Kalispel Natural Resource Department

Resource Conservation Plan

Adopted March 2017

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KNRD MISSION

Mission

KNRD safeguards natural and cultural resources for the health and wellbeing of Kalispel people.

Core Values

- Provide effective conservation leadership throughout the Columbia River Basin
- Enhance and maintain ecosystem services beneficial to Kalispel people
- Provide sustainable harvest opportunities for Kalispel people throughout Kalispel homelands
- Encourage Kalispel people's sustainable use and enjoyment of natural and cultural resources
- Carry out the mission using the best available scientific information and technology

Operational Targets

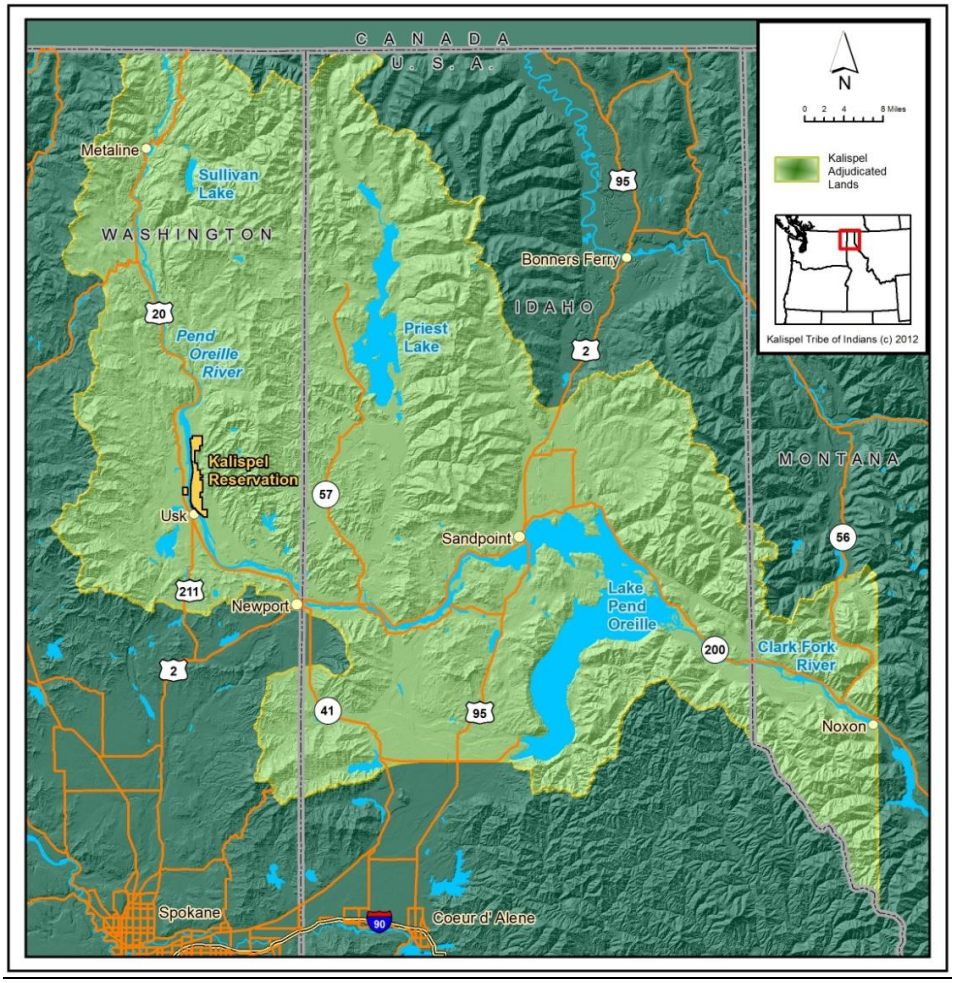
1. Engagement – KNRD strives to create local and regional ownership in conservation issues of importance to the Kalispel Tribe.
2. Ecosystem Resiliency – KNRD adaptively manages natural resources with priority given to ecosystem services most important to the cultural security of Kalispel people.
3. Sustainable Harvest Opportunities – KNRD improves opportunities for Kalispel people to harvest healthy natural resources while simultaneously enhancing the ecosystem to produce a sustainable supply of the same.
4. Effective Education & Outreach – KNRD ensures that Kalispel people are engaged in the Department's mission and informed about their opportunities to use and enjoy natural and cultural resources.

AN INTRODUCTION TO KNRD

The Kalispel Natural Resources Department (KNRD) has developed this Resource Conservation Plan (Plan) to guide the implementation of its Kalispel Business Council-approved mission. The purpose of the Plan is to provide KNRD with a firm but adaptable framework for making good conservation decisions over time. It does this by identifying key conservation actions to advance resource management priorities and address threats, and by requiring annual updates to the Plan to ensure that KNRD's conservation work is responsive to changing conditions. Through this process, KNRD will achieve meaningful conservation gains for the Kalispel Tribe.

KNRD Scope and Geographic Reach

KNRD's fundamental challenge is to provide tribal members with an opportunity to engage in the same cultural practices as their ancestors. This is a formidable task for a host of reasons, not the least of which is the Kalispel Tribe's diminished land base. Whereas the Tribe's aboriginal territory consisted of several million acres of lands in the Inland Northwest, the Kalispel Indian Reservation consists of fewer than 5,000 acres. Because tribal members cannot adequately maintain their cultural lifeways on the Reservation alone, and because healthy off-Reservation ecosystems support more abundant on-Reservation harvest opportunities, KNRD's work extends beyond Reservation boundaries. KNRD generally defines its zone of interest as the lands within the Indian Claims Commission-adjudicated boundaries of the Tribe's aboriginal territory.



Since the Tribe's interest in natural resources extends beyond the limits of its regulatory authority, KNRD's success depends on its ability to work effectively with other natural resources managers. A tribal elder coined the term "collaborative sufficiency" to describe this method of engagement, and this is what KNRD strives to create with its diverse conservation partners.

KNRD Organizational Structure

KNRD is made up of two divisions: Fisheries/Water Resources and Wildlife/Terrestrial Resources. Although each division maintains its principal focus, KNRD's work is interrelated and requires that the two divisions work together to achieve the best possible conservation outcome. Weekly director and monthly program manager meetings are scheduled to ensure that communication lines remain open and work is performed in a coordinated and logical manner. Most of KNRD's coordination with Tribal Council occurs through its executive director.

Fisheries and Water Resources Division

The Fisheries and Water Resources Division is comprised of three programs: Fisheries Management, Fisheries Conservation, and Water Resources. Together, these programs strive to provide Kalispel people with healthy fish and water resources both on the Reservation and throughout the Tribe's adjudicated lands. Like its terrestrial counterpart, the Fisheries and Water Resources Division performs a wide variety of work from restoring fisheries habitat to conducting research to engaging in development of regional and national conservation policy.

Wildlife and Terrestrial Resources Division

The Wildlife and Terrestrial Resources Division is comprised of four programs: Wildlife, Forestry, Cultural Resources, and Agriculture. Although most of the Division's on-the-ground work occurs locally, each of these programs maintains a regional and national reach in order to support appropriate conservation outcomes. Whether commenting on a Forest Service project-level EIS, reviewing state forest practices applications, implementing a forest health timber harvest, managing federal hydropower mitigation properties, restoring wetlands/floodplains, managing a buffalo herd, or simply repairing a forest road, these programs work together to research, manage, enhance, restore, and protect terrestrial resources to effect meaningful conservation outcomes for the Kalispel people.

FISHERIES PROGRAM

The primary focus of the Fisheries Division is to provide sustainable and healthy harvest opportunities for the benefit of the Kalispel Tribe. The Division does this by working cooperatively with a variety of regional conservation partners to address fish and aquatic habitat threats, and to maintain and enhance ecosystem services. Restoring native fish populations is among the Division's top priorities.

Fisheries Management Program

The Fisheries Management Program is responsible for implementing resident fish research, monitoring, and evaluation projects; managing hatchery operations; and addressing hydropower impacts on native species. The Management Program collects and maintains scientifically defensible data in order to develop sound management strategies that support harvest opportunities for Kalispel people.

Fisheries Conservation Program

The Fisheries Conservation Program focuses primarily on fisheries habitat restoration and non-native species suppression/eradication projects. The Conservation Program covers a large geographical area including the Priest Lake, Lake Pend Oreille, and Pend Oreille River watersheds.

Resource Priorities

Non-native/Invasive Species Control

In the Pend Oreille watershed 64% of the fish assemblage is composed of non-native species. Non-native fish species negatively impact native fish species in three primary ways: predation, direct and indirect competition, and hybridization. The Fisheries Conservation Program is actively suppressing and/or eradicating Northern Pike, Lake Trout and Brook Trout in various waterways to promote native species conservation and recovery.

Threat 1. Non-native salmonid competition and predation on native salmonids.

Brown Trout and Brook Trout spawn in the fall, and their young emerge earlier than those of spring-spawning Cutthroat (Behnke 1992). Earlier emergence timing allows young-of-the-year Brook and Brown trout to occupy preferred feeding habitats and attain a comparatively larger size before Cutthroat Trout fry emerge from spawning gravels (Griffith Jr. 1972, Wang and White 1994; McGrath and Lewis, Jr. 2007). Age-0 Brook Trout maintain about a 20 mm size advantage over Cutthroat Trout fry throughout their first year of life (Griffith, Jr. 1972). Prior occupancy and larger size have been identified as significant factors in competition among salmonids, resulting in juvenile Cutthroat Trout being forced to occupy less suitable habitats (Griffith, Jr. 1972, Abbott et al. 1985, Wootton 1998). Because many populations of Cutthroat Trout are now limited to high-elevation, headwater areas with cold temperatures, it is imperative that young-of-the-year Cutthroat Trout grow large enough to establish sufficient body stores to survive the winter (McGrath and Lewis 2007, Coleman and Fausch 2007a, 2007b). Competitive exclusion by sympatric age-0 Brook Trout leads to reduced growth for age-0 Cutthroat Trout,

causing poor winter survival that limits recruitment to the adult population (Coleman and Fausch 2007a, 2007b). In certain cases, this type of interaction leads to the eventual extirpation of the Cutthroat Trout population in the affected area (Coleman and Fausch 2007a, 2007b).

Cutthroat Trout face the greatest risk of predation from Brown Trout (McHugh et al. 2006), while Rainbow Trout and Brook Trout are regularly piscivorous when opportunities allow (Behnke 1992, McGrath and Lewis, Jr. 2007). Irving (1987) observed adult Brook Trout actively pursuing and preying on hatchery-origin age-0 Westslope Cutthroat Trout in Priest River tributaries (Washington and Idaho), and also observed age-0 Brook Trout consuming young-of-the-year in the same areas. Griffith, Jr. (1974) studied the diets of Westslope Cutthroat Trout and Brook Trout and found age-0 trout in the stomachs of Brook Trout in the Clearwater River drainage, Idaho.

Historically, Bull Trout and Westslope Cutthroat Trout were abundant in Priest and Upper Priest lakes. However predation by a rapidly expanding Lake Trout population has led to significant declines in these native species. Introduced Lake Trout have the tendency to suppress other native species through predation and or competition. (Donald and Alger 1993, Fredenberg 2002)

Action 1. Mechanical suppression of non-native salmonids in tributaries to the Pend Oreille and Priest watersheds.

Action 2. Eradication (piscicide treatments) of non-native salmonids in tributaries in the Pend Oreille and Priest watersheds.

Action 3. Mechanical suppression (trap and gill netting) of non-native Lake Trout in Pend Oreille and Priest lakes.

Action 4. Participation in the Priest Lake Fishery Advisory Committee.

Action 5. Outreach to the Commission and Idaho Department of Fish and Game on the management of the Priest Lake system.

Threat 2. Non-native salmonid hybridization with native salmonids.

Cutthroat Trout willingly hybridize with Rainbow Trout, especially when Rainbow Trout have been introduced into areas not historically inhabited (Allendorf et al. 2001; Allendorf et al. 2004, Corsi et al. 2013). With the advent of stocking, Rainbow Trout were introduced throughout watersheds that they did not historically occupy and routinely bred with native Cutthroat Trout populations wherever suitable spawning locations were found (Allendorf and Leary 1988; Thurow et al. 1997). Stocking of this type, as well as range expansion from established populations in a changing climate causes widespread and rapid hybridization and introgression of non-native genetics into the local native populations (Allendorf et al. 2004, Muhlfeld et al. 2014). Hybridized populations are significantly reduced in value to conservation efforts due to a loss of native genes, loss of local adaptations, and the expression of intermediate behaviors that are not well-suited to the native Cutthroat Trout habitat (Rasmussen et al. 2010, Drinan et al. 2012, Corsi et al. 2013). Hybridization can lead to the extirpation of the native Cutthroat Trout population if Rainbow Trout and hybrids (with Cutthroat Trout) out-compete the native fish in the watershed.

Bull Trout are known to hybridize with Brook Trout throughout its range (USFWS 2015). Hybrids have been documented in the Pend Oreille and Priest river watersheds. When Bull Trout hybridize with Brook Trout, the resulting hybrid offspring are often, but not always sterile (Kanda *et al.*2002, DeHann *et al.* 2010).

Action 1. Mechanical suppression of non-native salmonids in tributaries to the Pend Oreille and Priest watersheds.

Action 2. Eradication (piscicide treatments) of non-native salmonids in tributaries in the Pend Oreille and Priest watersheds.

Threat 3. Non-native, invasive piscivorous fish predation on native fishes.

Northern Pike, illegally introduced in the Clark Fork River, Montana have immigrated to Box Canyon Reservoir, Pend Oreille River where they have caused drastic declines in native species and gamefish being managed by KNRD, the Washington Department of Fish and Wildlife, and the Idaho Department of Fish and Game. The Northern Pike population grew exponentially from <400 in 2006 to >5,500 in 2010 between Newport (Pioneer Park; RKM 135) and Riverbend (RKM 98) and was thought to exceed 10,000 individuals in 2011. Northern Pike threaten to undermine current and future recovery efforts for Bull Trout and Westslope Cutthroat Trout, as well as other native salmonids, minnows, suckers, and introduced gamefish within the watershed. Northern Pike pose significant risks to the anadromous fisheries of the Columbia River and Endangered Species Act (ESA) recovery efforts if left to emigrate further downstream.

Action 1. Annual mechanical suppression of Northern Pike in Box Canyon and Boundary reservoirs.

Action 2. Publish methods and results of Northern Pike mechanical suppression project.

Action 3. Conduct annual spring pike index netting to monitor Northern Pike population.

Action 4. Participate in various non-native species workgroups and task forces.

Action 5. Propose rule change (mandatory kill of Northern Pike) to Commission and Washington Department of Fish and Wildlife.

Action 6. Provide continued outreach and education on illegal introductions and effects of non-native species on native species and the habitats they inhabit.

Habitat Restoration

The Fisheries Program works to protect, enhance, and restore habitat that supports native species and opportunities to use and enjoy fishery resources. Safe, timely, and effective fish passage over mainstem dams and large tributary impediments, as well as instream and riparian restoration are both primary focuses.

Threat 1. Instream and riparian habitat degradation.

Numerous factors have been identified as playing a role in the collapse of native fish populations, although anthropogenic impacts have been one of the most significant (Shepard et al. 2005). Fire history, past timber harvest activities, and dams have influenced the landscape in

the Lower Pend Oreille Subbasin. The subbasin was first logged from 1915 to 1930 and much of the old-growth timber was removed. Logging railroad and log flumes were used on the mainstem Pend Oreille River and several of its tributaries. Log flumes were common, simplified the instream habitat, and decreased the recruitment source of large woody debris. In more recent years, road construction and maintenance, timber harvest, and cattle grazing have degraded stream habitat conditions.

Action 1. Participate in, propose, and implement instream and riparian habitat projects through the Pend Oreille PUD's FERC License Settlement Agreement.

Action 2. Participate in, propose, and implement instream and riparian habitat projects through Seattle City Light's FERC License Settlement Agreement.

Action 3. Participate in, propose, and implement instream and riparian habitat projects through the Clark Fork Settlement Agreement.

Action 4. Goose Creek channel and floodplain restoration.

Action 5. Finalize Goose Creek watershed plan.

Action 6. Finalize Harvey Creek watershed plan.

Action 7. Expand from localized restoration projects to largescale watershed restoration.

Action 8. LeClerc Creek, Diamond City channel and floodplain restoration.

Action 9. Provide guidance and design information for the Hughes Meadow channel and floodplain restoration.

Action 10. Prioritization and coordination of Pend Oreille Basin habitat restoration.

Action 11. Manage and participate in the Salmon Recovery Funding Board.

Threat 2. Impairment of Connectivity.

Seven dams on the Pend Oreille River are also a significant reason for the decline of native salmonid populations. These dams include Waneta (Canada), Seven Mile (Canada), Boundary (U.S.), Box Canyon (U.S.), Albeni Falls (U.S.), Cabinet Gorge (U.S.), and Noxon (U.S.). None of these dams was built with fish passage facilities. Other dams and diversions such as Sullivan Lake Dam, Mill Pond Dam, North Fork Sullivan Creek Dam, Outlet Dam, LeClerc Creek log crib dam, and Calispell Pumps, along with numerous culverts were constructed in Pend Oreille River tributaries and further fragmented the connectivity of native salmonid populations.

Action 1. Temporary trap and haul with floating trap at Albeni Falls Dam.

Action 2. Electrofishing downstream of Albeni Falls Dam and transporting Bull Trout upstream of the dam.

Action 3. Removal of LeClerc Creek log crib dam.

Action 4. Removal of Mill Pond Dam.

Action 5. Upstream fish passage at Box Canyon Dam.

Action 6. Investigation of fish passage at Boundary Dam.

Action 7. Complete upstream passage designs for Albeni Falls Dam fishway.

Action 8. Identify funding source for construction of Albeni Falls Dam fishway.

Action 9. Identify pathway for construction, operation, and maintenance of Albeni Falls Dam fishway.

Action 10. Upstream fish passage at Cabinet Gorge Dam.

Native Species Restoration, Conservation, and Enhancement

Westslope Cutthroat Trout (WCT) historically occupied greater than 99% of the streams in the Pend Oreille River Basin. Since 1996, KNRD has completed fish surveys in nearly 622 Km (386 miles) of streams within the Lower Pend Oreille River basin and WCT occupied only 35% of the stream reaches surveyed. Stronghold populations of WCT occur primarily above impassable natural or manmade barriers.

Bull trout were also historically abundant in the Pend Oreille River. It is believed that these populations had a unique life history: adults migrated downstream from Lake Pend Oreille and then upstream into Priest River and Pend Oreille River tributaries to spawn. After hatching and rearing in tributaries for a few years, sub-adult bull trout would migrate downstream out of the tributaries and then upstream in the Pend Oreille River to rear in Lake Pend Oreille. This migration pattern was eliminated for bull trout originating in Washington tributaries with the construction of Albeni Falls Dam in 1952.

Threat 1. Demographically and genetically small population sizes and fragmentation.

Re-establishment of self-sustaining local populations of Bull Trout in the lower Pend Oreille will require intervention in the form of a conservation aquaculture facility capable of holding and propagating fish from viable, genetically diverse and demographically stable donor populations. Developing a locally adapted brood source is a high priority to the Tribe.

Although Westslope Cutthroat Trout remain widely distributed in the lower Pend Oreille River watershed, their distribution is drastically reduced from historical levels and strongholds are isolated above passage barriers. They have been extirpated from 65% of stream reaches once occupied and tend to lack genetic diversity necessary to persist in a changing climate.

Action 1. Complete a Bull Trout reintroduction feasibility study and decision support framework.

Action 2. Implement Plans identified in the study for reintroduction.

Action 3. Establish an experimental population of Bull Trout in Sullivan Lake.

Action 4. Secure cooperative funding to design, construct, and operate a conservation hatchery.

Action 5. Reintroduce Westslope Cutthroat Trout to Smalle Creek.

Action 6. Reintroduce Westslope Cutthroat Trout to Highline Creek.

Action 7. Update and implement Native Trout Salvage and Reintroduction Plan.

Threat 2. Gaps in knowledge needed to inform management decisions (RM&E).

Identifying, prioritizing, and filling data gaps by collecting quantitative data on current species composition, distribution, abundance, life history, and limiting factors of native species is critical to attaining management objectives.

Action 1. Monitor results of WCT introductions in treated and fishless streams.

Action 2. Investigate movement of migratory WCT in Priest River drainage.

Action 3. Research fish attractants (temperature, natal stream water, pheromones) to improve upstream passage efficiency at trap and haul facilities.

Action 4. Identify cold water refugia in Pend Oreille River using stationary and mobile telemetry.

Action 5. Finalize Priest Lake Bull and Lake trout movement and behavior study.

Threat 3. Impaired water quality in mainstem Pend Oreille River.

Water temperatures in the mainstem Pend Oreille River's feeding, migration, and overwintering habitat approach lethal levels during summer for native species and are likely to be exacerbated by climate change. Impounding of the Pend Oreille River and operation of dams warm and perpetuate high water temperatures in summer delaying and hindering movement to spawning tributaries. Actions that minimize unnatural warming of the river, provide access to refugia (Lake Pend Oreille), and enhance local refugia are a high priority.

Action 1. Maintain, revise, and be prepared to submit system operational requests to FCRPS water managers designed to reduce water temperatures in the Pend Oreille River downstream of Albeni Falls Dam.

Action 2. Complete upstream passage designs for Albeni Falls Dam fishway.

Action 3. Identify funding source for construction of Albeni Falls Dam fishway.

Action 4. Identify pathway for construction, operation, and maintenance of Albeni Falls Dam fishway.

Action 5. Model effects of enhancing cold water refugia within Box Canyon Reservoir.

Action 6. Modify/enhance/increase cold water refugia in Box Canyon Reservoir if feasible.

Harvest Support and Supplementation

In 1987, the Northwest Power and Conservation Council amended its Columbia River Basin Fish and Wildlife Program to include a resident fish substitution policy to mitigate for losses of anadromous fish to areas blocked by hydroelectric dams. Based on existing habitat conditions and fish populations, Ashe and Scholz (1992) recommended the Tribe supplement the Largemouth Bass population to support subsistence and recreational fishing in Box Canyon Reservoir. At that time, Largemouth Bass was the only species capable of attaining the body size and population size to support a subsistence fishery.

A facility was constructed in 1997 and produced Largemouth Bass fry and fingerlings annually until 2014. The program was marginally successful in some years, but failed to increase the biomass of Largemouth Bass to target levels (12 lb/acre) for a variety of reasons including

establishment of Northern Pike and expansion of Smallmouth Bass. Implementation of FERC PM&E measures and the BPA/Kalispel Fish Accord makes Largemouth Bass inconsistent with current management goals.

McMillen, LLC (2014) determined that converting the facility to a coldwater hatchery was technically feasible and cost effective and could support a subsistence fishery (triploid Rainbow Trout) as well as conservation aquaculture for Westslope Cutthroat Trout. The Tribe intends to stock RBT in the Indian Creek Tribal fishing pond for consumption while WCT restoration actions continue to restore tributary populations.

Threat 1. Limited opportunities to harvest native fish.

Historically, the Kalispel Tribe relied heavily upon anadromous fish in the Upper Columbia River and its major tributaries. The Kalispel Tribe made annual fishing trips below Big Eddy Canyon (Lower Pend Oreille River) for the specific purpose of catching salmon (Scholz et al 1985). The Pend Oreille River was reported to have supported anadromous runs of Chinook Salmon, (*Oncorhynchus tshawytscha),* and Steelhead Trout, (*O. mykiss).* However, these fish were restricted primarily to the lower reaches of the Pend Oreille River due to natural fish barriers at Z Canyon (river mile 18) (Bennett and Falter 1985), and Metaline Falls (river mile 27) (Bennett and Falter 1992). The construction of the Columbia River hydrosystem, specifically Chief Joseph and Grand Coulee Dams, prevented upstream anadromous fish migrations to the upper Columbia Basin. The resulting loss of anadromous fish from Kalispel traditional fishing sites not only eliminated one of the Tribe's must importance subsistence resources but also created a cultural loss due to the Tribe's inability to use the fish for ceremonial and religious purposes.

Resident fish were at least as, if not more important to, the Kalispel Tribe than anadromous fish (Bonga 1978, Smith 1983, 1985). Gilbert and Evermann (1895) reported that in 1894 Bull Trout were abundant in the Pend Oreille River. Specimens as large as twenty-six inches long and weighing five pounds or more were not uncommon. Since the construction of Boundary, Box Canyon and Albeni Falls dams, the Pend Oreille River has changed from a cold-water fishery (i.e., predominately salmonids) to a warm water fishery (i.e., primarily centrarchids). These changes have drastically decreased native fish populations, specifically Bull Trout and Westslope Cutthroat Trout. This trend has occurred throughout the Tribe's adjudicated lands.

Action 1. Convert the Kalispel Tribal Fish Hatchery to a cold water facility.

Action 2. Construct the Indian Creek Tribal fishing pond.

Action 3. Support UCUT efforts to reintroduce anadromous salmonids above Grand Coulee Dam.

Action 4. Provide salmon for Tribal members acquired through the Colville shared fishery.

WATER RESOURCES PROGRAM

The Water Resources Program works on behalf of the Kalispel Tribe to restore and protect aquatic resources for both water quality and quantity supporting the needs of people, fish, and wildlife. The Kalispel Tribe has been approved by the United States Environmental Protection Agency for treatment in a manner similar to a state under Section 303(c) and 401 of the Clean Water Act and also has approved Water Quality Standards for waters within the reservation. Conservation and restoration of water quality and quantity are necessary to protect the reserved rights of the Kalispel Reservation and all beneficial uses of waters of the Kalispel Tribe. The protected uses are designated in the Kalispel Water Quality Standards under the authority of the Federal Clean Water Act established to assure water is drinkable, swimmable, fishable (also edible), and suitable for traditional ceremonial uses.

Protection of beneficial uses also requires that waters affecting the quality of Kalispel waters are equally protected upstream in the Pend Oreille River Basin and within tributary watersheds. Adequate water quality and quantity are fundamental to assuring that fish habitat will support the Kalispel right to catch and safely consume fish indefinitely into the future.

The Water Resources Program assesses water quality and watershed condition using physical and chemical parameters at limited locations in the lower Pend Oreille River and select tributaries along with intermittent assessments of biological parameters in coordination with our fisheries programs. Water Resources Program staff also participate in external forums to influence a watershed approach to water quality management with other entities managing and affecting water quality, including non-tribal government agencies, utilities, corporations, other private parties, and the public. Cooperative mechanisms and co-management are strongly emphasized to maximize available resources and eliminate duplication of effort.

Resource Priorities

Water Quality Restoration and Conservation

Good water quality is essential for supporting healthy water ecosystems, providing clean sources of food and drinking water needed by humans and wildlife as well as meeting the aesthetic, spiritual, and psychological needs of the Kalispel People. Restoring degraded waterbodies from historical and ongoing pollution sources along with protecting high-quality streams from further degradation is crucial to achieving these goals.

Threat 1. Continued warming of water contributed to by reduced summer flows, increased water residence time in reservoirs, declining snowpack, riparian shade loss in tributaries, and climatic warming.

Impoundment of water throughout the Pend Oreille Basin, primarily for hydropower production, has modified the hydrologic regime of the lower Pend Oreille River both in duration and timing of minimum river flow. Maintenance of full pool conditions of impoundments regardless of the inflow volume increases water residence time allowing more warming especially during drier than normal years as illustrated in various water temperature modeling projects. As climatic

warming reduces snowpack water storage, the trend toward lower flows, with longer duration in the mid- to late-summer, will become more frequent and extend later into early fall.

Warmer mainstem river conditions will require greater reliance on cold-water refugia near mouths of tributary streams to sustain native salmonid populations. Maximization of riparian shade along tributary stream corridors to better prevent summer warming will be critical to providing future cool-water refugia.

Action 1. Represent Kalispel interests in Pend Oreille Basin reservoir operation forums to preserve adequate flow and reduce temperature.

Action 2. Promote and support maximization of tributary corridor shade.

Action 3. Support the restoration and expansion of cold-water refugia in the Pend Oreille River.

Threat 2. Degraded water quality from pollution caused by historical and existing discharges of industrial and municipal wastewater.

Historic discharges of pollutants in the Pend Oreille Basin from industrial sources (e.g., mining and pulp mills) combined with ongoing discharges contribute to pollutant loading of chemicals that can impact fish production and their safe consumption. Some of the greatest pollutants of concern are persistent, bioaccumulative pollutants (PBTs) that can make fish unsafe to eat. Limited fish tissue monitoring in the Basin indicates that fish are contaminated with PBTs such as mercury, PCB, and Dioxin/Furans in levels exceeding those necessary for safe consumption. Fish consumption advisories have been issued for the Clark Fork River near Missoula, Lake Pend Oreille, and the Pend Oreille River.

Future expansion of municipal discharges including stormwater created by development will potentially increase pollutant loadings if upstream States do not adequately curtail new/increased loads through protective water quality-based NPDES permits.

Action 1. Represent Kalispel interests in Pend Oreille Basin water quality assessments, total maximum daily load (TMDL) development, new or modified wastewater discharge permits, and future regulation of discharges from contaminated site cleanups.

Action 2. Participate in design of regional water quality monitoring activities needed to accurately assess ambient water pollutant loadings of PBT contamination in fish.

Action 3. Continue the Kalispel monitoring project of water quality and fish tissue in the Pend Oreille River for use in future water quality assessments and clean-up efforts.

Action 4. Represent Kalispel interests in State/EPA permitting and TMDLs.

Action 5. Provide 401 water quality review and certification of permits.

Action 6. Participate in EPA/State contaminated site clean-up actions.

Action 7. Support collaborative water quality and flow monitoring under MOAs with Seattle City Light and the Pend Oreille PUD.

Threat 3. Degradation of water quality by nonpoint sources of pollution.

Nonpoint sources of water pollution are contributed by silvicultural and agricultural practices. Historical and continued industrial silvicultural practices with associated roads contribute sediment in runoff, change the water retention characteristic of the watershed, and contribute to stream warming with reduced shade potential within the stream corridor. Livestock grazing and agricultural practices have similar impacts but can also contribute excess sediment, nutrients, and fecal coliform to streams where adequate buffering is not provided along the stream corridor.

Action 1. Work with federal, state, and local agencies to promote and implement agricultural practices that eliminate contaminated runoff, create adequate buffers from impacts of livestock grazing, and restore degraded riparian corridors resulting from past practices.

Action 2. In collaboration with the Forestry Program, work with federal and state agencies to promote and implement silvicultural practices with new road building methods to prevent erosion and maximize shade within the stream corridor for both on the stream surface, and for areas contributing cool hyporheic inflow to attain the coldest stream possible.

Action 3. Reduce impacts from storm water and grazing nonpoint pollution sources by implementing best management practices on the Reservation.

Threat 4. Watershed accumulation of toxins from air pollution.

PBTs and other toxins continue to be generated and dispersed onto watersheds of the Pend Oreille Basin through emissions of air pollution. Activities such as smelting of raw primary ore and recycled metal, and incineration of solid waste, wood waste, and coal for electrical generation continue to contribute Mercury, PCBs, Dioxin/Furans, and other toxic chemicals onto the landscape where they directly pollute waters or migrate into streams over time in runoff of contaminated sediment. Such toxic pollution can directly harm aquatic life and may harm humans who consume significant amounts of fish that have bioaccumulated PBTs.

Action 1. Represent Kalispel interests in forums where impacts to water quality will be incorporated into air permits reducing regional air emission of pollutants within the airshed of the Pend Oreille Basin.

Conservation of Water Quantity

The construction of hydroelectric impoundments within the Pend Oreille Basin has significantly changed the hydrologic character of the Pend Oreille River. Management of water storage with competing interests has led to temporal changes in the intensity and duration of seasonal river flow and the amount of water surface exposed to solar warming. Continued declining trends of

summer low flows over extended duration are expected from the predicted reduction in snowpack storage with climatic warming.

Reductions in available snowpack storage combined with an increased demand for surface water diversions and preservation of constant historical summer lake levels for recreational opportunities will ultimately lead to adverse impacts on reduced summer base flows. The downward trend in flows of the Pend Oreille River and tributaries will contribute to the commensurate degradation of water quality, aquatic habitat, aesthetic value, and loss of water availability for future needs of the Kalispel Tribe.

Operations of impounded water bodies throughout the Pend Oreille Basin for maintenance of constant historical summer lake levels without consideration of downstream flows will exacerbate declining summer flows in the lower Pend Oreille River. As available water storage from regional snowpack declines with climatic warming, reduced summer inflows to impoundments will continue to require more extreme curtailment of impounded outflows resulting in average summer flows trending toward the historical drought condition as the norm.

There is a clear need to effectively engage in Pend Oreille Basin regional water planning processes due to Idaho's upcoming general stream adjudication in the Pend Oreille Basin, and recent proposals to divert water from the Pend Oreille River Basin into the Spokane River Basin.

Threat 1. Management of water storage projects without consideration of impacts on downstream flow and temperature.

Action 1. Represent Kalispel interests to maintain minimum river flows through the incorporation of more flexible management of lake levels throughout the Basin to preserve adequate seasonal base flows and reduce temperature in the lower Pend Oreille River.

Action 2. Quantify necessary minimum instream flow targets for the lower Pend Oreille River to allow Kalispel water resource considerations to be incorporated into Basin-wide water management planning.

Threat 2. Surface and groundwater withdrawals that do not protect instream flows.

New surface water withdrawals and the continued drilling of permit-exempt groundwater wells within the Pend Oreille Basin will likely interfere with Kalispel water resource needs in the future if left unchecked.

Action 1. Begin a systematic evaluation of the Kalispel Tribe's future water resource needs of the lower Pend River and tributaries.

Action 2. Actively participate in water adjudication forums to assure that Kalispel interests are fully protected as demand for water increases with future economic development, and critical summer stream flows decline with climatic warming.

Invasive Aquatic Plant and Invertebrate Prevention and Control

The Kalispel Tribe is faced with challenges of trying to control and manage non-native invasive aquatic plants and invertebrates (e.g., Flowering Rush, Zebra and Quagga Mussels). Healthy aquatic ecosystems that promote cultural values and long-term sustainability require management and control of non-native invasive aquatic species to the maximum extent possible without further damaging native species in the process. The degree of management response and control methods must be weighed against the severity of the ecological threat created by each invasive aquatic species along with the level of control effort required and the potential ecological harm created by implementation of the control actions.

To address this important issue, an invasive species management plan will be developed by KNRD incorporating a non-fish aquatic species component. Similar to issues affecting water quality and quantity, most colonization threats from invasive aquatic species originate from outside of Kalispel waters requiring active participation in collaborative management forums.

Threat 1. Colonization and expansion of invasive aquatic plants within the Pend Oreille River and its tributaries.

Action 1. Control Flowering Rush and Yellow-flag Iris within the shorelines of Tribal lands with emphasis on minimizing the use of herbicides where feasible through alternative control methods (e.g., mechanical removal with hand-pulling).

Action 2. Monitor the occurrence of Flowering Rush and Yellow-flag Iris throughout Tribal lands in response to control activities.

Action 3. Participate in collaborative regional forums for control of invasive aquatic plants.

Action 4. Support Flowering Rush research for more effective and sustainable control methods (e.g., biocontrol).

Threat 2. Colonization of the Pend Oreille Basin by invasive Dreissenid Mussels.

Action 1. Support strong prevention programs to lessen the chances of importing Dreissenids into the Pend Oreille Basin.

Action 2. Support and participate in development of viable alternatives for effective Dreissenid population controls.

Wetland Protection and Restoration

Wetlands are important to the health of aquatic ecosystem functions and have been impacted by historical land use and changes in hydraulic regimes. KNRD has begun to manage water to better benefit recovery of wetlands on Tribal land, and has also been completing habitat restorations to recover wetland functions previously lost to agricultural conversions. The restoration and protection of wetlands will continue to be an important goal for the Department.

Threat 1. Changes in hydrologic regimes due to climatic warming will likely make restoration and protection of wetlands more difficult with declines in the magnitude and frequency of large spring peak flows and longer periods of evaporative loss.

Action 1. Continue to support the recovery of historical hydrologic regimes in previously converted wetlands using modified water control structures.

Action 2. Continue to pursue opportunities for riparian restoration with support from KNRD's native plant nursery.

WILDLIFE PROGRAM

The Kalispel People traditionally relied upon terrestrial game and botanical resources, as well as anadromous and resident fish, for subsistence. White-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), moose (*Alces alces*), woodland caribou (*Rangifer tarandus caribou*), bear (*Ursus americanus* and *U. arctos*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethica*), and other wildlife resource were important to the Kalispel for cultural, ceremonial, and subsistence purposes (Smith 1936-39). Aboriginally, nearly 800 white-tailed deer were killed each fall as a winter food resource for the Tribe (Fahey 1983).

Today, Kalispel adjudicated lands support a diversity of wildlife species that provide important recreational opportunities for viewing, hunting, and trapping. An estimated 247 wildlife species are found in the Pend Oreille sub-basin, 28 of which are considered to be decreasing in status, 17 of which are increasing, 102 of which are stable, and 100 of which are of unknown status. There are currently four wildlife species that are federally listed as threatened or endangered under the ESA with several more that are proposed or petitioned for listing.

Species	Status
Grizzly bear (*Ursus arctos*)	Threatened
Woodland caribou (*Rangifer tarandus*)	Endangered
Lynx (*Lynx canadensis*)	Threatened
Wolverine (*Gulo gulo*)	Threatened

White-tailed deer, *Odocoileus virginianus*, are the most sought-after big game species, followed by elk, *Cervus elaphus*, black bear, *Ursus americanus*, and mountain lion, *Felis concolor*. Significant hunting activity is expended in pursuit of waterfowl, ruffed grouse, *Bonasa umbellus*, and wild turkey. Other big game species include mule deer, *O. hemionus*; moose, *Alces alces*; and mountain goat, *Oreamnos americanus*. Furbearers present include beaver, *Castor Canadensis*; mink, *Mustela vison*; fisher, *Martes pennanti*, marten, *M. Americana;* river otter, *Lutra canadensis*; muskrat, *Ondatra zibethica*; and wolverine, *Gulo gulo*.

Many avian species use this area permanently for nesting and/or as a migratory stop. Many species of songbirds, raptors, and waterfowl can be found thriving in the area. The Pend Oreille subbasin supports one of the largest concentrations of nesting ospreys (*Pandion haliaetus*) in the western U.S. and supports several hundred bald eagles during the winter migration period when spawning kokanee and wintering waterfowl are available as a food source (Martin *et al.* 1988). Lake Pend Oreille, the lower Clark Fork River, and the Pend Oreille River have historically been important waterfowl nesting, migration, and wintering areas. Over 22 species of waterfowl have been documented using these waters including over a dozen great blue heron (*Ardea Herodias*) rookeries throughout the river's corridor.

KNRD's Wildlife Program provides the science for the conservation and management of species and habitats located on and off the Kalispel Reservation. The Program represents the Kalispel Tribe's interests in co-management decisions and actions within the Tribe's adjudicated lands,

and is involved in interagency government-to-government relations both at the state and federal levels. These efforts include research studies, monitoring efforts, resource assessments, policies, legislation, and regulation for Tribal acquired lands, game, non-game, and data management. The Program has direct responsibility for monitoring the numbers and health of wildlife species, setting population conservation and management objectives, overseeing wildlife habitat restoration and maintenance, and regulating harvest of game animals on the Reservation and tribally managed lands.

The Program has developed the following short- and long-term actions to address threats and stresses to wildlife resources for the Kalispel Tribe. The KNRD has set our management goal to maintain or increase harvestable levels of wildlife and botanical resources for Tribal subsistence at near historical level.

Resource Priorities

Conservation Biology and Invasive Species

Although the numbers vary widely, some current research estimates that there are approximately 50,000 non-native species in the United States today. Of these 50,000 species, approximately 4,300 are considered invasive species, and up to 10,000 may become invasive.

Compared to other threats to biodiversity, invasive introduced species ranks second only to habitat destruction, such as forest clearing. Of all 1,880 imperiled species in the United States, 49% are endangered because of introduced species alone or because of their impact combined with other forces. (Simberloff, D. 2000).

In order to maintain abundant and adequate resources for use by the Kalispel people, it is important to focus efforts to reduce or eliminate invasive species where feasible (Kaufman and Kaufman 2007).

Threat 1. Invasive noxious weeds

Action 1. Treat 10% of managed land base for noxious weed infestations using chemicals.

Action 2. Treat 10 – 20% of managed land base for noxious weeds using the cultural practice of prescribed fire.

Action 3. Inventory bullfrog population status and attempt suppression projects in areas isolated from re-infestation.

Action 4. Develop an Integrated Invasive Species Management section as part of the Fish & Wildlife Management Plan to address current and future threats to native habitats and species.

Dams, River Operations, and Development

More than a century of development has occurred within the Pend Oreille Valley flood plain not all of which has been sustainable or additive to the maintenance of a diverse and balanced

ecology. Disruption and/or changes to the river system's natural flow cycles creates favorable conditions for non-native species over native population life cycles and degrades native habitats by increased human activity and/or disturbance (TWS 2002). Erosion and loss of soil through wave action, wind, and/or river operations reduces availability of and access to habitat. Wildlife populations suffer losses to native habitat including the plant community associations necessary to sustain their populations over time (Risser, P.G. 1995).

Threat 1. Shoreline erosion and loss of habitat/access

Action 1. Inventory shoreline conditions and prioritize stabilization based upon resources at risk.

Action 2. Design, permit, and stabilize priority shoreline erosion projects on Reservation and managed lands.

Action 3. Provide technical assistance for erosion remediation as warranted or as prioritized to meet KNRD/Tribal needs within adjudicated lands.

Action 4. Track and participate in planning processes locally, regionally, and nationally as appropriate to protect or conserve Kalispel interests with regard to wildlife. Examples include: county planning processes, Northwest Planning and Conservation Council processes, and state management processes.

Action 5. Develop, plan, and execute shoreline stabilization projects along the Pend Oreille River.

Action 6. Develop, plan, and create habitat to support amphibian and reptile populations.

Habitat

The Wildlife Program's blueprint for conservation and management of the Tribe's wildlife populations and their habitats involves strategies to provide information on at-risk species and habitats, identify key issues affecting those at-risk resources, and recommend actions to mitigate or remove threats. The Program conducts species surveys; coordinates conservation and management of threatened and endangered species; oversees the importation, possession, confinement, and transportation of non-native species; performs research projects on the ecological requirements for a variety of non-game species; and coordinates staff to oversee individual project plans to restore and enhance wildlife populations and habitats in order to keep wildlife from becoming endangered or threatened.

Habitat restoration activities provided by the Wildlife Program serve the double duty of sustaining and repairing the fragile and fragmented riparian zones on and neighboring the Kalispel Reservation (Briggs 1996). The wildlife division has developed a field nursery to provide native plant materials used in the restoration of riparian and flood plain systems. It is within these resource patches that our membership can find an abundance of culturally important food, medicinal, and technological plants. The maintenance and repair of these resource patches provides the legacy between contemporary and future generations of Kalispel.

Threat 1. Loss of Diversity

Action 1. Participate in planning and develop management plans to determine the status of wildlife species important to the Tribe.

Action 2. Monitor and maintain current populations and engage in species and habitat conservation.

Action 3. Develop projects to protect, enhance, and restore wildlife habitats to support existing and growing populations.

Action 4. Create projects that protect species and habitat including, pollinators, forest carnivores, omnivores, and herbivores.

Action 5. Participate in, coordinate, cooperate in, and plan for co-management efforts to recover and conserve threatened species.

Action 6. Continue supporting the nursery to create a source for large scale plant materials for restoration sites.

Action 7. Assist the Bison program to maintain number and health of the herd for the use of membership.

Climate Change

Climate change is projected to result in differences in species composition, reduced biodiversity, and proliferation of invasive species (Blaustein and Wake 1990). The Program uses habitat protection and development, conducts wildlife research projects, provides assistance to membership for enhancement of allotment property for the benefit of wildlife, and provides technical assistance for best management practices when habitats are affected by climatic conditions. It also coordinates with other agencies to address land and water use issues associated with climate change (Joyce and Birdsey 2000).

Threat 1. Prepare for changes to landscape ecosystems due to climatic conditions.

Action 1. Monitor populations and document changes to important flora and fauna across the landscape due to climatic conditions.

Action 2. Develop methods and strategies to protect wildlife populations at risk.

Action 3. Develop methods and strategies to maintain habitats over time.

FORESTRY PROGRAM

KNRD's Forestry Program is responsible for implementing forest management activities on all forested trust and fee lands within the jurisdiction of the Kalispel Tribe of Indians. Forest management is defined as any activity performed on forested sites to promote or enhance the establishment and/or growth of the forest stand. Forest management activities include, but are not limited to: timber sale planning, layout, and administration; tree marking; road layout, construction, and maintenance; installation of road drainage structures and stream crossings; slash hazard reduction activities; slash piling and burning; broadcast burning; reforestation; and pre-commercial thinning. Historically, forest management activities were restricted to forested trust lands within the Kalispel Indian Reservation boundaries. The current approved forest management plan has expanded the Forestry Program's responsibilities to include all forested lands purchased through the Bonneville Power Administration by the Kalispel Tribe. These lands are collectively referred to as mitigation lands.

Resource Priorities

Tribal Trust Lands within the Kalispel Reservation

The Forestry Program's priorities are to manage for diverse, healthy forest ecosystems; maintain and/or restore, within the historical range of variation, processes under which the Kalispel Tribe's forest evolved; enhance wildlife habitat and aquatic habitat; identify and address forest health issues; promote seral species enhancement; and reduce forest fuel loading to reduce large fire potential.

Off-Reservation Tribal Trust and Fee Lands

The Forestry Program's priorities are to enhance wildlife habitat and to manage forest health issues for the benefit to wildlife.

Threat 1. Increase in stocking over time.

Stocking is a term that refers to the number of stems per acre in a forested area. Several forest management activities such as pre-commercial thinning (PCT), commercial thinning, as well as various other overstory harvest treatments are utilized to maintain stocking levels within prescribed acceptable levels. The last reservation wide timber sale on the Kalispel Indian Reservation, the Kalispel North/Kalispel South Timber Sale, occurred between 1988-1991. During the following 20 years many small timber sales occurred but they had a fairly small impact on the overall Reservation-wide forest stand conditions. The lack of harvesting larger areas was the main contributor to the increase of stocking on Tribal lands. The lack of prescribed burning during that same time frame was a secondary but significant issue as well. The resulting higher stocking levels have caused an increased competition to forested stands for available nutrients and water. The impacted stands become stressed and are more susceptible to various insect and disease outbreaks leading to an increase in mortality as well as a shift in species mix favoring shade tolerant species.

Action 1. Utilize various forest stand surveys such as stand exams, silvicultural reconnaissance, and Continuous Forest Inventory plots (CFI) to identify insect and disease outbreaks and determine severity of outbreak.

Action 2. Prioritize outbreak by size and intensity, species affected, and overall impact on forest ecosystem.

Action 3. Determine stand treatment, both pre-commercial and/or commercial entry, most effective in treating identified stand condition.

Action 4. Initiate and administer selected stand treatment.

Action 5. Maintain ongoing monitoring for effectiveness of selected stand treatment. Follow up with additional forest stand treatments as needed.

Threat 2. Conversion of stands toward more shade tolerant species.

When left unmanaged, a forested stand will change in species mix and stand structure over time. Species that are first to regenerate an open or freshly disturbed site normally require high levels of exposure to sunlight. These species are referred to as "Pioneer or seral species." Seral species are often fast growing and more tolerant to some forest diseases, such as various root rots, than many shade tolerant species. As a forested stand matures other species start occupying the site. These species grow and regenerate in more shaded conditions and are referred to as shade tolerant species. The shade tolerant species out compete the seral species and, because seral species have difficulty regenerating in shade conditions, eventually replace them in the forested stand. Stands composed primarily of shade tolerant species often times have higher stocking levels when compared to stands composed of seral species. These stands have high stress levels due to competition and exhibit higher levels of susceptibility to many insect and forest diseases. In particular, these stands typically have very high levels of several root rot diseases. The most effective treatment for these stands is species conversion to a more tolerant/less susceptible seral species.

Action 1. Identify and prioritize stands with highest percentage levels of shade tolerant species impacted by insect and/or disease outbreaks.

Action 2. Select most effective stand management activity to treat stand based on species impacted, insect/disease condition.

Action 3. Enhance and/or favor seral overstory and understory species during stand treatment.

Action 4. Follow up initial treatment with forest regeneration, PCT, commercial thinning, etc. and always favor seral species in residual stand.

Action 5. Ongoing monitoring of stand condition and continue follow up stand treatments as needed.

Threat 3. High fire-danger potential.

The lack of wildland fire and prescribed fire within Tribal forested lands has led to the buildup of forest fuels. These fuels are a combination of needles, branches, fallen trees, and other combustible fuels. The increase in forest stocking and shade tolerant species within Reservation lands is an added factor to this critical problem. The increased stocking of shade tolerant trees, specifically in intermediate sized trees with high percentage of live crowns, have led to fuel

ladder conditions. These conditions exist when the crowns of understory trees extend from close to ground level to the lower levels of the overstory canopy. When a ground fire is ignited in these conditions the fire can ignite the ladder fuels which in turn ignite larger overstory trees. These conditions contribute to increased fire potential and intensity of wildland fires. These factors can lead to catastrophic or stand replacement wildfires.

Action 1. Identify stands with highest levels of fuel loading, stocking levels, ladder fuels, and mortality.

Action 2. Prioritize stands for treatment and determine most effective treatment for stand conditions. Stand treatment must prioritize reducing forest stand stocking and fuel ladder conditions.

Action 3. Follow up treatment with hazard fuel activity such as machine piling and burning slash, broadcast burning, chipping slash, or hauling residual slash for pulp.

Action 4. Develop and maintain a Reservation-wide prescribed burn program.

Action 5. Develop a fuels-treatment program to deal with understory fuels in non-commercial stands.

CULTURAL RESOURCES PROGRAM

The Cultural Resources Program is tasked with a twofold objective in the conservation of Kalispel Tribal culture: the conservation of the Tribe's historic places, and the maintenance of access to culturally utilized places. The former necessitates the identification, evaluation, and, when needed, treatment of historic places. The latter necessitates the articulation of Tribal policy relative to planned land uses by the public or private sectors that affect Tribal members' ability to avail of existing cultural opportunities. Of the two service segments, the management of historic properties is objectively easier to measure in terms of acres inventoried for the presence or absence of historic properties, the frequency of resources evaluated for inclusion on the National Register of Historic Places or state equivalent, and which elements of Historic Property Management Plans are most frequently utilized to assure public development actions do not needlessly or systemically forfeit Kalispel tangible culture without equity. The details of this service segment are typically captured in a written agreement between the Kalispel Tribal Business Council and one or more counterparties. In the absence of such an agreement, Kalispel Tribal participation in the lands management planning process is stipulated by Section 101(d) of the National Historic Preservation Act of 1966 or through equivalent state statute.

In terms of maintenance of access to culturally utilized places the entire service package is reactive to public/private lands management planning and decision making processes. There are a finite few landforms of specific cultural use importance that the program actively guards against specific abuse. As the underlying mission is one of a holding action, the tracking metrics for success are difficult to quantify.

Resource Priorities

Conservation of Known Historic Properties

Known historic properties located on federal and state managed lands currently listed on or credibly eligible for inclusion on the National Register of Historic Places are provided the highest threshold of conservation consideration. Planned developments coincidental with the locations are negotiated between a minimum of three stakeholders, these being project advocate, State Historic Preservation Office(s), and the Tribe. The outcomes of such negotiations determine which decision path is taken based on the following order of primacy: avoidance of adverse effects, minimization of adverse effects, and, when unavoidable, mitigation of data loss due to proposed development. It must be noted that due to the broad spectrum of potential actions and actors it is difficult to predict which outcome for what undertaking is more likely in any one case. A "win" in cultural resources management is typically considered avoidance and a "loss" is typically considered mitigation given KNRD's and this Program's ethos of conservation.

Conservation of Undocumented Historic Properties and Uses on Public and Private Lands

Project proposals that affect current and historic uses of the land and/or alter its physical character are subject to public review and frequently cultural resources inventory. A potential result of such inventory is the identification of previously undocumented historic properties and/or Tribal member use patterns with cultural importance. If and when such resources or

cultural practices are discovered, the role of the program is to conserve the resource or practice through the negotiated process with the vested stakeholders.

Public Education

The conservation of historic properties and cultural practices necessitates public education to foster transparent decision making and to promote appropriate conservation outcomes. The program endeavors to assure the Tribal community it serves and the general public receives thematic summaries of the lessons learned from the resources encountered. In part such summaries are to fulfill contractual obligations between the Tribe and its partners but at their core emphasize more efficient methods of resolving future problems through innovations in methods and sampling strategies.

Threat 1. Future land conversion and resource extraction.

As population grows and the demands for goods and services increase, there will be an increase in land conversion and resource extraction. These and other actions that unearth, change current land uses, and/or diminish Tribal access to lands may adversely affect both the conservation of historic properties and cultural landscapes of importance to the Tribe.

Action 1. Review all project permit applications that have the potential to adversely affect Tribal historic properties and/or cultural practices.

Action 2. If a proposed project would impair Tribal historic properties and/or cultural practices, negotiate the best possible conservation outcome with preference given to avoidance of impacts.

Action 3. Advocate for the inventory of project sites on public lands when a proposed project has the potential to adversely affect Tribal historic properties and/or cultural practices.

Action 4. If archaeological excavation is necessary to understand the potential impacts of a project proposal, conduct investigations at the project proponent's expense while maintaining Tribal sovereignty as a keystone of the negotiated process.

Action 5. Store, within a National Park Service-qualified repository at the project proponent's expense, all archaeological collections and associated documents generated from excavations performed by the Tribe.

Action 6. If and when the Tribe builds its own National Park Service-qualified repository, advocate for the repatriation of Kalispel tangible heritage consistent with applicable law.

Threat 2. Climate Change.

Climate change poses two principal systemic threats to culturally utilized places. First, it leads to increased uncertainty in the sustainability of ecosystem services of which the Tribe avails through a net reduction in winter snow pack and diminished instream flow. Second, fire return interval periods are likely to shorten. It follows then that cultural places of importance with underlying ecosystem functionality will change in their location, size, proximity, and accessibility to the Tribe.

Action 1. Develop redundancy and rational niche design wherein the traditional capacities the ecology provided persist in cultural-ecological refugia that are accessible to the Tribe.

Threat 3. Invasive Species.

Parallel to climate change is the expansion of invasive species throughout the Tribe's adjudicated lands. These species displace native aquatic and terrestrial resources that are culturally important. Historic properties are unaffected by invasive species; yet, culturally utilized places can be dramatically and adversely affected with the inappropriate stocking of plants and animals that displace, outcompete, and/or diminish the native stocking of species utilized by the Tribe.

Action 1. Throughout the Tribe's adjudicated lands, advocate for the reduction of invasive species consistent with KNRD policies.

Action 2. Within designated cultural-ecological refugia, aggressively control invasive species to assure the conservation of Kalispel culture.

TIMBER FISH AND WILDLIFE

Timber Fish and Wildlife (TFW) and its related activities impact all the Programs managed under KNRD through timber harvest and associated activities. The TFW program is shaped around the Forest and Fish Report (FFR), presented to the Governor's Salmon Recovery Program in February 1999.

The goals of the FFR are fourfold:

1. To provide compliance with the Endangered Species Act for aquatic and riparian-dependent species on non-federal forest lands;
2. To restore and maintain riparian habitat on non-federal forest lands to support a harvestable supply of fish;
3. To meet the requirements of the Clean Water Act for water quality on non-federal forest lands; and
4. To keep the timber industry economically viable in the State of Washington.

Given the broad impacts of this program on the Tribe's adjudicated lands, the TFW Program works to support and coordinate with the other programs of KNRD to help mitigate the impacts of timber harvest activities and meet KNRD's goals in other areas of resource management.

Additional projects that are currently managed under the TFW program include annual ruffed grouse drumming surveys, a Rocky Mountain bighorn sheep study, and summer and winter carnivore presence/absence surveys. Future projects include a White Nose Syndrome study on bats and a bullfrog removal project. Both are slated to start in 2017.

Resource Priorities

Support Fish and Wildlife Program Priorities

The TFW Program's priorities are to prevent further degradation of riparian and aquatic resources throughout the Kalispel adjudicated lands; manage forest ecosystems for forest health and fish and wildlife habitat while maintaining a sustainable logging industry; and reducing and/or eliminating fish passage barriers and sediment delivery from road-related activities.

Threat 1. Forest practices along riparian areas adjacent to streams and wetlands.

The first three goals of the FFR are designed to leave adequate buffers along streams and wetlands to protect critical stream functions necessary to support aquatic life. The Rules are also designed to restore passage at road crossings and eliminate sediment delivery to streams. Another threat, unstable slopes and landforms, also requires protection regardless of the presence of water. Inadequate buffering along streams can have short- and long-term impacts to water quality and temperature, wood recruitment, slope stability, sediment delivery, and other critical functions.

Action 1. Insure that the Rules that protect these resources are adequate through adaptive management

Action 2. Work with agencies and landowners so that Rules are applied correctly in the field.

Action 3. Perform annual compliance monitoring.

Threat 2. Maintain a viable timber industry while protecting fish and wildlife resources.

Consistent with Goal #4 of the FFR, the Tribe understands the need for a sustainable logging industry and its importance to the health and economy of Pend Oreille County. Also used by the Tribe, logging is a tool used to reduce the chance of wildfire and create stands that are more resilient to insect and disease. Logging also provides jobs to the local area.

Action 1. Insure BMPs are being used on the landscape during timber harvest that maximize both harvest and resource protection.

Action 2. Work collaboratively with landowners and regulatory agencies when issues/concerns do arise.

Action 3. Participate in and insure the FFR Adaptive Management program is functioning successfully.

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IMPLEMENTATION PLAN

See Attached Spreadsheet