ Loam ☐ Sand ☐ Silt ☐ Silt Loam ☐ Sandy Loam ☐ Other

EROSION ☐ Sheet ☐ Rill ☐ Gully ☐ Streambank Erosion ☐ Not Applicable

Bank Stability

Yes	No	N/A	Hydrology
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1) Floodplain above bankfull is inundated in “relatively frequent” events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2) Where beaver dams are present they are active and stable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform geology, and bioclimatic region)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4) Riparian-wetland area is widening or has achieved potential extent
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5) Upland watershed is not contributing to riparian-wetland degradation

Yes	No	N/A	Vegetation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8) Species present indicate maintenance of riparian-wetland soil moisture characteristics
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10) Riparian-wetland plants exhibit high vigor
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11) Adequate riparian-wetland vegetative cover is present to protect banks and dissipate energy during high flows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12) Plant communities are an adequate source of coarse and/or large woody material (for maintenance/recovery)

Yes	No	N/A	Erosion/Deposition
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13) Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody material) are adequate to dissipate energy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14) Point bars are revegetating with riparian-wetland vegetation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15) Lateral stream movement is associated with natural sinuosity
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16) System is vertically stable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17) Stream is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)

REMARKS:

Are factors contributing to unacceptable conditions outside the control of the manager? ☐ Yes ☐ No

If yes, what are those factors?

- ☐ Flow regulations
 ☐ Mining Activities
 ☐ Upstream Channel Conditions
- ☐ Channelization
 ☐ Road encroachment
 ☐ Oil field water discharge
- ☐ Augmented flows
 ☐ Other (specify):

Restoration

POTENTIAL RESTORATION ACTIONS:

- | | | |
|--|--|---|
| <input type="checkbox"/> Riparian Planting | <input type="checkbox"/> Restore Instream Habitat | <input type="checkbox"/> Culvert Removal and/or Replacement |
| <input type="checkbox"/> Increased Instream Flow | <input type="checkbox"/> Restore Off-Channel Habitat | <input type="checkbox"/> Other: |

Describe potential restoration opportunities and identify on map.

SUGGESTED RESTORATION SPECIES:

- | | |
|--|---|
| <input type="checkbox"/> Seeding – Upland Seed Mix | <input type="checkbox"/> Sitka Willow (<i>Salix sitchensis</i>) |
| <input type="checkbox"/> Seeding – Riparian Seed Mix | <input type="checkbox"/> Serviceberry (<i>Amerlacher alnifolia</i>) |
| <input type="checkbox"/> Mountain Alder (<i>Alnus incana</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Douglas Maple (<i>Acer glabrum</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Bebb's Willow (<i>Salix Bebbiana</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Scouler's Willow (<i>Salix scouleriana</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Snowberry (<i>Symphoricarpos albus</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Black Cottonwood (<i>Populus trichocarpa</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Red-Osier Dogwood (<i>Cornus stolonifera</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Ponderosa Pine (<i>Pinus ponderosa</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Western Red Cedar (<i>Thuja plicata</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Blue Elderberry (<i>Sambucus Cerulea</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Twinberry Honeysuckle (<i>Lonicera involucrata</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Black Hawthorne (<i>Crataegus douglasii</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Nootka Rose (<i>Rosa nutkana</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Coyote Willow (<i>Salix exigua</i>) | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Pacific Willow (<i>Salix lasiandra</i>) | <input type="checkbox"/> Other: |

General Observations and Concerns:

LIST MANAGEMENT NEEDS/OBSERVATIONS (Trash removal, fencing maintenance required parts, etc.):

GENERAL MAINTENANCE CONCERNS:

Documentation and Drawings

Provide the following documentation and figures to BPA as attachments to this SPIF, or if not currently available, once these documents and drawings are available:

- ☐ CULTURAL RESOURCES MANAGEMENT PLAN FORMS (Form A, Form B, WA Archaeological Site Inventory Form)
- ☐ CONSERVATION EASEMENT TEMPLATE

FIGURES (provide figures (on aerial photo or sketch) that depict the following, if present):

- | | | |
|---|---|--|
| <input type="checkbox"/> Property Vicinity | <input type="checkbox"/> Existing or Proposed Easements | <input type="checkbox"/> Existing Agricultural Use |
| <input type="checkbox"/> Property Boundaries and Fences | <input type="checkbox"/> Aquatic and Terrestrial Habitats | <input type="checkbox"/> Proposed Public Access Areas |
| <input type="checkbox"/> Public Access Points | <input type="checkbox"/> Existing Forest and Rangeland | <input type="checkbox"/> Proposed/Potential Fish Habitat Restoration Actions |

Appendix C

List of Known Occurrences of Rare Plants in Washington

Washington Natural Heritage Information System
List of Known Occurrences of Rare Plants in Washington
November 2010

Okanogan County

Scientific Name	Common Name	State Status	Federal Status	Historic Record
<u><i>Agoseris elata</i></u>	tall agoseris	S		
<u><i>Agrostis mertensii</i></u>	northern bentgrass	T		
<u><i>Anemone patens</i> var. <i>multifida</i></u>	pasqueflower	T		
<u><i>Anthoxanthum hirtum</i></u>	common northern sweet grass	R1		
<u><i>Botrychium ascendens</i></u>	triangular-lobed moonwort	S	SC	
<u><i>Botrychium crenulatum</i></u>	crenulate moonwort	S	SC	
<u><i>Botrychium paradoxum</i></u>	two-spiked moonwort	T	SC	
<i>Carex atosquama</i>	blackened sedge	R1		
<u><i>Carex capillaris</i></u>	hair-like sedge	T		
<u><i>Carex chordorrhiza</i></u>	cordroot sedge	S		
<u><i>Carex gynocrates</i></u>	yellow bog sedge	S		
<i>Carex heteroneura</i> var. <i>epapillosa</i>	smooth-fruit sedge	S		
<u><i>Carex magellanica</i> ssp. <i>irrigua</i></u>	poor sedge	S		
<u><i>Carex media</i></u>	intermediate sedge	S		
<u><i>Carex proposita</i></u>	Smoky Mountain sedge	T		
<u><i>Carex scirpoidea</i> ssp. <i>scirpoidea</i></u>	Canadian single-spike sedge	S		
<u><i>Carex sychnocephala</i></u>	many-headed sedge	S		
<u><i>Carex tenuiflora</i></u>	sparse-flowered sedge	T		
<u><i>Carex vallicola</i></u>	valley sedge	S		
<u><i>Chrysosplenium tetrandrum</i></u>	northern golden-carpet	S		
<u><i>Coeloglossum viride</i></u>	long-bract frog orchid	T		
<u><i>Crataegus phippsii</i></u>	Phipps' hawthorn	R1		
<u><i>Cryptantha spiculifera</i></u>	Snake River cryptantha	S		
<u><i>Cryptogramma stelleri</i></u>	Steller's rockbrake	S		
<u><i>Cypripedium parviflorum</i></u>	yellow lady's-slipper	T		
<u><i>Draba aurea</i></u>	golden draba	S		
<u><i>Draba breweri</i> var. <i>cana</i></u>	lance-leaved draba	S		
<u><i>Eleocharis rostellata</i></u>	beaked spike-rush	S		

<u>Erigeron elatus</u>	tall bitter fleabane	E	
<u>Erigeron salishii</u>	Salish fleabane	S	
<u>Eriophorum viridicarinatum</u>	green keeled cotton-grass	S	
<u>Eritrichium nanum var. elongatum</u>	pale alpine-forget-me-not	S	
<u>Eurybia merita</u>	Arctic aster	S	
<u>Gentiana glauca</u>	glaucous gentian	S	
<u>Gentianella tenella ssp. tenella</u>	slender gentian	S	
<u>Geum rivale</u>	water avens	S	
<u>Luzula arcuata ssp. unalaschkensis</u>	curved woodrush	S	
<u>Mimulus patulus</u>	stalk-leaved monkeyflower	T	
<u>Mimulus pulsiferae</u>	Pulsifer's monkey-flower	S	
<u>Mimulus suksdorfii</u>	Suksdorf's monkey-flower	S	
<u>Mimulus washingtonensis</u>	Washington monkey-flower	X	H
<u>Oxytropis campestris var. gracilis</u>	slender crazyweed	S	
<u>Parnassia kotzebuei</u>	Kotzebue's grass-of-parnassus	T	
<u>Platanthera obtusata</u>	small northern bog-orchid	S	
<u>Polemonium viscosum</u>	skunk polemonium	S	
<u>Potentilla glaucophylla var. perdissecta</u>	diverse-leaved cinquefoil	S	
<u>Potentilla nivea</u>	snow cinquefoil	S	
<u>Potentilla rubricaulis</u>	five-leaved cinquefoil	T	
<u>Ranunculus pygmaeus</u>	dwarf buttercup	R1	
<u>Rubus arcticus ssp. acaulis</u>	nagoonberry	T	
<u>Salix glauca var. villosa</u>	glaucous willow	S	
<u>Salix maccalliana</u>	Maccall's willow	S	
<u>Salix tweedyi</u>	Tweedy's willow	S	
<u>Sanicula marilandica</u>	black snake-root	S	
<u>Saxifraga cernua</u>	nodding saxifrage	S	
<u>Saxifraga rivularis</u>	pygmy saxifrage	S	
<u>Scutellaria angustifolia ssp. micrantha</u>	narrowleaf skullcap	R1	
<u>Sisyrinchium septentrionale</u>	blue-eyed grass	S	
<u>Spiranthes diluvialis</u>	Ute ladies' tresses	E	LT
<u>Spiranthes porrifolia</u>	western ladies-tresses	S	

<u><i>Stuckenia filiformis ssp. occidentalis</i></u>	western fineleaf pondweed	R1	H
<u><i>Thelypodium sagittatum ssp. sagittatum</i></u>	arrow thelypody	S	H
<u><i>Utricularia minor</i></u>	lesser bladderwort	R1	
<u><i>Vaccinium myrtilloides</i></u>	velvet-leaf blueberry	S	
<u><i>Viola renifolia</i></u>	kidney-leaved violet	S	

Description of Codes

Historic Record

H indicates most recent sighting in the county is before 1977.

State Status

State Status of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness. Values include:

E = Endangered. In danger of becoming extinct or extirpated from Washington.

T = Threatened. Likely to become Endangered in Washington.

S = Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state.

X = Possibly extinct or Extirpated from Washington.

R1 = Review group 1. Of potential concern but needs more field work to assign another rank.

R2 = Review group 2. Of potential concern but with unresolved taxonomic questions.

Federal Status

Federal Status under the U.S. Endangered Species Act as published in the *Federal Register*:

LE = Listed endangered. In danger of extinction.

LT = Listed threatened. Likely to become endangered.

PE = Proposed endangered.

PT = Proposed threatened.

C = Candidate species. Sufficient information exists to support listing as endangered or threatened.

SC = Species of concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.

Source: Washington Natural Heritage Program. Available:

<www.dnr.wa.gov/ResearchScience/Topics/NaturalHeritage/Pages/amp_nh.aspx>. Washington Dept. of Natural Resources, PO Box 47016, Olympia, WA 98504-7016

Appendix D

Washington State Noxious Weed List
North American Invasive Plant Mapping Standards
North American Noxious Weed Inventory Form

Washington State Noxious Weed List

Okanogan County

The Okanogan County Noxious Weed Control Board maintains an up-to-date Noxious Weed List on its website: <http://www.okanogancounty.org/nw/html>.

North American Invasive Plant Mapping Standards

**Approved by:
North American Weed Management Association
May 7, 2002**

**Endorsed by:
Federal Interagency Committee for the Management of
Noxious and Exotic Weeds**

**NPS
USFS
USFWS
BLM
USGS**

**Who Has Signed on?
Arizona
California
Colorado
Idaho
Montana**

**Nevada
New Mexico
Oregon
Utah
Wyoming**

**Individual Counties within:
North Dakota, South Dakota, Minnesota
Discussions with:
Washington
Alaska
Pennsylvania
The New England States
Alberta, Canada**

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Chapter 1

Introduction

The efforts to control invasive plants have often been described as a war on weeds. By many estimates, we are losing this war. In order to be more effective, many weed managers are adopting a more strategic approach. One of the most overlooked, and often most critical determinant of who wins a war is the intelligence gathered prior to any action occurring on the field. The same holds true for improving the efficiency and success of invasive weed management.

The Benefits of Invasive Species Inventories

With limited budgets for weed management, it can seem hard to justify spending money on weed inventories or maps. Wouldn't that money be better spent toward actual weed management? The best justification can be found in Steve Dewey's brochure, *Noxious Weeds: A Biological Wildfire*. Dewey applies wildfire management principles to invasive weed management. When fighting fires, the first priority is to contain the fire and extinguish spot fires outside the perimeter of the fire. Trying to fight a wildfire without any idea of its size, direction of spread, rate of spread, and other relevant information, would jeopardize the lives of the fire fighters. Correspondingly, trying to manage an invasive weed infestation without similar information jeopardizes the efficiency of control efforts and wastes time and money. With maps or inventory information, a strategy focused on removing new and isolated infestations and containing the principle infestation can be developed, the same principle used for wildfires. Once contained, the size of the infestation is reduced, working from the outside in.

In addition to enabling weed managers to prioritize which part of an infestation to treat first, the use of invasive weed inventories can increase the efficiency of almost any method of weed management. Combining weed inventories with other layers of information, such as soil types and water table depths, helps weed managers select the most safe and effective herbicide for a location. By utilizing weed inventories to help with biological management of noxious weeds, distribution of the control agents can be optimized. Inventory information can be used to help plan volunteer weed pulling efforts. Invasive species inventories will not kill weeds, but are an invaluable planning tool to help get the most out of limited weed management dollars.

Inventories can also be useful in the planning phases of management efforts, maps and inventory information are critical to monitoring efforts. No matter what tool is used to manage weeds, monitoring should be done to evaluate the effectiveness and make sure the area has not been re-infested. Many of the invasive plant species have a seed viability extending past what realistically can be committed to memory. There are many county weed supervisors who know by

heart where every weed infestation in their county is located. Should anything happen to these people, the epitaph on their headstone could read, "Here lays the county's entire weed inventory". By putting this information onto paper maps or into computer databases, weed management efforts can continue past the duration of a particular person's career.

The information gleaned from invasive weed inventories can also be used to help fit weed management into the larger picture of maintaining the health and integrity of an ecosystem. Currently, invasive species are the second largest contributor to native species becoming threatened and endangered species. Invasive weed inventories provide the data necessary to further quantify impacts of invasive weeds on native ecosystems.

One of the most important benefits of weed inventories lies in their use as a tool for generating awareness. If a picture is worth a thousand words, a map is worth at least that many. Whether the audience is county commissioners, state legislators, congressmen, special interest groups, or the general public, being able to tie the problem back to their area of interest dramatically increases their receptiveness and interest in the problem.

When invasive species awareness projects are discussed, the need for heightened awareness among elected officials is almost always mentioned. Obviously, it's important for the people who control the funds for managing public lands to understand one of the biggest threats to the health of those public lands. Even among weed scientists and other invasive species experts, there is uncertainty about the exact size of the problem we are facing. It is estimated that an additional 5000 acres of public land in the west are infested each day by invasive weeds. However, it can be incredibly difficult to find figures showing the acreage of infestation for a specific national forest or national park. Finding infested acreage figures for areas that span jurisdictional boundaries, such as a county or watershed, can be even more difficult. Without inventory information it is almost impossible to provide policy makers with realistic figures on what types and amounts of resources are necessary to combat invasive species successfully.

This effort should be supported and encouraged by elected officials for several reasons. First, it will provide better policy-making information. Resources and money can be allocated according to the severity of infestations in an area. Second, it improves the ability to predict spread and implement appropriate prevention measures *before* infestations require costly management programs. Lastly, making it easy for agencies to share inventory information instead of different agencies collecting the same data over and over reduces costs.

Coordinated Mapping

The benefits of weed inventories laid out in the previous section are nothing new to weed managers. In fact, most weed managers already use some form of weed

inventory. The various forms range in complexity from simple stick pens in maps hanging on the wall of their office to GIS based inventories on a computer.

The reason for NAWMA's effort to create the minimum standards outlined in this document is to increase the ability to share information. This effort is not intended to create a single database, but rather to create minimum standards so that all information being collected is compatible. Furthermore, these are intended to be the *minimum* standards. The standards address the most basic information necessary to compare invasive species problems across tribal, county, state, national, and even international borders.

This minimum level of information is not intended to discourage individual counties, agencies, or other entities from collecting additional information. For example, inventories done for research purposes will collect a whole range of information not mentioned in these standards, such as soil type, a description of the vegetative community being invaded, and perhaps the slope of the site. The research objectives would determine the amount of additional information needed. If the researcher is not using a standardized inventory protocol, then the information collected is useful only to the research project. By using these standards, the information collected for the research project could be incorporated with inventories serving other purposes, thereby widening the usefulness of the collected information. By collecting similar information that can be shared across the nation, more money is made available to treatment efforts instead of duplicated inventories done on the same weed infestations.

Who Should Use These Standards?

These standards were designed to be compatible with most existing invasive species inventories. Their purpose is not to add another level of work to weed managers, but to lighten their workload by making it possible to share information across boundaries. Of course, for the full benefit of the standards to be realized, everyone involved in weed management needs to adopt the standards.

Realizing that the most critical part of standards lies in their acceptance, these standards were developed with consultation from a wide range of representation from those involved in invasive species issues. Hopefully, any concerns that you have with these standards were addressed in the review process. Every effort was made to make these standards as user friendly as possible, while still providing information that is essential at every level of weed management from the site of the infestation to national and international levels. NAWMA sincerely hopes that you will find these standards to be useful and adopt them as the minimum standard for your invasive species inventories.

Chapter 2

Inventory and Monitoring Standards

This chapter describes the basic information necessary to inventory and monitor invasive plant populations. These data and mapping standards have been agreed to by a group of weed professionals and scientists and represent the minimum or core information necessary to characterize a weed infestation.

There are three basic elements of a weed inventory: what is the weed; where is it located; and finally how large is the infestation. This chapter contains the data fields that are required to satisfy these basic inventory elements. A sample field form is located in Appendix F or can be obtained at the NAWMA web site, www.NAWMA.org. In many instances you may wish to collect additional information about the site and the environment that the weeds inhabit; such other plants in the area, elevation, aspect and soils. Some suggestions for additional information are located in the following chapter.

This chapter is organized into basic data fields. Each of the data field/subject area is divided into the following subheadings:

Data Field Name: This is name that will appear on the inventory form and on requests for information between agencies, states and weed management areas. It will be name that is used to share like information between users. It will provide common vocabulary for sharing information.

Definition: Provides a description and explanation of the data field.

Why it is Useful? Describes why this information may be important and how it will be useful in describing weed infestations.

Core Element: This tells you whether this is a core or required data field. Some data elements are very common and useful for weed inventories but will not be required for the information sharing; these will be called optional fields. Only required fields will be used for integrating and sharing information across ownerships.

Coding: Describes the proper way information should be entered

Data Value: This tells you whether the field is made up of numbers, numeric. The field can also be made up of text or a combination of text and numbers, called alphanumeric. The number sequence that follows indicates how many digits (field width) and decimal points are allowed in the field.

Example: Provides a sample of the proper coding.

Collection Date

Field Name: Collection Date

Definition: The date the weed infestation was observed in the field. It does not refer to the date information was entered into the computer.

Why is it useful: This field tells you when the inventory was conducted. It provides information on the time of year plants were observed. A weed infestation may look very different in the spring of the year or in the fall of the year after flowering and seed formation. This field also tells you how old your information is; last month, last year, or ten years ago. These cues will help you decide how reliable the information is and whether a follow-up visit to the site may be warranted. Changes in the size and density of a weed population from one visit to the next form the basis of monitoring.

Core Element: Yes, this is a required field.

Coding: Enter the date where YYYY equals the four digits or numbers of the year (2002), mm equals the two digit representation of the month (10) and dd stands for the two digit representation for the day of the month (03). The date will be in the following format yyyyymmdd.

Data Value: Numeric (8,0)

Example: A knapweed site was visited on October 3, 2002. You would record:

Collection date: 20021003

Examiner

Field Name: Examiner

Definition: The individual who collected the information in the field, at the site of the infestation.

Why is it useful: This is useful information when several individuals may have contributed to an inventory. Within a county or a Weed Management Area, private landowners, the public, road crews, county

agents, scout troops and government employees may all have contributed to the survey. A name allows the person compiling the inventory to verify and correct any questions on the information.

Core Element: Optional, this is useful at the field office level but is not a core element and will not be shared between entities.

Coding: Enter the full name of the individual who collected the data.

Data Value: Alphanumeric (50,0)

Example:

Examiner: <u>Ronald J. Weed</u>
--

Plant Name

Field Name(s): Genus, Species, Intra specific (optional), Authority

Definition: These fields will contain the scientific or species name of the weed. The scientific name consists of the genus name followed by the species name, in Latin. Some plants are further classified into subspecies or variety. Lastly, the individual who first classified the plant and assigned the scientific name is called the authority.

Why is it useful? Scientific names are in Latin and can be intimidating and cumbersome to learn, but they have a decided advantage over common names. These Latin, scientific names provide a universal code or language for naming plants, so people all over the world will use the same name. Even when the name changes due to new discoveries or new information, a trail of synonyms or conserved names is retained so the plant can still be identified. Scientific names also show how groups of plants are related.

Core Element: Genus and species are required elements. Subspecies and authority are optional.

Coding: Enter the Genus and species name as it appears in either your plant key, the PLANTS Database (<http://plants.usda.gov/plants/index.html>) or from the tables that appear in Appendix A.

Data Value(s):**Genus:** Alphanumeric (2,0)**Species:** Alphanumeric (30,0)**Intraspecific:** Alphanumeric (30,0)**Authority:** Alphanumeric (20,0)

Example: The scientific name for yellow star thistle is: Centaurea solstitialis L. You would record:

Genus: Centaurea
Species: solstitialis
Authority: L.

Common Name

Field Name: Common name

Definition: The English or Spanish name for the plant.

Why is it useful: These are the weed names most commonly used in conversation. They are often descriptive like yellow star thistle and are always in the spoken language of the country. The common names are easy to pronounce and remember. Unfortunately, there is no consistency in common names and there may be several regional names for the same plant. Conversely, the same name may refer to several different plants.

Core Element: This is an optional field; common names will not be part of the core data elements. There will be continuing attempts by the Weed Science Society of America, the Plants database and others to list all of the known common names for each species. These efforts will allow an easy crosswalk between the commonly used and the scientific name.

Coding: Enter the common name as it appears your plant field guide, the name you have been taught or from the table that appears in Appendix A.

Data Value: Alphanumeric (25,0?)

Example: One of the common names for: Centaurea biebersteinii is spotted knapweed, you would record:

Common Name: Spotted Knapweed

Plant Codes

Field Name: Plant Code

Definition: 3-10 digit codes for scientific names.

Why is it useful: Plant codes are useful, short cut method for recording plant names in the field. There are many different coding systems in use. Many use some combination of the first two or three letters of the genus and species names. Unfortunately, there have been so many different codes developed over the years it is difficult to agree on a single system, therefore we will continue to rely on the full scientific name for identifying the weed name.

Within the United States, the PLANTS database is attempting to bring consistency to coding plant names. Use of codes from the PLANTS database are highly encouraged. PLANTS is maintained and operated by the United States Department of Agriculture. Tables are available from PLANTS database that will convert these plant codes back to the full scientific name. The Integrated Taxonomic Information System (ITIS), a joint effort between Canada, the United States and Mexico may also be a useful source of plant codes in the future.

Core Element: This is an optional field.

Coding: There are no standardized codes for this data field. The codes used in the PLANTS database can be found at:
<http://plants.usda.gov/plants/index.html>.

Data Value: Alphanumeric (8,0)

Example: The PLANTS database code for Yellow starthistle, Centaurea solstitialis would be as follows:

Plant Code: CENSOL

Infested Area

Field Name(s): Infested Area, Unit of Measure

Definition: Area of land containing one weed species. An infested area of land is defined by drawing a line around the actual perimeter of the infestation as defined by the canopy cover of the plants, excluding areas not infested. Areas containing only occasional weed plants per acre do not equal one acre infested. Generally, the smallest area of infestation mapped will be 1/10th (.10) of an acre or 0.04 hectares.

It is highly recommended that only a single weed species be entered for each infested area.

These standards will be applied across North America. Canada and Mexico commonly use hectares to measure land. In the United States acres are the common land measure. Since acres and hectares are not equivalent, it is important to know which system was used to measure the infestation. This field is called the *Unit of Measure*.

Why is it useful: An area of weeds can be defined in many ways and there is little consistency between individuals, counties, states and countries. Is an acre of weeds one weed plant in an acre, an acre covered with weeds or all the lands threatened with invasion from an existing infestation? This definition provides a consistent and common method of describing weed populations. This is the data field that will be used to sum and report weed acres across all ownerships.

Core Element: Both *Infested Area* and *Unit of Measure* are required fields.

Coding: Infested Area: Enter the number of acres/hectares
Unit of Measure: Enter hectares or acres

Data Value: Infested Area: Numeric (9,2)
Unit of Measure: Alphanumeric (9,0)

Example: A 1.6-hectare infestation of oxeye daisy (Chrysanthemum leucanthemum L.) was found outside Vancouver, BC.

Infested Area: 1.6 Unit of Measure: hectares

Gross Area

Field Name: Gross Area, Unit of Measure

Definition: This field is intended to show general location and population information. Like *Infested Area* it is the area of land occupied

by a weed species. Unlike *Infested Area*, the area is defined by drawing a line around the general perimeter of the infestation not the canopy cover of the plants. The gross area may contain significant parcels of land that are not occupied by weeds.

Gross area is used in describing large infestations. When a value is entered for gross area, the assumption is that the area within the perimeter of the weed population (area perimeter) is an estimate or the product of calculating the area within a described perimeter. It is *not* a measured value. If a value for *Gross Area* is entered a value for *Infested Area* must still be entered. The value for *Infested Area* is derived from estimating the actual or percentage of land occupied by weed plants.

Why is it Useful? It is useful in describing large infestations or discontinuous infestations on the landscape. For larger weed populations it is very time consuming to plot the actual perimeter of the weed population. The increase in accuracy of plotting individual plants may not be enough to compensate for the increase in cost or manpower. An estimate of land area may be sufficient to meet the inventory and treatment requirements.

Core Element: This is an optional field. A value for *Gross Area* and *Unit of Measure* must both be entered. If a value is entered under *Gross Area* a value must also be entered under *infested area*.

Coding: Gross Area: Enter the number of acres/hectares
Unit of Measure: Enter hectares or acres

Example: A large spotted knapweed infestation is in the West Fork drainage. By driving around the area and looking at aerial photos the weed population is an approximate gross area of 600 acres. There are significant portion of the area that are not infested. It is estimated that approximately 40% of the area is actually occupied, or an estimated 240 acres infested. The value entered in Gross Area is 600 and value entered in Infested Area is 240. .

Gross Area: <u>600</u> Unit of Measure: <u>acres</u> Infested Area: 240 Unit of Measure: <u>acres</u>

Canopy Cover

Field Name: Canopy Cover

Definition: Canopy cover will be estimated as a percent of the ground, covered by foliage of a particular weed species. Cover will be recorded as a numeric value. If inventory procedures includes the use of cover classes such as the Greater Yellowstone Area, 10 point codes, Daubenmire codes the mid point of the cover class will be entered as the cover value.

Why is it Useful? Canopy cover is a way to estimate the amount or severity of a weed infestation. Area tells you the extent of the population across the landscape. Canopy cover tells how that weed dominates the vegetation within that area. The greater the canopy cover the more the weeds there are. It is a monitoring tool, providing information on the changes in weed population from year to year.

Core Element: This is a required field

Coding: This field is percent canopy cover and therefore only numbers are an appropriate entry. The field should not exceed 3 digits or numbers. If you are using a cover classes like the Greater Yellowstone Area, 10-point class codes or the Daubenmire cover class codes; enter the mid point of the cover class. There are some examples of these cover classes and the mid point conversion located in Appendix B.

Data Value: Numeric (3,1)

Example:

Canopy Cover: 14

Ownership

Field Name: National Ownership

Definition: The ownership of the land where the infestation is located. Ownership will consist of two, tiered groups. The first tier, National Ownership, will identify broad categories of land ownership, such as federal, provincial, state, county, city and private lands. Codes are available for the various federal agencies and should be entered here. Individual private landowners will not be identified.

Individual state and provincial land management agencies will not be coded in this field. The second ownership field, Local Ownership is reserved for these codes and is described in the following section.

Why is it useful? This field allows information to be grouped or displayed by broad ownership patterns.

Core Element: This is a required field

Coding: Record one of the codes listed in Appendix C

Data Value: Alphanumeric (8,0)

Example: Bureau of Land Management

National Ownership: BLM

Canadian Park Service

National Ownership: CPS

Field Name: Local Ownership

Definition: This second ownership field is reserved for state and local users. There is no consistency in the naming of state and provincial agencies, nor is there consistency in which branch of government manages these lands. It would therefore be difficult to create useful coding conventions for these entities at this time. This field will be available to regional or local entities to define and establish useful codes.

It is also important to maintain the confidentiality for private landowners. The names, addresses and other like information of private individuals; landowners or corporations will not be part of any common data set.

Why is it useful? This field has been requested by and is most useful to state, county and local entities. It will allow information to be grouped by state agencies or local entities like weed management associations.

Core Element: This is an optional field

Coding: Codes for this field will be determined at the local level

Data Value: Alphanumeric (10,0)

Example: Montana Department of Fish, Wildlife and Parks

Local Ownership: MTDFWP

Alberta Sustainable Resource Development (Public Lands)

Local Ownership: ABSRD

Source of the Data

Field Name: Source of the Data

Definition: This field refers to the owner or manager of the data. This may be a different person or entity from the landowner or the person who collected the data. It may be an office manager or a database specialist. This entity that will be responsible for answering questions about the data or be responsible for data requests.

Why is it useful? This provides a contact point for questions about the data and a means to consolidate and coordinate requests for information. This field bridges the gap between the folks that are collecting the information and those that will be managing the data.

Core Element: Required

Coding: This field using the same coding system as for national ownership, described in a previous section.

Data Value: Alphanumeric (5,0)

Example: Banff National Park has been mapping invasive plants. In databasing the inventory information the Canadian Park Service was entered as the data source.

Joseph P. Knapson has been given the task of preparing a map showing the spread of Yellow Star Thistle across North America. Joseph finds a record for star thistle north west of Calgary, Alberta. All other information indicates that the farthest north yellow starthistle has been located was in Montana. He would like to validate this finding. Information in the Data_Source field tells him, he should contact Banff National Park and confirm this observation.

Source of Data: CPS

Country

Field Name: Country

Definition: The nation or country in which the infestation is located. Separate records or mapping polygons will be created for infestations that cross international boundaries.

Why is it Useful? This information will facilitate the free exchange of information across international boundaries. Information can be separated or summed based on national affiliations. Statistics on acres of weeds or acres of an individual weed species can easily be obtained. It will result in information such as acres of spotted knapweed in Canada.

Core Element: Required

Coding: Enter the two-digit code for the country. These are the same as postal codes.

Data Value: Alphanumeric (6,0)

Example: An African rue infestation was found on the Sonoran desert in northern Mexico. The information would be entered as follows:

Country: MX

State or Province

Field Name: State_Province

Definition: The state or province where the infestation is located.

Why it is useful? This allows the infestation to be located in a geographic area. It also allows the easy and quick summation of information on weeds at the state or provincial level.

Core Element: This is a required field and must be completed for each infestation or data record.

Coding: This field will use the standard postal codes, which is a two-letter abbreviation for the state or province. A complete list of codes is located in Appendix D.

Data Value: Alphanumeric (2,0)

Example: A dalmation toadflax (Linaria dalmatica (L.) infestation is found outside Vancouver, British Columbia.

State or Province: <u>BC</u>

County or Municipality

Field Name: County_Municipality

Definition: The county (US, Mexico and Canada) or municipality (Canada) where the infestation is located.

Why is it Useful? This allows the infestation to be located in a local geographic area. It also allows the easy and quick summation of information on weeds at the county or municipality level.

Core Element: This is a required field for all inventories.

Coding: In the United States these are three digit numeric codes, called FIPS. A complete list of county codes is located in Appendix E. Examples of codes from Canada and Mexico are yet to be obtained.

Data Value: Alphanumeric (5,0) (Canada??)

Example: There is an infestation in Humboldt County, Nevada.

County: <u>013</u>

Hydrologic Unit Code

Field Name: HUC_ Number

Definition: The Hydrological Unit Code or HUC number is a unique number assigned to the 2,000 major watersheds in the United States and Puerto Rico. The United States Geological Survey (USGS) has divided the all the water systems in the US into watersheds using the following system.

1st Level - The first division is into 21 major regions.

2nd Level - The 21 major regions are further subdivided in 222 subregions

3rd Level - The 222 sub regions are further subdivided into 352 accounting units or basins

4th Level – The 352 basins are further subdivided into 2000 cataloging units or subbasins

5th Level – USGS only maintains a numbering system for levels 1-4. Local areas often subdivide 4th level subbasins into watersheds.

6th Level – Local areas often further subdivide 5th Level watersheds into subwatersheds. For more information on HUC see <http://water.usgs.gov/GIS/huc.html>.

Why is it Useful? Aquatic invasive plants move quickly in streams and rivers. An infestation from a single site can quickly infest an entire watershed. The polygon and point location system to locate weed populations at upland or terrestrial sites does not easily apply itself to aquatic organisms moving in riverine systems. Mapping based on hydrologic boundaries is a more useful way to display these infestations.

Core Element: This is a required field only for aquatic species that are found in streams and rivers. It is an optional field for all terrestrial weed infestations and for aquatic infestation found in lakes and ponds.

Coding: Each hydrologic unit, region, subregion, basin, subbasin, watershed and subwatershed are represented by a two-digit code for a possible total of twelve digits. USGS maintains a standards nationwide coding for only the first four levels; region, subregion, basin and subbasin. You can locate your area and the appropriate code at: <http://www.epa.gov/win/address.html>

Data Value: Numeric (12, 0)

Example: An infestation a Eurasian water milfoil is located in the South Fork of the Salmon River.

Using USGS standards, the local area has further subdivided this subbasin into the watershed, East Fork of the South Fork of the Salmon River. In this case the HUC number would be as follows:

HUC_Number: 1706220804

Location

Data Field(s): Legal, Latitude and Longitude (Lat-Longs), Universal Transverse Mercators (UTMs)

Definition: The location of an infestation will refer to the center of the infestation or the center of the polygon, which defines it. Today location can be described using a variety of tools; any of the following methods may be used; legal; metes and bounds; Lat-Longs, and; UTM's.

Why is it useful? Location information is essential for invasive species mapping. It allows weed sites to be located on a map, be plotted across landscapes and allows users to relocate a site.

Core Element: Location is a required field. There are four acceptable methods; the user can choose any one of the methods described below. If GIS is used to locate the polygons, the user must also create a data field and enter the center location information for the center of the polygon.

Coding: Use the coding conventions for the chosen location. The designations behind a data field indicate whether or not a field is required for the individual method.

Legal Location:

Data Field: 1/4, 1/4, 1/4, 1/4, (optional)

Data Value: alphanumeric (2)

Data Field: 1/4, 1/4, 1/4, (optional),

Data Value(s): alphanumeric (2)

Data Field: 1/4, 1/4 section (optional)

Data Value(s): alphanumeric (2)

Data Field: 1/4 section (optional)

Data Value(s): Alphanumeric (2)

Data Field: Section (required)

Data Value(s): Numeric (2)

Data Field: Township (required)

Data Value(s): alphanumeric (6,1)

Data Field: Range (required)

Data Value(s): alphanumeric (6,1)
Data Element: Meridian (required)
Data Value(s): alphanumeric (20)

Example: An infestation is located along trail in southwest Idaho at NW, NE Section 13, T3N, R2E

<p>Legal Location: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$: <u>NW</u> $\frac{1}{4}$: <u>NE</u> Section: 13 Township: <u>03 N</u> Range: <u>02E</u> Meridian: <u>Boise</u></p>
--

An infestation of musk thistle is found in the Province of Alberta in the northwest $\frac{1}{4}$ of Section 2, Township 26, Range 28, west of the 4th meridian. It would be coded as follows:

<p>Legal Location: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$: $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$: $\frac{1}{4}$: NW Section: 02 Township: <u>26</u> Range: <u>28</u> Meridian: <u>W04</u></p>
--

Metes and Bounds

Data Element: Metes and Bounds
Data Value(s): Comment field 200+ characters

Example: The same Idaho weed infestation is located using metes and bounds. Metes and bounds is a written description of the boundaries of the site. It is the system often used to describe property boundaries or in the eastern half of the United States where section, townships and ranges have not been described.

Comment Field: Proceed in a NE direction for 100 yards, turn SW for 20 feet ...and thence back to the

Latitude and Longitude

Data Field: Datum (required)

Data Value(s): Alphanumeric (15)

Data Field: Latitude Degrees (required)

Data Value(s): Numeric (2,0)

Data Field: Latitude Minutes (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Seconds (required)

Data Value(s): Numeric (2,2)

Data Field: Latitude Direction (required)

Data Value(s): N (all sites in North America are in the North (N) Latitudes Alphanumeric (1)

Data Field: Longitude Degrees (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Minutes (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Seconds (required)

Data Value(s): Numeric (2,2)

Data Field: Longitude Direction (required)

Data Value(s): (All sites in North America are West (W) of Greenwich

Example: The same Idaho infestation is located using Lat/Longs

Latitude/Longitude		Datum <u>NAD 1927</u> <u>Conus</u>		
Latitude:	Degrees <u>4</u> <u>3</u>	Minutes <u>3</u> <u>5</u>	Seconds 6. 9	Direction: N
Longitude:	Degrees <u>1</u> <u>1</u> <u>6</u>	Minutes <u>9</u>	Seconds <u>4</u> <u>9</u> . 0	Direction: W

UTM

Data Field: UTM Zone (required)

Data Value(s): Alphanumeric (5)

Data Field: UTM_Datum (required)

Data Value(s): Numeric (4,2)

Data Field: UTM Easting (required)

Data Value(s): Numeric (8,2)

Data Field: UTM Northing (required)

Data Value(s): Numeric (10,2)

Example: This same infestation in Idaho is described using UTM's

UTM: UTM Datum Zone <u>1</u> <u>1</u> UTM Year <u>1</u> <u>9</u> <u>2</u> <u>7</u>
UTM Easting <u>5</u> <u>6</u> <u>7</u> <u>5</u> <u>0</u> <u>3</u> <u>6</u> UTM Northing <u>4</u> <u>8</u> <u>2</u> <u>7</u> <u>8</u> <u>6</u> <u>7</u> <u>7</u>

Quad Number

Field Name: Quad Number

Definition: This is the identification number, which appears on the corner of the quadrangle (quad) map. In the United States this refers to maps published by the United States Geological Survey (USGS). In Canada these maps are part of the National Topographic System maintained by Geological Survey of Canada

Why is it useful? Quad is an abbreviated name for quadrangle. Quad maps are readily available from USGS, GSC, sporting good stores and other government offices. They show roads, lakes streams and other natural features. Quads are also topographic maps depicting elevations across the landscape. Quads are often available at the NAWMA International Data mapping standard scale of 1:24,000, making them a good base for weed mapping. They also provide a useful link to GIS, since the coordinates for latitude and longitude can be derived from the maps. It is also an easy way to locate an infestation and its surrounding area on a map.

In Canada a very similar system is used. Showing topography, roads trails, water systems and other man made systems. These maps are available in at the NAWMA International Data mapping standard scales For Canada of 1:20,000 and 1:50,000 in Canada. These maps are available as both paper maps and their electronic equivalent from the National Topographic Data Base (NTDB).

Core Element: This is an optional field

Coding: This is a combination of numbers and letters found on each Quad map.

Data Value: Alphanumeric (15,0)

Example: An infestation is found at Papose Creek in southwest Montana. The infestation is located on the Hilgard Peak Quad.

Quad Number: <u>44111-H4-TF-024</u>
--

An infestation of dalmation toadflax is found at Seven Persons in southeast Alberta. The infestation was located on the Seven Persons quad with the following identification number.

Quad_Number: 072E15

Quad Name

Field Name: Quad Name

Definition: This is the name that appears on the quadrangle map. It often refers to a prominent geographic feature, town or identifiable point in the area.

Why is it useful? See Quad Number in the previous section.

Core Element: This is an optional field

Coding: The is an optional field

Data Value: Alphanumeric (40,0)

Example: An infestation is located in Madison County, Montana. The local weed district has plotted the dalmation toadflax (Linaria dalmatica) infestation on the Hilgard Peak quad map.

Quad_Name: Hilgard Peak, Montana

Chapter 3

Survey Standards

Surveying or mapping for invasive plants can be an expensive and time-consuming activity. It is important to know where and when surveys have occurred, even if no invasive plants were found. Information on the absence of weeds can be as valuable as information on the presence of weeds. For these reasons a number of organizations would like to track areas that have been surveyed and record information related to the survey. This chapter on survey standards is entirely optional and is not part of the international data standards for inventory and monitoring of invasive plants but offers guidelines for consistent collection of this information. The following set of data fields are related only to weed surveys.

Area Surveyed

Field Name: Area_Surveyed

Definition: The field refers to the entire land area that was surveyed for weeds, whether weeds were found or not. Information will be recorded in two data fields, the Area surveyed and a Unit of Measure.

Why is it useful? These fields record information on the extent, or the total area that was surveyed. It allows landowners and land managers to maintain records of the areas that have been looked at/surveyed for weeds and those areas where no surveys have occurred.

Core Element: This is not a required field.

Coding: Area Surveyed: Enter the number of acres/hectares surveyed.
Unit of Measure: Enter hectares or acres

Data Value: Area Surveyed: Numeric (9,2)
Unit of Measure: Alphanumeric (9,0)

Example: In the summer of 2000 Jasper National Park completed surveys in and around park headquarters facilities. The 1,750 hectare survey revealed that no weeds were present.

Area Surveyed: <u>1750</u> Unit of Measure: <u>Hectares</u>
--

Type of Survey

Field Name: Type_of_Survey

Definition: This field refers to the survey method. At this time only two survey methods are recognized, observed and remote. Observation refers to surveys that were conducted by direct observation or visiting the site of infestation. The observations can be made in many ways helicopters, vehicles, horseback or on foot. The second option is remote sensing. This refers to any survey that was conducted by using aerial photography, satellite imagery or any method where the infestation was not directly observed.

Why is it useful: Information in this field tells you how the survey was conducted. It can give you information on the relative reliability of the survey. Surveys taken via remote sensing may be relatively accurate but may not give you good site specific information. It tells you whether someone actually was at the site of the infestation and directly observed such things as the species present and the extent of the infestation.

Core Element: This is an optional field

Coding: Enter the type of survey.

Data Value: Alphanumeric (50,0)

Example:

Type of Survey: <u>remote</u>

Date of Survey

Field Name: Survey Begin Date

Definition: This field refers to the date the survey was started. It does not refer to the date that information was entered into the database.

Why is it useful: This field tells you when the survey was conducted. It provides information on the time of year plants were observed. A weed infestation may look very different in the spring of the year or in the fall of the year after flowering and seed formation. Surveys conducted at certain times of year may not reveal certain plants that have already dried up or have yet to emerge in the spring. This field also tells you how old your information is; last month, last year, or ten years ago. These cues will help you decide how reliable the information is and whether a follow-up survey may be warranted.

Core Element: This is an optional field

Coding: Enter the date where YYYY equals the four digits or numbers of the year (2001), mm equals the two digit representation of the month (04) and dd stands for the two digit representation for the day of the month (12). The date will be in the following format yyymmdd.

Data Value: Numeric (8,0)

Example: A survey of northwest Harney County, Oregon was begun in the spring of 1999.

Survey Date: <u>19990412</u>

Field Name: Survey Completion Date

Definition: This field refers to the date the survey was completed. It does not refer to the date that information was entered into the database.

Why is it useful: This field tells you when the survey was concluded. It provides information on the time of year plants were observed. The combination of the Survey start Date and the Completion Date tell you how long the survey took to complete and over what season(s) of the year the inventory occurred. A weed infestation may look very different in the spring of the year or in the fall of the year after flowering and seed formation. Surveys conducted at certain times of year may not reveal certain plants that have already dried up or have not yet

emerged in the spring. This field also tells you how old your information is; last month, last year, or ten years ago. These cues will help you decide how reliable the information is and whether a follow-up survey may be warranted.

Core Element: This is an optional field

Coding: Enter the date where YYYY equals the four digits or numbers of the year (2002), mm equals the two digit representation of the month (07) and dd stands for the two digit representation for the day of the month (23). The date will be in the following format yyyyymmdd.

Data Value: Numeric (8,0)

Example: The Harney County survey was completed in July of the same year, 1999.

Survey Date: <u>19990723</u>

Location

Data Field(s): Legal, Latitude and Longitude (Lat-Longs), Universal Transverse Mercators (UTMs)

Definition: The location of a survey will refer to the center of the polygon, which defines it. Today location can be described using a variety of tools; any of the following methods may be used; legal; metes and bounds; Lat-Longs, and; UTM's.

Why is it useful? Location information is essential to identify where the survey has occurred. It allows the survey to be located on a map, be plotted across landscapes and allows users to relocate the survey.

Core Element: There are four acceptable methods, the user can chose any one of the following methods. If GIS is used to locate the polygons, the user must also create a data field and enter the center location information for the center of the polygon.

Coding: Use any of the coding conventions listed below.

Legal Location:

Data Field: 1/4, 1/4, 1/4, 1/4, (optional)

Data Value: alphanumeric (2)

Data Field: 1/4, 1/4, 1/4, (optional),

Data Value(s): alphanumeric (2)
Data Field: 1/4, 1/4 section (optional)
Data Value(s): alphanumeric (2)
Data Field: 1/4 section (optional)
Data Value(s): Alphanumeric (2)
Data Field: Section (required)
Data Value(s): Numeric (2)
Data Field: Township (required)
Data Value(s): alphanumeric (6,1)
Data Field: Range (required)
Data Value(s): alphanumeric (6,1)
Data Element: Meridian (required)
Data Value(s): alphanumeric (20)

Example: An infestation is located along trail in southwest Idaho at NW, NE Section 13, T3N, R2E

Legal Location: 1/4, 1/4, 1/4, 1/4: 1/4, 1/4, 1/4, 1/4, 1/4: <u>NW</u> 1/4: <u>NE</u> Section: 13 Township: <u>03 N</u> Range: <u>02E</u> Meridian: <u>Boise</u>

An infestation of musk thistle is found in the Province of Alberta in the northwest 1/4 of Section 2, Township 26, Range 28, west of the 4th meridian. It would be coded as follows:

Legal Location: 1/4, 1/4, 1/4, 1/4: 1/4, 1/4, 1/4, 1/4, 1/4: 1/4: <u>NW</u> Section: 02 Township: <u>26</u> Range: <u>28</u> Meridian: <u>W04</u>
--

Metes and Bounds

Data Element: Metes and Bounds
Data Value(s): Comment field 200+ characters

Example: The same Idaho weed infestation is located using metes and bounds. Metes and bounds is a written description of the boundaries of the site. It is the system often used to describe property boundaries or in the eastern half of the United States where section, townships and ranges have not been described.

Comment Field: Proceed in a NE direction

Latitude and Longitude

Data Field: Datum (required)

Data Value(s): Alphanumeric (15)

Data Field: Latitude Degrees (required)

Data Value(s): Numeric (2,0)

Data Field: Latitude Minutes (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Seconds (required)

Data Value(s): Numeric (2,2)

Data Field: Latitude Direction (required)

Data Value(s): N (all sites in North America are in the North (N)

Latitudes Alphanumeric (1)

Data Field: Longitude Degrees (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Minutes (required)

Data Value(s): Numeric (2,0)

Data Field: Longitude Seconds (required)

Data Value(s): Numeric (2,2)

Data Field: Longitude Direction (required)

Data Value(s): (All sites in North America are West (W) of Greenwich

Example: The same Idaho infestation is located using Lat/Longs

Latitude/Longitude		Datum <u>NAD 1927</u> <u>Conus</u>		
Latitude:	Degrees <u>4</u> <u>3</u>	Minutes <u>3</u> <u>5</u>	Seconds 6. 9	Direction: N
Longitude:	Degrees <u>1</u> <u>1</u> <u>6</u>	Minutes 9	Seconds <u>4</u> <u>9</u> . 0	Direction: W

UTM

Data Field: UTM Zone (required)

Data Value(s): Alphanumeric (5)

Data Field: UTM Datum (required)

Data Value(s): Numeric (4,2)

Data Field: UTM Easting (required)

Data Value(s): Numeric (8,2)

Data Field: UTM Northing (required)

Data Value(s): Numeric (10,2)

Example: This same infestation in Idaho is described using UTM's

UTM:	UTM Datum Zone <u>1</u> <u>1</u>	UTM Year <u>1</u> <u>9</u> <u>2</u> <u>7</u>
UTM Easting	<u>5</u> <u>6</u> <u>7</u> <u>5</u> <u>0</u> <u>3</u> <u>6</u>	UTM Northing <u>4</u> <u>8</u> <u>2</u> <u>7</u> <u>8</u> <u>6</u> <u>7</u> <u>7</u>

Quad Number

Field Name: Quad Number

Definition: This is the identification number, which appears on the corner of the quadrangle (quad) map. In the United States this refers to maps published by the United States Geological Survey (USGS). In Canada these maps are part of the National Topographic System maintained by Geological Survey of Canada

Why is it useful? Quad is an abbreviated name for quadrangle. Quad maps are readily available from USGS (need Canadian equivalent), sporting good stores and other government offices. They show roads, lakes streams and other natural features. Quads are also topographic maps depicting elevations across the landscape. Quads are often available at the NAWMA International Data mapping standard scale of 1:24,000, making them a good base for weed mapping. They also provide a useful link to GIS, since the coordinates for latitude and longitude can be derived from the maps. It is also an easy way to locate an infestation and its surrounding area on a map.

Core Element: This is an optional field

Coding: This is a combination of numbers and letters found on each Quad map.

Data Value: Alphanumeric (15,0)

Example: An infestation is found at Papose Creek in southwest Montana. The infestation is located on the Hilgard Peak Quad.

Quad_Number: <u>44</u> <u>111</u> -H <u>4</u> -TF- <u>024</u>
--

An infestation of Dalmatian toadflax is found near Seven Persons in southeast Alberta. The infestation was located on the Seven Persons quad, with the following identification number.

Quad_Number: 072E15

Quad Name

Field Name: Quad Name

Definition: This is the name that appears on the quadrangle map. It often refers to a prominent geographic feature, town or identifiable point in the area.

Why is it useful? See Quad Number in the previous section.

Core Element: This is an optional field

Coding: This is an optional field

Data Value: Alphanumeric (40,0)

Example: An infestation is located in Madison County, Montana. The local weed district has plotted the Dalmatian toadflax (Linaria dalmatica) infestation on the Hilgard Peak quad map.

Quad_Name: Hilgard Peak, Montana

Chapter 4

Glossary of Terms

Attributes: The information used to describe a map feature.

Collection Date: The date the weed infestation was observed in the field. It does not refer to the date information was entered into the computer.

Compass: A device for determining directions by means of a magnetic needle or group of needles turning freely on a pivot and pointing to the magnetic north.

Contour line: A line on a map connecting points that are the same elevation above mean sea level.

Datum: A model of the earth's shape. Geodetic datums define the size and shape of the earth and the origin and orientation of the coordinate system used to map the earth.

Declination (specifically Magnetic Declination): The angle that represents the difference in direction between magnetic north and true north. Declination will vary from place to place and through time. A compass needle aligns itself with the magnetic forces of the earth where as most maps indicate true north.

Features: Objects represented on maps. Usually, points, lines, and areas. Points are often symbolized.

GIS (Geographic Information System): A computerized system for the collection, storage, management, retrieval, changing, modeling, analysis and display of spatial data used to create a representation of the real world.

GPS (Global Positioning System): A global navigation system based on a system of high orbiting satellites. The GPS receiver uses at least 4 satellites to compute position.

Gross Area: This field is intended to show general location and population information. Like *Infested Area* it is the area of land occupied by a weed species. Unlike *Infested Area*, the area is defined by drawing a line around the general perimeter of the infestation not the canopy cover of the plants. The gross area may contain significant parcels of land that are not occupied by weeds.

Gross area is used in describing large infestations. When a value is entered for gross area, the assumption is that the area within the perimeter of the weed population (area perimeter) is an estimate or the product of calculating the area within a described perimeter. It is *not* a measured value. If a value for *Gross Area* is entered a value for *Infested Area* must still be entered. The value for

Infested Area is derived from estimating the actual or percentage of land occupied by weed plants.

Infested Areas: Area of land containing one or more weed species. An infested area of land is defined by drawing a line around the actual perimeter of the infestation as defined by the canopy cover of the plants, excluding areas not infested. Areas containing only occasional weed plants per acre do not equal one acre infested. Generally, the smallest area of infestation mapped will be 1/10th (.10) of an acre or 0.04 hectares.

Latitude: The angular distance (distance measured in degrees) north or south of the equator. Latitude is 0 degrees at the equator, 90 degrees at the north pole and – 90 degrees at the south pole. Latitude is also described by direction north or south of the equator instead of + or -.

Longitude: The angular distance (distance measured in degrees) east or west of the prime meridian. Longitude is 00 at the prime meridian, and is measured + 180 going east and –180 going west. Longitude is also described by direction east or west of the prime meridian instead of + or -.

Map: A general representation of the real world.

Meridian: A meridian is one half of a great circle on the globe connecting all points of equal longitude; all meridians connect at the North and South poles. The Prime meridian is the reference meridian for latitude and longitude. For UTM designations, each UTM zone has a central meridian from which Eastings are measured. For the Township and Range System (PLSS), the principal meridians are selected north-south lines from which land was divided into parcels.

Partial Township: A block of the Public Lands Survey System that is less than 36 miles square created to compensate for the error created by the curvature of the earth.

Prime Meridian: A great circle passing through the north and south pole and through Greenwich, England. Its longitude is 0 degrees.

Public Lands Survey System (Township and Range System): The Public Lands Survey System (PLSS) was proposed as an aid to parceling out for sale the public land west of Pennsylvania. The PLSS system divides land into parcels based upon selected north-south lines called principal meridians and east-west lines called base lines. The north-south meridians, though perpendicular to the base lines, had to be adjusted periodically to counteract the effects of the curvature of the earth. The result of this system is a pattern of nearly square blocks, called townships, laid out in horizontal tiers north and south of the base lines. Townships are generally 36 square miles but because of the adjustments made to compensate for the curvature of the earth, partial townships were designated. A township is generally represented by a township and range designation from the

principal meridian. **Range:** The location of the Township east or west of the principal meridian of the Public Lands Survey System.

Scale: The ratio between distance as measured on the earth and the same distance as measured on a map, globe, or other representation of the earth.

Section: One (1) mile square (640 acre blocks) divisions of a township. There are 36 sections in each township.

Topographic Map: A map that displays both the horizontal and vertical positions of the features represented. It uses contours or other symbols to represent mountains, valleys, and plains.

Township: The primary block of the Public Lands Survey System. Generally, an area of 6 miles on a side (36 square miles). (*See Partial Township*) Also, the north/south location designation of the PLSS blocks.

Universal Transverse Mercator (UTM) Coordinate System: UTM Coordinate System defines two dimensional, horizontal positions using a grid system. The UTM grid is divided into UTM zones that designate 6 degree longitudinal strips extending from 80 degrees South latitude to 84 degrees North latitude. Each zone has a central meridian

NOXIOUS WEED INVENTORY FORM

General Information

Site Name _____ Collection Date (YYYYMMDD) _ _ _ _ _

Examiner Name: Last _____ First: _____

Country _____ State or Province: _____

County _____ National Ownership _ _ _ _ _

Local Ownership _ _ _ _ _ Source of Data _____

Location Information

UTM: **UTM Datum Zone** ____ **UTM Year** ____

UTM Easting ____ ____ ____ ____ ____ ____ ____ **UTM Northing** ____ ____ ____ ____ ____ ____ ____

Top row of numbers on unit, only 7 digits. Bottom row of numbers on unit.

Plant Information

GENUS _____ **SPECIES** _____

Common Name _____

PLANT CODE _ _ _ _ _

Infested Area _____ **Unit of Measure** _____
 (Actual infested area of weeds.)

Gross Area _____ **Unit of Measure** _____

Canopy Cover (How dense are the weeds. Check the appropriate box)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1 - 10%	11 - 20%	21 - 30%	31 - 40%	41 - 50%	51 - 60%	61 - 70%	71 - 80%	81 - 90%	91 - 100%

COMMENTS

[illegible]

Appendix -

Endangered Species Lists, NMFS and USFWS

Endangered Species Act Status of West Coast Salmon & Steelhead				
(Updated July 1, 2009)				
Species ¹			Current Endangered Species Act Listing Status ²	ESA Listing Actions Under Review
Sockeye Salmon (<i>Oncorhynchus nerka</i>)	1	Snake River	Endangered	
	2	Ozette Lake	Threatened	
	3	Baker River	Not Warranted	
	4	Okanogan River	Not Warranted	
	5	Lake Wenatchee	Not Warranted	
	6	Quinalt Lake	Not Warranted	
	7	Lake Pleasant	Not Warranted	
Chinook Salmon (<i>O. tshawytscha</i>)	8	Sacramento River Winter-run	Endangered	
	9	Upper Columbia River Spring-run	Endangered	
	10	Snake River Spring/Summer-run	Threatened	
	11	Snake River Fall-run	Threatened	
	12	Puget Sound	Threatened	
	13	Lower Columbia River	Threatened	
	14	Upper Willamette River	Threatened	
	15	Central Valley Spring-run	Threatened	
	16	California Coastal	Threatened	
	17	Central Valley Fall and Late Fall-run	Species of Concern	
	18	Upper Klamath-Trinity Rivers	Not Warranted	
	19	Oregon Coast	Not Warranted	
	20	Washington Coast	Not Warranted	
	21	Middle Columbia River spring-run	Not Warranted	
	22	Upper Columbia River summer/fall-run	Not Warranted	
	23	Southern Oregon and Northern California Coast	Not Warranted	
	24	Deschutes River summer/fall-run	Not Warranted	
Coho Salmon (<i>O. kisutch</i>)	25	Central California Coast	Endangered	• Critical habitat
	26	Southern Oregon/Northern California	Threatened	
	27	Lower Columbia River	Threatened	
	28	Oregon Coast	Threatened	
	29	Southwest Washington	Undetermined	
	30	Puget Sound/Strait of Georgia	Species of Concern	
	31	Olympic Peninsula	Not Warranted	
Chum Salmon (<i>O. keta</i>)	32	Hood Canal Summer-run	Threatened	
	33	Columbia River	Threatened	
	34	Puget Sound/Strait of Georgia	Not Warranted	
	35	Pacific Coast	Not Warranted	
Steelhead (<i>O. mykiss</i>)	36	Southern California	Endangered	• Critical habitat
	37	Upper Columbia River	Threatened	
	38	Central California Coast	Threatened	
	39	South Central California Coast	Threatened	
	40	Snake River Basin	Threatened	
	41	Lower Columbia River	Threatened	
	42	California Central Valley	Threatened	
	43	Upper Willamette River	Threatened	
	44	Middle Columbia River	Threatened	
	45	Northern California	Threatened	
	46	Oregon Coast	Species of Concern	
	47	Southwest Washington	Not Warranted	
	48	Olympic Peninsula	Not Warranted	
	49	Puget Sound	Threatened	
	50	Klamath Mountains Province	Not Warranted	
Pink Salmon (<i>O. gorbuscha</i>)	51	Even-year	Not Warranted	
	52	Odd-year	Not Warranted	

¹ The ESA defines a “species” to include any distinct population segment of any species of vertebrate fish or wildlife. For Pacific salmon, NOAA Fisheries Service considers an evolutionarily significant unit, or “ESU;” a “species” under the ESA. For Pacific steelhead, NOAA Fisheries Service has delineated distinct population segments (DPSs) for consideration as “species” under the ESA.

**LISTED AND PROPOSED ENDANGERED AND THREATENED SPECIES AND CRITICAL
HABITAT; CANDIDATE SPECIES; AND SPECIES OF CONCERN
IN OKANOGAN COUNTY
AS PREPARED BY
THE U.S. FISH AND WILDLIFE SERVICE
CENTRAL WASHINGTON FIELD OFFICE**

(Revised September 29, 2010)

LISTED

Bull trout (*Salvelinus confluentus*) – Columbia River DPS
Canada lynx (*Lynx canadensis*)
Gray wolf (*Canis lupus*) [west of U.S. 97 and State Highway 17]
Grizzly bear (*Ursus arctos horribilis*)
Northern spotted owl (*Strix occidentalis caurina*)

Major concerns that should be addressed in your Biological Assessment of project impacts to listed animal species include:

1. Level of use of the project area by listed species.
2. Effect of the project on listed species' primary food stocks, prey species, and foraging areas in all areas influenced by the project.
3. Impacts from project activities and implementation (e.g., increased noise levels, increased human activity and/or access, loss or degradation of habitat) that may result in disturbance to listed species and/or their avoidance of the project area.

Spiranthes diluvialis (Ute ladies'-tresses)

Major concerns that should be addressed in your Biological Assessment of project impacts to listed plant species include:

1. Distribution of taxon in the project vicinity.
2. Disturbance (trampling, uprooting, collecting, etc.) of individual plants and loss of habitat.
3. Changes in hydrology where taxon is found.

DESIGNATED

Critical habitat for the bull trout
Critical habitat for the Canada lynx
Critical habitat for the northern spotted owl

PROPOSED

Revised critical habitat for the bull trout

CANDIDATE

Fisher (*Martes pennanti*) - West Coast DPS (west of the Okanogan River)
Greater sage grouse (*Centrocercus urophasianus*)
Yellow-billed cuckoo (*Coccyzus americanus*)

SPECIES OF CONCERN

Bald eagle (*Haliaeetus leucocephalus*)
Black swift (*Cypseloides niger*)
Burrowing owl (*Athene cunicularia*)
California floater (*Anodonta californiensis*)
California wolverine (*Gulo gulo luteus*)
Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbianus*)
Fisher (*Martes pennanti*), east of the Okanogan River
Giant Columbia spire snail (*Fluminicola columbiana*)
Loggerhead shrike (*Lanius ludovicianus*)
Long-eared myotis (*Myotis evotis*)
Northern goshawk (*Accipiter gentilis*)
Olive-sided flycatcher (*Contopus cooperi*)
Pacific lamprey (*Lampetra tridentata*)
Pallid Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)
Peregrine falcon (*Falco peregrinus*)
Pygmy whitefish (*Prosopium coulteri*)
Redband trout (*Oncorhynchus mykiss*)
River lamprey (*Lampetra ayresi*)
Sagebrush lizard (*Sceloporus graciosus*)
Western brook lamprey (*Lampetra richardsoni*)
Western gray squirrel (*Sciurus griseus griseus*)
Westslope cutthroat trout (*Oncorhynchus clarki lewisi*)
Botrychium ascendens (triangular-lobed moonwort)
Botrychium crenulatum (crenulate moonwort)
Botrychium paradoxum (two-spiked moonwort)
Botrychium pedunculatum (stalked moonwort)
Pinus albicaulis (whitebark pine)

Appendix F

Form for Deed of Conservation Easement

AFTER RECORDING, RETURN TO:
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621
Tract ID: OSHIP-WL-11

Document Title: Deed of Conservation Easement
Grantor: Confederated Tribes of the Colville Reservation
Grantee: The United States of America
Legal Description: Abbreviated form:
Okanogan County Assessor's Tax Parcel Number:

DEED OF CONSERVATION EASEMENT

THIS DEED OF CONSERVATION EASEMENT is made by the Confederated Tribes of the Colville Reservation ("the Grantor" or "the Tribe"), in favor of the United States of America, acting by and through the Department of Energy, Bonneville Power Administration, based in Portland, Oregon ("the Grantee" or "BPA").

I. RECITALS

A. The Grantor is the fee simple owner of the real property known legally described in Exhibit A attached hereto and made a part hereof. This property may be referred to herein as "the Property".

B. The Bonneville Power Administration (BPA) is a power-marketing agency within the United States Department of Energy. The Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. 839b et seq. ("Act") directs BPA to protect, mitigate, and enhance fish and wildlife affected by the development and operation of Federal hydroelectric projects of the Columbia River and its tributaries, in a manner consistent with the purposes of the Act, the program adopted by the Pacific Northwest Electric Power and Conservation Planning Council ("Council") under subsection 4(h) of the Act, and other environmental laws. BPA has the authority pursuant the Northwest Power Act, 16 U.S.C. §§ 839b(h) and 839f(a), the Federal Columbia River Transmission System Act, 16 U.S.C. §838i(b), or the Bonneville Project Act, 16 U.S.C. §§ 832a(c) through (f), to acquire real estate or to assist in the acquisition and transfer of real property interests.

C. The Property totals approximately [INSERT NUMBER] acres. The Property is located [INSERT LOCATION] in Okanogan County, in northeastern Washington and contains [INSERT NUMBER] miles of creek/ river frontage. This Conservation Easement will protect the shoreline, limit residential development and allow potential cold water refugia for Upper Columbia River steelhead and chinook. Over the years, various land-use disturbances have degraded stream channel conditions, elevated

temperatures and increased sediment levels in the Okanogan River and its tributaries. The Okanogan River watershed supports populations of Summer/Fall chinook and sockeye as well as Upper Columbia River steelhead which are listed as threatened under the Endangered Species Act.

D. The Tribe and BPA have entered into an agreement governing the acquisition and use of the Property. The Memorandum of Agreement Between the Confederated Tribe of the Colville Reservation and the Bonneville Power Administration For Acquisition and Management of Habitat for Protection, Mitigation, and Enhancement of Resident and Anadromous Fish (2008) (hereinafter "2008 MOA") is incorporated by reference into this Conservation Easement and is on file with BPA Manager, Real Property Services, P.O. Box 3621, Portland, OR 97208-3621. The Tribe intends to convey to BPA the right to preserve and protect the conservation values of the Property, as described in Part III, below.

II. CONVEYANCE AND CONSIDERATION

The Grantor, for and in consideration of the funding [INSERT DOLLAR AMOUNT] ([INSERT NUMBER] THOUSAND DOLLARS) BPA provided to acquire fee title ownership of the Property in hand paid, and for other good and valuable consideration, hereby voluntarily conveys and warrants to the United States of America and its assigns an easement for conservation purposes (Conservation Easement) for a term of 99 years as of the date of this easement over, under, upon and across the Property, legally described in Exhibit A, attached and incorporated hereto by reference, and situated in the county of Okanogan, State of Washington.

III. PURPOSE

It is the purpose of this Conservation Easement to retain the conservation values of the Property by protecting its natural resources, maintaining or enhancing air or water quality, and preserving its underlying archaeological or cultural resources, and preventing any use of the Property that will impair or interfere with the conservation values of the Property. The conservation values include the following: fish and their habitat, including the riparian and upland habitats that affect instream habitat; wildlife that is present and its habitat; historical and cultural resources; and water quantity and quality including temperature, sediment load, and flow levels. The Tribe intends that this Conservation Easement will confine the use of the Property to such activities as are consistent with this purpose.

IV. RIGHTS CONVEYED TO GRANTEE

A. To accomplish the purpose of this Conservation Easement, the Tribe conveys the following rights to the United States, on behalf of BPA regarding the Property. The United States has the right to:

1. Access and inspect the Property at all reasonable times upon reasonable notice to

assure compliance with this Conservation Easement.

2. To prevent any activity on the Property inconsistent with this Conservation Easement, the 2008 MOA, or any management plan developed and adopted by the Parties pursuant to the terms of the 2008 MOA, and to require the restoration of areas or features of the Property that are damaged by any inconsistent use.
3. To obtain an easement at no cost for the construction, operation and/or maintenance of transmission facilities on the Property in accordance with the 2008 MOA.
4. To ensure the Tribe does not convey the Property without BPA's prior written consent.

B. Pursuant to the 2008 MOA the Tribe is obligated to develop a Property Management Plan for the Property, and BPA has the right to approve that plan for conformance with the 2008 MOA and this Conservation Easement. In 2011 the Tribe developed a Programmatic Land Management Plan (PLMP). As part of the PLMP, the Tribe will complete a Specific Property Information Form to tailor the management plan for the Property. Once the Specific Property Information Form is completed and approved by both of the Parties, the Parties may agree to record a copy in the land record of Okanogan County or the U.S. Bureau of Indian Affairs, as appropriate, and substitute the restrictions in the plan for those in subsection V below.

C. As part of the PLMP, the Tribe will complete a baseline inventory within ninety days of the date this easement is signed by the last party which will reflect the characteristics and conditions of the Property at the time this Conservation Easement is recorded.

V. PROHIBITED USES

The Tribe will ensure that the Property acquired with BPA funds is protected and managed for fish on behalf of BPA and the United States, preventing any and all uses of the Property that are inconsistent with the 2008 MOA, the Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program as amended, the Northwest Power Planning Act, the Property Management Plan, or other laws applicable to BPA including the ESA. Prohibited uses of the Property acquired or managed under this Conservation Easement include those specifically listed below. However, the Parties intend that any activity that violates the purposes of this Conservation Easement is prohibited, and therefore the list identified below is not exhaustive. Prohibited uses include:

- i. All residential, commercial, or industrial uses of the Property, except as permitted in the Management Plan;
- ii. Erecting of any building, billboard, or sign except as approved in the Management Plan;
- iii. Depositing of soil, trash, ashes, garbage, waste, bio-solids or any other material except as allowed under applicable federal, state, and local laws, at locations

approved of in the Management Plan;

- iv. Excavating, dredging or removing of loam, gravel, soil, rock, minerals, sand, hydrocarbons or other materials, except as permitted in the Management Plan;
- v. Otherwise altering the general topography of the Property, including but not limited to building of roads and flood control work, except for work related to restoration or habitat improvement projects identified in the Management Plan;
- vi. Granting any easement, lien, or other Property interest for any purpose, over the Property (including water rights) acquired or managed pursuant to the 2008 MOA without the written consent of Grantee;
- vii. Any other use that, overall, the Tribe or BPA determines has a material negative impact on fish or wildlife habitat.

VI. PERMITTED USES

The Tribe reserves, for itself and its assigns, the right to use the Property in all ways which are consistent with the purposes of the 2008 MOA and this Conservation Easement and which are not otherwise prohibited.

VII. ADMINISTRATIVE MATTERS

The provisions of the 2008 MOA shall govern the administration of this Conservation Easement where not specifically set forth herein. Provisions for Dispute Resolution and Remedies, Applicable Law, Waivers, Notice and other administrative provisions of the 2008 MOA are specifically set forth below in this Conservation Easement for ease of reference:

- 1. Negotiation.** The Parties shall attempt in good faith to resolve any dispute arising out of or relating to this Agreement by negotiating between executives and/or officials who have authority to settle the controversy and who are at a higher level of management than the person with direct responsibility for administration of this Agreement. Either Party may give the other Party written notice of any dispute not resolved in the normal course of business. Within 30 days after delivery of the notice, the receiving Party shall submit to the other Party a written response. The notice and response shall include (a) a statement of each Party's position and a summary of the arguments supporting that position, and (b) the name and title of the executive or official who will represent the Party and of any other person(s) who will accompany the executive or official. Within 30 days after delivery of the disputing Party's notice, the representative of both parties shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to attempt to resolve the dispute. All reasonable requests for information made by one Party to the other will be honored.

If the matter has not been resolved within 60 days of the disputing Party's notice, or if the Parties fail to meeting within 30 days, either Party may initiate mediation of the controversy or claim as provided in the next paragraph.

- 2. Mediation.** In the event the dispute has not been resolved by negotiation as provided herein, the Parties may agree to participate in mediation, using a mutually agreed upon mediator. The mediator will not render a decision, but will assist the Parties in reaching a mutually satisfactory agreement. The Parties agree to share equally the costs of the mediation. The first mediation session shall commence within 30 days from agreement. If the matter has not been resolved within 60 days of the first mediation session, or the Parties have not agreed to mediation, either Party may initiate legal action as provided in the next paragraph.
- 3. Litigation.** If the Tribe determines that BPA is in violation of the terms of this Agreement, the Tribe may bring an action at law or in equity to enforce the terms of this Agreement, to enjoin the violation, and to recover any damages to which it may be entitled for violation of the terms of this Agreement. The remedies described in this paragraph shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. If BPA determines that the Tribe is in violation of the terms of this Agreement or that a violation is threatened, it may bring an action at law or in equity to enforce the terms of this Agreement, to enjoin the violation, to recover any damages to which it may be entitled for violation of the terms of this Agreement, and to require the restoration of the real Property to the condition existing before the violation, or to undertake such restoration as required by the terms of this Agreement if the Tribe does not, and be reimbursed by the Tribe for such effort. The Tribe agrees that BPA's remedies at law for any violation of the terms of this Agreement are inadequate and that BPA shall be entitled to the injunctive relief described in this paragraph, in addition to any other relief to which BPA may be entitled, including specific performance of the terms of this Agreement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. The remedies described in this paragraph shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity.
- 4. Immediate Action Required.** Notwithstanding any other provision in this Agreement, if BPA determines that circumstances require immediate action to prevent or mitigate significant damage to the conservation values of Property acquired pursuant to this Agreement, BPA may pursue its remedies under this section without prior notice to the Tribe or without waiting for any period provided for cure to expire.
- 5. Applicable Law.** All activities undertaken pursuant to this Agreement must be in compliance with all applicable laws and regulations. Federal law shall govern the implementation of this Agreement and any action, whether mediated or litigated, brought or enforced. In full knowledge of the provisions of this Agreement, the Tribe waives any claim or defense it may have against BPA or its successors in

interest under or pertaining to the Agreement based upon waiver, laches, estoppel, adverse possession, prescription, or sovereign immunity. Any payments from the Tribe shall be payable only from monies, assets, or real or personal properties derived from this Agreement or the benefits of this Agreement. All other monies, assets or properties of the Tribe shall be unavailable to satisfy a judgment. The waivers of sovereign immunity by the United States bind BPA and can be found generally in the statutes establishing the jurisdiction of the United States District Courts, 28 U.S.C. § 1346, the Court of Claims, 28 U.S.C. § 1491, and the Federal Tort Claims Act, 28 U.S.C. §§ 1346, 1402, 2401, 2402, 2411, 2412, 2671 *et seq.*

- 6. Attorney Fees.** In the event of litigation involving this Agreement each Party shall bear its own costs and attorney fees, including those incurred on appeal.
- 7. Waiver.** The failure of any Party to require strict performance of any term of this Agreement or a Party's waiver of performance shall not be a waiver of any future performance or of a Party's right to require strict performance in the future.
- 8. Assignment.** The Tribe may not assign or transfer its rights or delegate its responsibilities under this Agreement without written approval from BPA, which shall not be unreasonably withheld.
- 9. Notice.** Any notice permitted or required by this Agreement shall be in writing, delivered personally to the persons listed below, or shall be deemed given five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested and addressed as follows, or at such other address as any Party may from time to time specify to the other Party in writing. Notices may be delivered by facsimile or other electronic means, provided that they are also delivered personally or by certified mail. The addresses listed below can be modified at any time through written notification to the other Party.

Notices to BPA should be sent to:

Director, Fish & Wildlife Program
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208-3621

Notices to the Tribe should be sent to:

Natural Resources Director
Colville Confederated Tribes
P.O. Box 150
Nespelem, WA 99155

For notices specific to BPA's Real Property Services:

Manager, Real Property Services
Bonneville Power Administration
RE: OSHIP-WL-4
P.O. Box 3621
Portland, OR 97208-3621

VIII. APPROVAL BY THE SECRETARY OF THE INTERIOR

The Tribe may submit this Conservation Easement to the Bureau of Indian Affairs, as the authorized representative of the Secretary of the Interior, if any approval by the Secretary is required.

IX. SIGNATURE AND ACKNOWLEDGMENTS

To have and to hold the Conservation Easement herein granted unto the United States of America and its assigns.

The Grantor covenants to and with the United States that the Grantor is lawfully seized and possessed of an estate in fee simple, in and to the premises described herein, with a good right and lawful power to sell and convey the same; that the land is free and clear of all encumbrances, except this Easement and other encumbrances reviewed and accepted by the United States in the course of its review of title, and that Grantor and its successors and assigns will forever warrant and defend the title to the rights granted herein, and the quiet possession thereof, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, the undersigned Tribe has executed this instrument this ____ day of _____, 2012.

THE CONFEDERATED TRIBES OF THE COLVILLE RESERVATION

By:
Title:

ACCEPTANCE BY THE UNITED STATES OF AMERICA:

Margareth H. Wolcott
Manager, Real Property Services

Date

STATE OF WASHINGTON)

County of _____)

_____, known to me or proved to me on the basis of satisfactory evidence to be the person who executed the within instrument as the _____

Signature

Notary Public in and for the
State of _____

Residing at _____

Page 8 of 11

ACKNOWLEDGMENT

STATE OF OREGON)
) ss.
County of)

On this _____ day of _____, 20_____, before me
personally
appeared _____
_____, known to me or proved to me on the basis of satisfactory evidence to be the person
who executed the within instrument as the _____

_____ acknowledged to me that ____ he executed the same freely and voluntarily in such
capacity; and on oath stated that ____ he was authorized to execute said instrument in such
official or representative capacity.

Signature

Print Name

Notary Public in and for the
State of _____

(SEAL)

Residing at _____

My commission expires _____

Appendix G

Cultural Resources Documents

Cultural Resources Management Plan
Confederated Tribes of the Colville Reservation
History/Archaeology Program

Form A: Definition of the APE and Findings Regarding the Need for a Survey

Project Name:	Is this a revision of a previous form? Yes <input type="checkbox"/> No <input type="checkbox"/>
PPF or other Project Numbers:	
Proponent(s)/Program:	Date:
Lead Federal Agency / Responsible Agency Official:	
Preparer(s):	Phone:

Description of potential effects (describe the project's activities. Focus on ground disturbance and equipment, effects on vegetation, and visual effects. Include any access roads, staging areas borrow pits or material sources or other areas outside the main project area that may be disturbed):

Description of APE and attached maps [provide information about the location of potentially disturbing activities. Explain the accompanying map(s) Note: All areas of direct effect must be identified.:

Findings Regarding the Need for a Cultural Resources Survey:

- ☐ The entire APE has been previously inventoried and no historic properties were located. We request concurrence with a **Finding of No Historic Properties Affected**.
- ☐ The entire APE is located where significant cultural resources are extremely unlikely to occur. We request concurrence with a **Finding of No Historic Properties Affected**.
- ☐ The entire APE is less than 10 acres and will not involve extensive linear ground disturbance. We propose conducting a **Field Reconnaissance** of the area.
- ☐ We propose conducting a **100% inventory** of the APE, as indicated in the attached map(s) and *Inventory Plan*
- ☐ We propose conducting a **partial inventory** of the APE as indicated in the attached maps and *Inventory Plan*.

I approve these determinations

I concur

Proponent/Agency Official

Date

THPO

Date

Attachments

☐ Project Proposal Form ☐ 7.5 minute scale map of APE ☐ *Inventory Plan* ☐ Supplemental information

Form B: Cultural Resources Survey Submittal and Request for Concurrence

(Page 1 of 3)

Project Name:	Is this a revision of a previous form? Yes <input type="checkbox"/> No <input type="checkbox"/>
Report Title:	
PPF or other Project Numbers:	
Proponent(s)/Program:	Date:
Lead Federal Agency and Responsible Agency Official:	
Preparer:	Phone:

PART 1 – List of Cultural Resources in the APE (Use Site Numbers if Applicable):

Previously documented cultural resources

- 1.
- 2.
- 3.
- 4.

Previously unrecorded resources documented in the attached survey report and site forms:

- 1.
- 2.

PART 2 – Evaluation of Cultural Resources

List Of Cultural Resources Proposed Not Eligible as Historic Properties:

- 1.
- 2.

List Of Cultural Resources Proposed Eligible as Historic Properties:

- 1.
- 2.

List Of Cultural Resources That Will Be Entirely Avoided By The Project:

- 1.
- 2.

Form B: Cultural Resources Survey Submittal and Request for Concurrence

(Page 2 of 3)

PART 3 - Conditions of Compliance:

Condition 1: Inadvertent Discoveries - In the event that human remains, burials, funerary items, sacred objects, or objects of cultural patrimony are found during project implementation, the proponent or his agent shall cease work immediately within 200 ft. of the find and shall immediately take steps to protect it from further damage or disruption. They shall then promptly contact the THPO at (509) 634-2654 [desk] or the Tribal Archaeologist at (509) 634-2691 [desk] or (509) 631-2130 [cell] to report the find. The THPO or the Tribal Archaeologist will contact the appropriate law enforcement authority if human remains are found. No further work shall be allowed in the vicinity of the discovery until the THPO has approved a plan for the remains or items.

Condition 2: Post-Review Discoveries - In the event that prehistoric artifacts (i.e., arrowheads, spear points, mortars, pestles, other ground stone tools, knives, scrapers, or flakes from the manufacture of tools, fire pits, peeled trees, etc.) or historic-period artifacts or features (i.e., fragments of old plates or ceramic vessels, weathered glass, dumps of old cans, cabins, root cellars, etc.) are found during project implementation, the proponent or his agent shall cease work immediately within 200 ft. of the find and contact the THPO at (509) 634-2654 [desk] or the Tribal Archaeologist at (509) 634-2691 [desk] or (509) 631-2130 [cell] to report the find. No further work shall be allowed in the vicinity of the discovery until the THPO has approved a plan for managing or preserving the artifacts or features.

Condition 3: Changes to the Area of Potential Effect or the Area of Direct Effect - Activities that have the potential to disturb cultural resources outside the areas specified in the accompanying document(s) are not approved and will not proceed until cultural resources review of potential adverse effects in the new area has been completed.

Condition 4:

Form B: Cultural Resources Survey Submittal and Request for Concurrence

(Page 3 of 3)

PART 6 – Findings Regarding Project Effects

☐ The attached survey report represents a reasonable and good faith effort to carry out the required identification of cultural resources that might be affected by the project. Based on this documentation and in accordance with the above determinations of eligibility and conditions of compliance, we request concurrence with a **Finding of No Historic Properties Affected**.

☐ The attached survey report represents a reasonable and good faith effort to carry out the required identification of cultural resources that might be affected by the project. Based on this documentation and taking into account the nature of the proposed project, we request concurrence with our **Finding of No Adverse Effect** based on adherence to the conditions of compliance listed above.

☐ The attached survey form or inventory report represents a reasonable and good faith effort to carry out the required identification of cultural resources that might be affected by the project. Based on this documentation and in accordance with the needs of the project, we are providing you notice of our intention to make a determination of Historic Properties Affected with a preliminary **Finding of Adverse Effect**. We will proceed as required in 36 CFR 800.6 to resolve adverse effects.

I approve these determinations

I concur

Proponent/Agency Official

Date

THPO

Date

Attachments:

- ☐ Cultural Resources Survey Form or Report
- ☐ 7.5 minute map(s) annotated as necessary and detailing the entire APE (required).
- ☐ Site Forms (required)
- ☐ Project Proposal Form (copy)
- ☐ Supplemental information

STATE OF WASHINGTON
ARCHAEOLOGICAL SITE INVENTORY FORMSite No.County:

Date: _____ **Compiler:** _____

Location Information Restrictions: Yes/No Unknown:

SITE DESIGNATION

Site Name:Field/ Temporary ID:

Site Type: (Refer to the DAHP Survey and Inventory Guidelines)

SITE LOCATION

***USGS Quad Map Name:**

***Legal Description:** T. R. E/W, Section(s): Quarter Section(s):

*UTM: Zone Easting Northing

Latitude: Longitude: Elevation (ft/m):

Other Maps	Type
------------	------

Scale Source:

Drainage, Major: Drainage, Minor: River Mile:

Aspect: Slope:

***Location Description** (general to specific):

Approach (to relocate):

***Mandatory information for official site designation**

Page 2

SITE DESCRIPTION					
Narrative Description:					
<p>*Site Type: (<i>Refer to the DAHP Survey and Inventory Guidelines</i>)</p> <p>Dimensions, Method of horizontal measurement: Length: m Direction Width m Direction: Depth: m Method of vertical measurement Vegetation: On Site Local: Regional: Landforms: On Site: Local: Water Resources: Type Distance: Permanence:</p>					
CULTURAL MATERIALS AND FEATURES					
Narrative Description:					
<p>Method of Collection(a)</p> <p>Location of Artifacts (Temporary/ Permanent)</p>					
SITE AGE					
*Component:		*Dates:		*Dating Method:	
*Phase:		Basis for Phase Designation:			

ARCHAEOLOGICAL SITE INVENTORY FORM

Page 3

SITE RECORDERS

Observed by:	Address:
*Recorded by:	*Affiliation/Address:
*Date Recorded:	
*Affiliation Phone Number:	Affiliation E-mail:
Revisited by:	Affiliation Address:
Date Revisited:	

SITE HISTORY

Previous Work (references):

SITE OWNERSHIP

*Owner/Address:

Tax Lot/ Parcel No:

FORM RECORDS

Other Forms (specify):

MANDATORY USGS MAP

*Quad Name:

*Series:

*Date:

****INSERT 7.5 MIN USGS MAP
HIGHLIGHTING SITE
LOCATION AND BOUNDARIES***

Section:

**Plot site location
at left**

SKETCH MAP

Legend:

Known boundary

Possible boundary

Other symbols
(other than USGS)

Scale:

North Arrow
(mag.)

ARCHAEOLOGICAL SITE INVENTORY FORM

Site No. _____

CONTINUATION/ ADDENDUM SHEET

Site Name:

Label all additions by corresponding headings (e.g., Site Description: On Site Vegetation)