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## Big Meadows Wildlife Mitigation Project
## Site Specific Management Plan for Property III


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## EXECUTIVE SUMMARY

The Kalispel Natural Resource Department (KNRD) continues to mitigate the wildlife habitat losses as part of the Albeni Falls Wildlife Mitigation Project. Utilizing the Bonneville Power Administration (BPA) funds, the Kalispel Tribe of Indians (Tribe) was able to purchase the Rick Graves property totaling 15 acres. A Cultural Resource survey was conducted to identify any issues and none were found (Philmon. 2015). This Idaho property will be managed as part of the ongoing collection of properties called Big Meadows that partially mitigate wildlife losses from Albeni Falls Hydropower facility (Martin, et, al. 1988).

This document is meant to serve as a site specific Wildlife Management Plan for the former Graves property and become an appendix to the Habitat Management Plan: Kalispel Tribe Wildlife Management Area (Plan) for mitigation lands within Idaho. This plan represents the management activities that will take place to protect, operate and maintain, and in some areas enhance wildlife habitat on Kalispel acquired lands in Idaho State (Merker and Scholz. 1990).

Habitat Evaluation Procedures (HEP) have been used in the past to estimate baseline habitat conditions. These procedures were the standard loss estimator in all hydroelectric loss statements submitted to the Northwest Power Planning Council (NPPC). Bonneville Power Administration required the use of HEP on a project-specific basis for increased detail and accuracy. As part of the Tribe's mitigation effort this property will be included in the Upper Columbia Wildlife Monitoring and Evaluation Project (UWMEP) for routine monitoring towards meeting its desired future condition. As part of that project, a series of data will be collected at permanent grid plots within each of the proposed habitat management types. This data will provide baseline composition and abundance information for avian, small mammal, and amphibian populations as well as additional vegetative composition detail for specific habitat types. These data will also serve as the means for evaluating the success and/or failure of management activities. The majority of the property is in the forest cover type and was evaluated for current and desired future conditions.

The acquisition of the "Phase III Big Meadows" property will provide BPA with an estimated 33.75 Habitat Units (HUs) for the 15 acres involved. This estimate of 2.25 HUs per acre is based on the average of past acquisitions and will be used as full credited value of the property as agreed to in the 2012 Kalispel Fish Accord (Accord).

These lands acquired by the Kalispel Tribe with BPA funding, will be managed to benefit wildlife habitat with associated species, populations, and guilds.

## INTRODUCTION

This plan addresses the management actions that will be conducted on the Phase III acquisition (15 acres) which provides protection, mitigation, and enhancement for wildlife species affected by the construction and operation of the Federal hydroelectric facilities on the Columbia River System. The properties would be used for wildlife habitat and would provide BPA with credits for partial mitigation of wildlife losses due to the construction of Albeni Falls Dam.

The Kalispel Tribe of Indians, supported by BPA funding will manage this land under this document for restoration, protection, and management of wildlife habitat and species and be included in the Tribes' Plan for acquired lands located in Idaho (specifically the Big Meadows area-see map below).

The purpose of this site-specific plan is to outline baseline habitat conditions and management strategies that would be employed in the management of these Kalispel mitigation lands over time. This plan after review and acceptance will be added as an Appendix in Habitat Conservation Plan for the Kalispel Tribe Wildlife Management Area (WMA) (Stovall, 2006).

## PROJECT DESCRIPTION

The former Rick Graves now called Phase III Big Meadows property is located nineteen miles (19) air miles northwest of priest River, Idaho, and seven (7) miles southwest of Coolin (small community on south end of Priest Lake, Bonner County, Idaho. To access the property travel north from Priest River on State Highway 57 for about 23 miles to the intersection with Squaw Valley Road. The property is on the south side of Squaw Valley Road, just west of address 4182 Squaw Valley Road. GPS coordinates at the intersection of Squaw Valley Road and the northeast corner are: 48 degrees, 27 minutes, 26.3959 seconds, N latitude and 116 degrees, 59 minutes, 36.7334 W Longitude.

The legal description of the property is as follows:
That portion of the East half of the Northwest quarter of Section 21, Township 59 North, Range 5 West, Boise Meridian, Bonner County, Idaho, that lies Southerly of the County Road, known as Squaw Valley Road; EXCEPT the East 812 feet thereof, and also, EXCEPT the South half of the Northwest quarter of said Section.

The Big Meadows Project Area in Bonner County provides habitat to various species. Goose Creek provides habitat for waterfowl and furbearing animals such as muskrat, beaver, skunk, weasel, mink, and otter. Moose, elk, mule and white-tailed deer, and black bears are all native to the area and will utilize the forested areas for part of their life requirements. Upland areas of hardwoods contain ruffed grouse as well as numerous species of resident and neo-tropical migrant birds. Raptors that nest in or near the Big Meadows area include bald eagles, red-tailed and marsh hawks, and owls. Amphibians and reptiles are also present in the area but not yet assessed.

White-tailed deer habitat in Idaho is dominated by dense conifer forests interspersed with natural brush fields, logged areas, river bottoms, and farm lands. Whitetails subsist almost entirely on a diet of browse during the winter. During the coldest months and deep snow conditions, deer select habitats for cover value and eat whatever is available in these habitats. During the winter, whitetails are usually located at lower elevations in association with river

bottoms and lake shores. The Phase III property will provide winter habitat for elk as well as white-tailed deer.

The adjacent riparian habitat enhancement in Big Meadows would benefit white-tailed deer and a variety of other species. Over time, enhancement activities designed to improve winter browse availability and habitat conditions for reproductive life requisites are expected to increase the prey base of listed predator species. The opportunity to enhance protected areas that are better suited for maintaining or increasing specific habitat values could provide additional long-term benefits for all listed species.

## MITIGATION OBJECTIVE

This property was acquired to protect, enhance, and restore the wildlife values in the Big Meadows acquisition from human encroachment and development. Large blocks of intact habitat will provide travel corridors between cover types, space to expand populations, create and maintain diversity, and buffer/guard against environmental and climatic changes. The entire Big Meadows property including Phase III provides this need for wildlife.

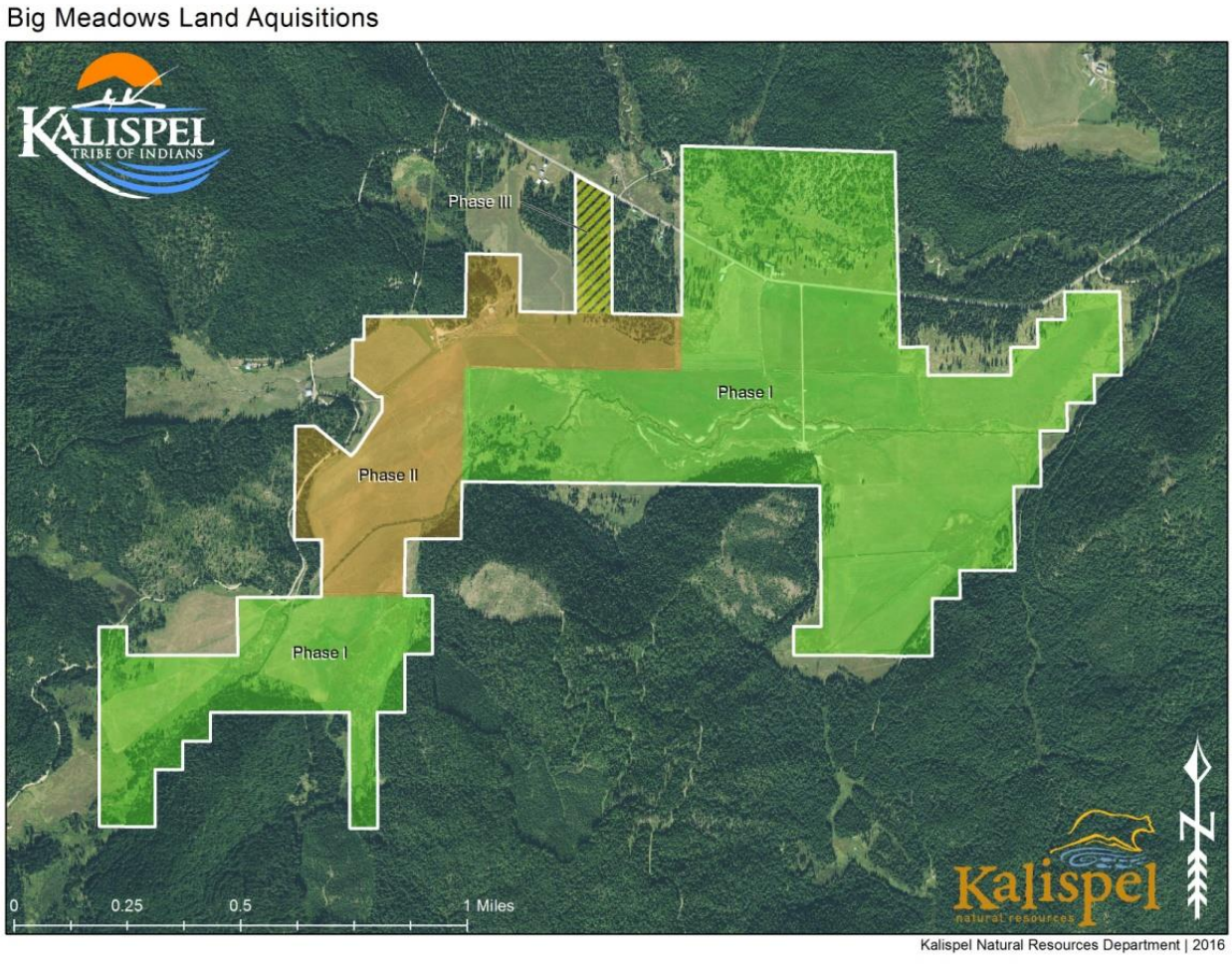


**Figure 1**

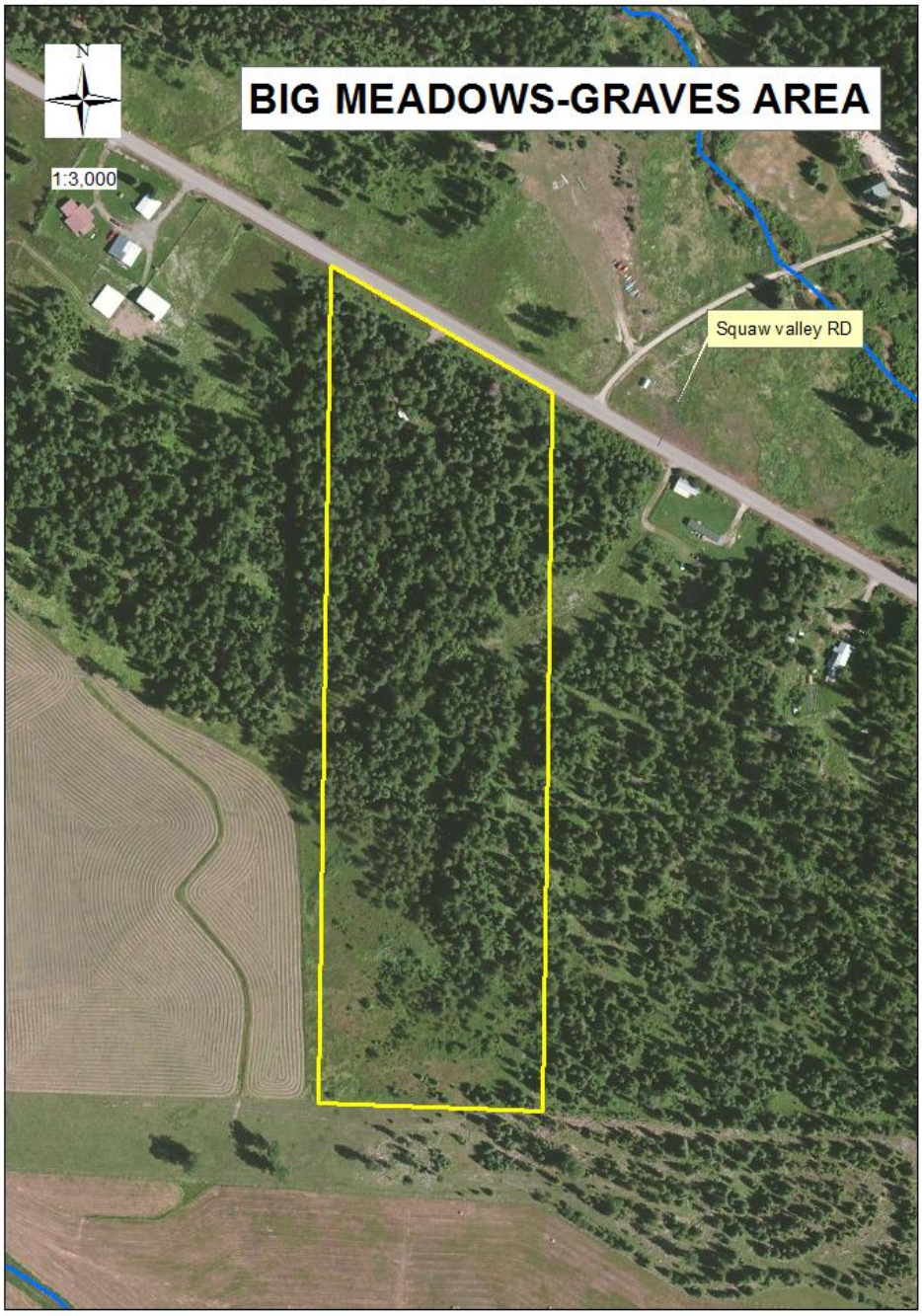


**Figure 2**

## GENERAL SITE DESCRIPTION

The rectangular parcel contains 15 acres that is 424 feet wide by 1,551 feet deep north to south. The land north and west is US Forest Service land for miles and the land south is the Big Meadows property owned by the Tribe. The land cover is a relatively heavy stand of second growth-timber with diverse timber types. The parcel lies in the valley floor so the terrain is near level with slight undulations. The elevation is about 2,495 feet above sea level and does not vary more than plus or minus five feet.

There is no published mapped soil data for this area of the county but neighboring soils consist of silty clay loams over heavy clay and/or sandy clay sub-soils.

The map below shows the wetland classifications and where on the property they are located (Figure 3). The property is entirely covered by forest. The area closest to the road is probably a result of when the road was established and is composed of fill materials from a nearby pit. The property becomes wetter as you proceed towards the south end.

Because of development this property is all that is left of the forest that once covered the area. Most of the timber was harvested and never replaced as the local farmers cleared the land to raise hay or use the area for pasture. Now the area has high demand for recreational purposes year round.

## COVER TYPES

The cover types on this property are conifer wetland forest and less than three acres of upland conifer forest. The appraisal for the property determined that the forest is unusually diverse with almost all north Idaho conifer species present on this one small site.

Historic vegetation patterns were largely influenced by logging and fire. Uplands were typically dominated by seral species in various stages of succession, with age and composition dependent largely on fire cycles, elevation, slope, and aspect. Effective fire suppression since the 1930s, the introduction of white pine blister rust, timber harvest, and the building of roads are the major causes of deviation from the historic disturbance and vegetation patterns. These changes from historic conditions lead to further changes in distribution and sucessional processes, making it difficult to provide for a sustainable ecosystem. For example in moist habitats, there has been a shift from western white pine (*Pinus monticola*) and larch (*Larix occidentalis*), to Douglas fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), and western hemlock (*Tsuga heterophylla*); there has been a decrease in the late-successional stage forests; and there has been an increase in shade-tolerant, drought-intolerant tree species (USFS 2005).

Conifer forests on this property consist of mixed stands of subalpine fir (*Abies lasiocarpa* ), Douglas fir,Engleman spruce (*Picea engelmanii*), grand fir, lodgepole pine (*Pinus contorta*),western hemlock, whitepine, ponderosa pine (*Pinus ponderosa*), western red cedar (*Thuja plicata*), and larch. Grand fir is the dominate species with over 20% of the total volume.

## METHODS

This property borders the edge of a huge meadow with a high water table and the south end has many small intermittent cross channels. The National Wetlands Inventory shows most of this parcel in some sort of wetlands classification (USFWS, 1980). The south end is classified as an emergent seasonal wetland and the rest is an evergreen forest seasonal wetland (see map figure 2.).

The wetland forest types are over stocked with most of the timber in the pole class with diameter at breast height between nine and fourteen inches. Best management practices as stated in the Forest Management Plan (FMP) used by Tribal forestry recommends reducing the standing volume by only 30%. The appraisal stated removing 50% of the trees because the existing BASAL AREA (BA) is 104 square feet per acre. This site, which is high tree growing site, could support 110-150 square feet of BA per acre. So a 50% reduction would take the BA down to 52 square feet of BA. A 50% reduction in volume would not be prescribed in the Kalispel FMP as it would reduce the benefits to wildlife.

The entire BIG MEADOWS-GRAVES project area should be commercially thinned within the next 5 years. Basal area needs to be reduced to 130 to 160 square feet per acre. Prioritize retention species as listed above. This thinning will invigorate the retention trees for increased diameter growth, less completion for health essentials and provide additional tree energy for combating disease and insects. A cut-tree mark is recommended over the entire area (15 acres). A timber cruise was performed during the appraisal and is deemed adequate. The appraisal timber cruise will be used to offer the area for a logging prospectus. The terrain of this unit is suitable for ground-based logging. The preferred method of logging should be cut-to-length because minimal damage to the residual stand is of utmost importance. Operators with cut-to-length logging systems are few, so advance logging planning is critical in order to secure one of these operators. Any slash accumulated at the landings will be cleanly piled, placed away from residual trees and will not exceed 20 feet in length and 10 feet in height. Landing location will be predetermined. Skid trails and removal of skid trail trees will be kept to a minimum to reduce the number of passes over the ground and additional trees being cut. All haul roads are in place.

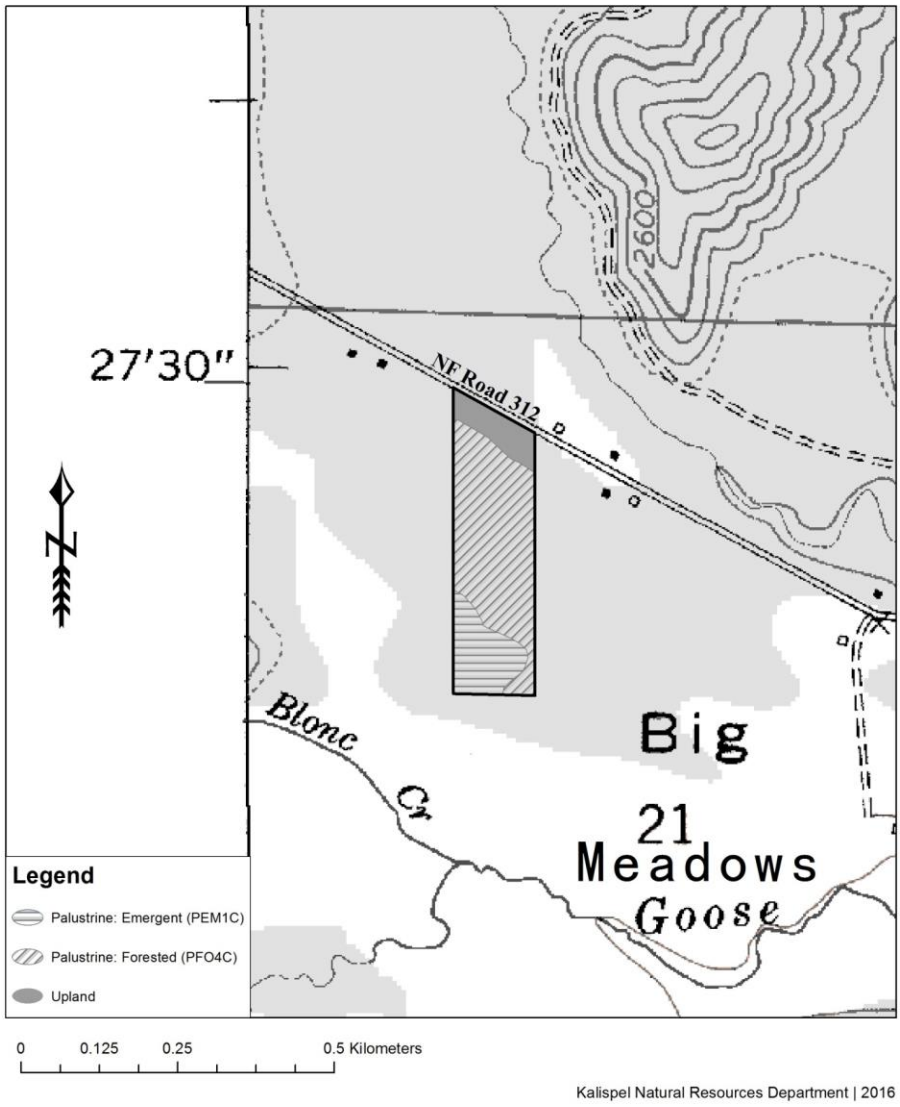


**Figure 3**. Cover types on Graves (phase III) property.

## DISCUSSION

This property will be added to the current Big Meadows holding and managed as part of that Project Area. The evaluation of current habitat quality and quantity as well as the potential for restoration and/or enhancement required the use of multiple tools. Baseline conditions for both the vegetative and animal communities were assessed through the use of plot and transect data collection to describe community composition and distribution across the Project Area Enhancement recommendations were derived by the use of comparative analysis. Remote sensing imagery (aerial photography) was compared to detect former vegetation and hydrologic composition prior to habitat alteration. Although completely undisturbed reference sites are virtually non-existent for comparison of composition and function, a limited number of predominantly undisturbed sites served as additional references toward which Tribal management actions should strive to achieve.

Timber harvest in this area likely had the objective of expanding the agricultural land. The Big Meadows Cattle Company ran cattle and hayed the bottom land at least as early as the 1940's. The first timber harvest on this area occurred in the 1950 through 1960 era. Conifer regeneration occurred naturally after the timber harvest as there is no evidence of significant soil tilling or heavy grazing (except the southwest corner). Skid roads are in place to access this area from the previous harvest.

Objectives for the project area are:

1. Salvage and remove root rot susceptible trees and bark beetle infested trees;
2. Manage for large diameter trees (19"+DBH);
3. Prioritize in this order, WWP, WL, WRC, ES, SAF, WH, for retention as large diameter legacies or to grow in to legacies;
4. Thin to habitat type recommended residual basal areas where excess basal area exists, i.e. 130-160 square feet of basal area;
5. Regenerate root rot/bark beetle areas naturally to WWP, WL, WRC and ES;
6. Harvest trees indicating a high risk to mortality within the next 15 years, specifically GF, SAF, WH and LPP.

## MANAGEMENT GOAL AND OBJECTIVES

### ***Goal***

The goal of habitat conservation is to conserve the full range of species, natural communities, habitats, and ecological processes that are characteristic of an area. The initial goal of habitat management within each management area is to ensure continued and/or enhanced use by targeted wildlife species.

***Objective 1*.** Determine baseline plant and animal community composition, abundance and distribution.

***Objective 2*. Operation and Maintenance**

Operate and Maintenance of Phase III as part of the Big Meadow plan for Albeni Falls Wildlife Mitigation Program.

***Strategy 2.1*.** Reduce human-induced wildlife disturbance through access management.

- Hunting, fishing, and trapping would be allowed on Phase III with permission only from the KNRD. Bag limits and season lengths follow Idaho State regulations and are enforced by the Idaho Department of Fish and Game. Hunters and trappers are required to take whatever precautions are available to them to ensure public safety. Hunters may access the property only by foot, even for the purpose of retrieving harvested game.

- Cross-country skiing and snow-shoeing would be subject to seasonal restrictions, and allowed on existing roads and by permission only.

- Horses would not be allowed access on the property. Dogs would be allowed throughout the Big Meadows as long as they are leashed and/or under the owners control at all times.

- Overnight camping, camp fires, and outdoor barbeques are prohibited on the property without a KNRD permit.

- Cutting of dead and downed trees for personal firewood use is prohibited without a KNRD permit.

- Commercial berry gathering and harvesting is prohibited on the property.

- Hiking is allowable and is subject to seasonal restrictions.

***Objective 3.*** **Perimeter Fencing**

Maintain, repair and replace entry gates and perimeter fencing on an as needed basis.
A total of one mile of Perimeter fencing needs to be maintained. The part of the property along Squaw Valley road and the east and west sides needs work. This fence is currently a four strand barbed wire supported by wood posts every 15 feet with wooden brace and corner posts as necessary (4-5 "x 7 'treated post buried at least two feet into the ground). As this fence ages, the wire will be replaced with smooth wire because no livestock currently impact the fence. Steel posts (6 ft) are driven and wooden posts are augured or hand dug. Wire is attached either by clips or staples. A Gate constructed of metal 12 foot long needs to be installed on the only access road on the property.

***Objective 4.*** **Control Noxious Weeds**

Weed species, life cycles, abundance, and dispersion will dictate the mechanism(s) for elimination. An inventory was done in 2010 on the Big Meadows property to map abundance and distribution of noxious weeds. Since then ten percent or more of the total acreage has been addressed to control noxious weeds. Methods include chemical applications, burning, mechanical, and hand removal. This property will be added to list and receive treatment as necessary to control noxious weeds.

***Strategy 4.1*** Chemical Applications
Chemical applications to noxious weeds will cover at least 10% of the property for the next five years

***Strategy 4.2*** Implement controlled burning.
Controlled burning will be used to promote native vegetation renewal and decrease fire hazards. It will be used as a management tool to increase disturbance in riparian areas, upland forest, forest meadows, and deciduous tree stands. Currently there is no burn plan developed for this property and we will not conduct controlled burns on this unit for the next five (5) years. If vegetation removal is conducted for forest health then the residue will be piled and burned after the treatment.

***Objective 5.*** **Conifer Reforestation**

Practice sustainable forest management in a way that maintains biodiversity, productivity, and regeneration capacity, and that does not cause damage to other ecosystems. Maintain the diversity of species and replant as necessary.
The entire BIG MEADOWS-GRAVES project area should be commercially thinned within the next 5 years. Basal area needs to be reduced to 130 to 160 square feet per acre. Prioritize retention species as listed above. This thinning will invigorate the retention trees for increased diameter

growth, less completion for health essentials and provide additional tree energy for combating disease and insects

***Objective 6.*** **Wetland Reforestation**

Management actions for restoring plant communities on wetland areas will preserve the unique assemblage of plants and animals (Kusler and Kentula. 1990). Management objectives will target the management activities needed to maintain species numbers and density over the next five years.

***Objective 7.*** **Upland Forest Management**

The upland forest lands on property are in good condition and are extremely small. Management actions to thin stands (cut and pile for burning) as needed over the next five years will create forest openings and help provide areas for species conversion.

***Objective 8.*** **Monitoring and Evaluation**

Several methods will be employed to determine the baseline condition of wildlife guilds and vegetation. Baseline conditions for small mammals, neo-tropical migratory birds, migratory waterfowl, and vegetative characteristics for each representative habitat will also be collected. This data will be compared to the reference sites in order to provide the managers with information crucial to the function of each habitat type. In future years, comparisons will be made to determine habitat progress toward meeting the goals and objectives for the project. The Upper Columbia united Tribe's (UCUT) Wildlife Monitoring and Evaluation Plan (M&E Plan), a modified monitoring plan from the Albeni Falls Wildlife Monitoring and Evaluation Plan which is contained in the Conservation Plan for Washington mitigation projects (Stovall, 2006). This comprehensive M&E Plan was developed in response to the Independent Scientific Review Panel (ISRP) questions regarding project monitoring and adaptive management. The M&E Plan was revised and implemented in order to determine project success as compared to reference site conditions for the various habitats types under modification. This M&E Plan was also expanded regionally to include all wildlife mitigation projects for the five member tribes of UCUT.

## BUDGET

Phase III Annual Budget

| ITEM | DESCRIPTION | TOTAL |
|---|---|---|
| Program Manager | .1 FTE | $6,800 |
| Biologist | .5 FTE | $31,200 |
| Bio-technician | .75 FTE | $31,200 |
| benefits | 45% | $20,068 |
| **Materials & supplies** | O&M needs | $10,000 |
| **Indirect** | 16.32% | $18,245 |
| **O&M Activities** | | |
| Objective 1. | Baseline inventory | $1,500 |
| Objective 2. | O &M | $500 |
| Objective 3. | Fencing 1 mile | $5,000 |
| Objective 4. | Weed Control 2 ac | $130 |
| Objective 5. | Forest Mgt | $5,400 |
| **Restoration/enh.** | | |
| Objective 6. | Wet forest 30% thin | $1,000 |
| Objective 7. | Forest Mgt | $250 |
| **M&E** | UMEP | $0 |
| Total Annual Costs | | $131,293 |

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