
WILDLIFE HABITAT PLAN

LICENSE ARTICLE 406

Draft Final

LAKE CHELAN HYDROELECTRIC PROJECT
FERC Project No. 637

July 10 August 29, 2007



Public Utility District No. 1 of Chelan County
Wenatchee, Washington

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EXECUTIVE SUMMARY

The Federal Energy Regulatory Commission (FERC) Order on Offer of Settlement and Issuing New License (License) for the Lake Chelan Hydroelectric Project No. 637 (Project) was issued November 6, 2006 to the Public Utility District No. 1 of Chelan County (Chelan PUD). Article 406 of the new Project License requires Chelan PUD to submit to FERC a Wildlife Habitat Plan by November 6, 2007. This plan describes the methods and schedule used to demonstrate compliance with efforts for upland habitat improvements in the Lake Chelan basin, and riparian habitat improvements in the Lake Chelan basin required by the new license, as specified in the License articles, and the Lake Chelan Comprehensive Settlement Agreement, October 8, 2003 (Settlement Agreement). Included in this plan are provisions for acquiring conservation easements and providing habitat enhancement on private lands on the north shore of Lake Chelan, upland habitat improvements for the USDA Forest Service and Washington Department of Fish and Wildlife (WDFW), noxious weed control, wildlife surveys, and riparian habitat improvements for USDA Forest Service and the National Park Service (NPS) on lands surrounding Lake Chelan.

SECTION 1: INTRODUCTION

The Federal Energy Regulatory Commission (FERC) Order on Offer of Settlement and Issuing New License (License) for the Lake Chelan Hydroelectric Project No. 637 (Project) was issued on November 6, 2006 to the Public Utility District No. 1 of Chelan County (Chelan PUD). The Project License requires a number of measures related to wildlife habitat enhancement and protection measures to be implemented in the Lake Chelan basin, as described in the Lake Chelan Comprehensive Settlement Agreement (Settlement Agreement), October 8, 2003. The Settlement Agreement is Appendix A of the Project License.

Project License Article 406 requires Chelan PUD, within one year of the license issuance date, to file with FERC a Wildlife Habitat Plan (WHP). The components of the WHP relate to upland and riparian habitat improvements in the Lake Chelan basin that are specified in the Settlement Agreement, as stated below.

Article 406. Wildlife Habitat Plan. Within one year of the issuance date of the license, the licensee shall file for Commission approval, a Wildlife Habitat Plan for upland habitat improvements in the Lake Chelan basin, and riparian habitat improvements in the Lake Chelan basin.

This WHP reflects the present status of efforts for conservation easement acquisition with subsequent habitat restoration on north shore Lake Chelan private lands, implementing upland habitat improvements for the USDA Forest Service and Washington Department of Fish and Wildlife (WDFW), noxious weed control, wildlife surveys, and riparian habitat improvements for USDA Forest Service and the National Park Service (NPS) that will be conducted in order to meet the requirements of the Project License and Settlement Agreement. The organization of this WHP is in sections that relate to specific clauses in Article 406. Each section begins with the relevant requirements of the License, followed by a description of the methods that will be used to monitor and report compliance with the License.

SECTION 2: UPLAND HABITAT IMPROVEMENTS

Funds allocated under the WHP will be expended on resources that are most valuable to wildlife and most compatible with wildlife land use in Chelan County. Those lands will include key habitat types, migration corridors, and shrub steppe, grassland, and riparian/wetland habitats that offer restoration or improvement opportunities. The primary goal of the WHP is to enhance wildlife habitat within portions of Chelan County bordering Lake Chelan to:

- i) Restore, maintain, or improve ecological quality and diversity;
- ii) Restore, maintain, or increase habitat for key indicator wildlife species; and
- iii) Provide for public use compatible with the ecological quality, diversity, and carrying capacity for key wildlife species goals.

Primary wildlife indicator species for purpose of the WHP include mule deer and bighorn sheep; threatened, endangered, sensitive, species of concern, or survey and management species; and riparian and wetland indicator bird and amphibian species.

The appearance of the WHP focusing, primarily, on big game species is due to LCWF desire that habitat be protected and enhanced during the term of the new license for species that overwinter in the Chelan Basin, which are mule deer, bighorn sheep, and mountain goats (Eldred, pers. com.). However, this emphasis is not intended to exclude implementing measures to provide benefits for other terrestrial and avian species: the LCWF members acknowledge that all habitat protection, restoration, and enhancement activities will provide benefits for multiple species and achieve the goals stated previously, which is the overall intent of the WHP.

2.1 Conservation Easement Acquisition

The area of primary focus for acquisition of conservation easements on private lands is located between Gold Creek and Camas Creek (Figure 1.) at elevations between 1100 and 1400 ft MSL (i.e., from lake level to approximately 300 ft above). Information gathered from Chelan PUD wildlife surveys shows habitat in these areas to be critical to mule deer and big horn sheep overwinter survival and includes crucial big horn sheep lambing habitat. Wildlife surveys indicate about 25 percent of mule deer observed during surveys congregate in this five mile reach of private ownership in severe winters. According to WDFW wildlife staff, securing conservation easements to prevent development on these lands, other than land close to the Lake Chelan shoreline, will protect lower elevation wildlife habitat that is contiguous with and additional to USDA Forest Service lands.

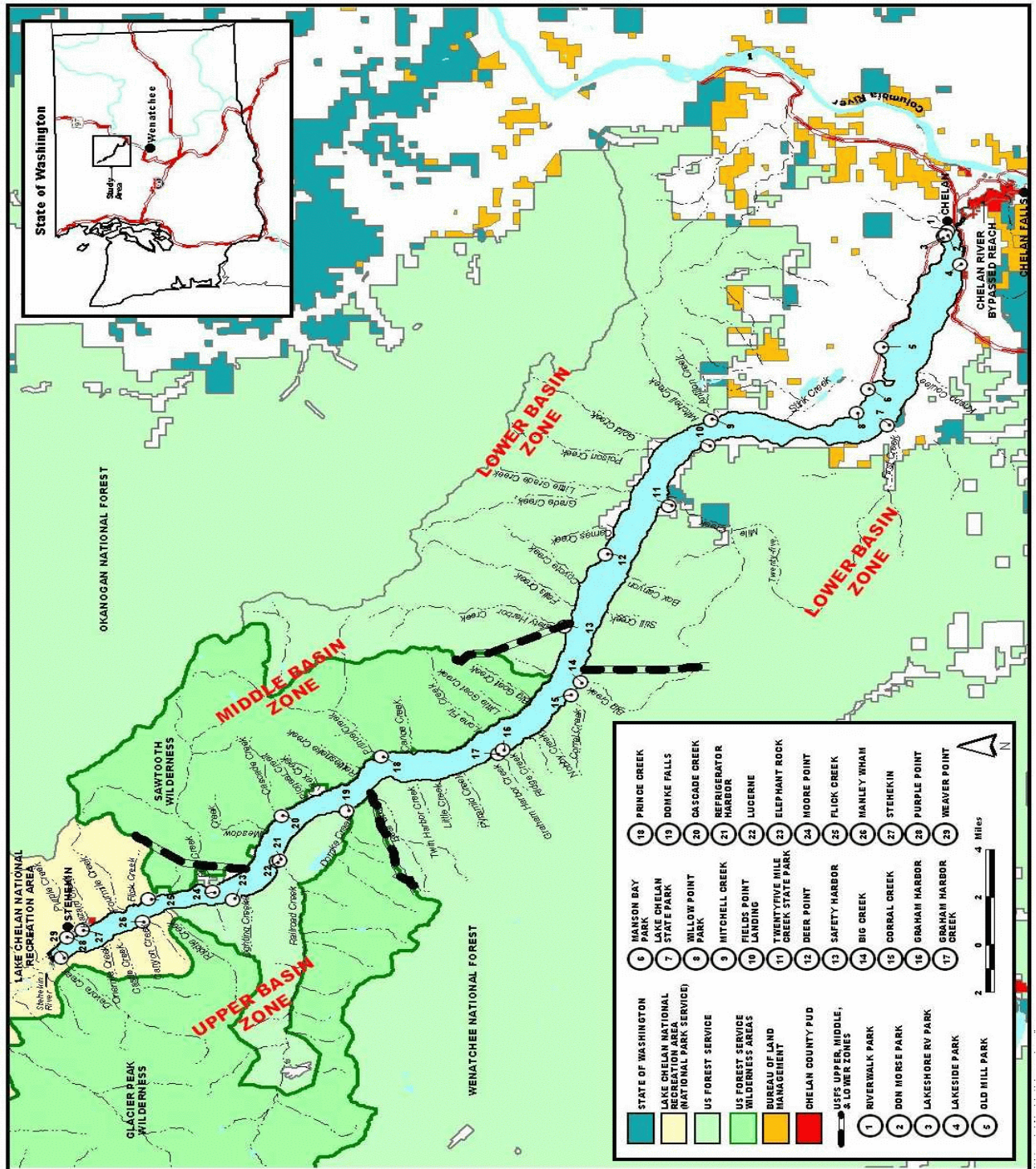
2.1.1 Chelan-Douglas Land Trust

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods

and funding for acquiring conservation easements on private lands on the north shore of Lake Chelan.

(a) **Wildlife Habitat Restoration.** (1) Chelan PUD shall make available \$220,000 to the Chelan-Douglas Land Trust, for the acquisition of conservation easements in perpetuity on privately-owned lands located on the north shore of Lake Chelan. For purposes of this Chapter, all references to the Chelan-Douglas Land Trust refer to the Chelan-Douglas Land Trust or another organization selected pursuant to paragraph (a)(6) of Proposed License Article 9. The goal is to secure easements on 400 acres of land, and priority shall

Figure 1: Lake Chelan Basin



be given to easements on lands between elevations 1,100 and 1,400 ft.

(2) Chelan PUD shall make available additional funding of up to 15 percent of the cost of easement acquisition (not to exceed \$33,000) to the Chelan-Douglas Land Trust, for fees associated with easement acquisition. Associated fees include administrative costs, appraisals, baseline inventories, escrow fees, hazardous substance assessments, legal fees, recording fees, stewardship fees, surveys, and fees relating to title reports and insurance.

(3) Chelan PUD shall make available \$32,000 to the Chelan-Douglas Land Trust, for shrub-steppe/mule deer winter-range habitat restoration efforts on the lands, if any, for which an easement is acquired under paragraph (a)(1) of this subsection. Beyond making the \$32,000 available, Chelan PUD shall have no responsibility for the success of the restoration efforts to be carried out by the Chelan-Douglas Land Trust, in coordination with WDFW. In its contract with the Chelan-Douglas Land Trust, Chelan PUD shall require the Chelan-Douglas Land Trust to coordinate with WDFW in order to assure the highest likelihood of habitat restoration success.

2.2 USDA Forest Service

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for USDA Forest Service habitat and wildlife enhancement measures:

(1) Within 180 days of the effective date of the New License, and by January 31st of each subsequent year, Chelan PUD shall make available to the USDA Forest Service \$20,000 per year during the term of the New License, and any subsequent annual licenses, for habitat and wildlife enhancement measures identified in section 3 of Chapter 9 of the Comprehensive Plan.

A treatment method used extensively by the USDA Forest Service for forest restoration is prescribed burning (USFS 2002), illustrated by projects described in section 2.2. Prescribed burning provides benefits to all species dependent on shrub steppe habitat by reducing the amount of available fuels and, therefore, the severity of summer wildfires. Prescribed burning also rejuvenates plant communities that have evolved with fire, thereby improving habitat conditions for all species dependent on shrub steppe and grassland habitats. Recent USDA Forest Service research has focused on the benefits to, and responses of, avian species from prescribed burns (Lyons et al. 2007; Gaines et al. 2007). Additionally, prescribed burning provides acceleration of a sustainable dry late-successional ponderosa pine forest and the species dependent on this type of forest such as pileated woodpeckers, marten, white-headed woodpeckers, pygmy nuthatch, Western gray squirrel and spotted owls.

2.2.1 Habitat and Wildlife Enhancement: 2008-2011 ongoing projects/programs

Wildlife Habitat Improvement: Accrue ~\$20,000 for work deferred during plan development in 2007. May need to initiate seed increase contract with a USDA Forest Service contractor, and obligate funds in order to jump start Native plant program.

Native Plant/Seed Propagation and Increase Program. Initiate native seed collection and propagation for use in habitat improvement projects. Native seed to be collected and increased would include blue bunch wheatgrass, low elevation cedar, and perhaps yarrow and lupine. Estimate \$2000 per year to produce seed for 5-20 acres (cost effectiveness will increase as yields increase over time). Seeding native species to compete with non-native invasives will be essential mitigations to prescribed burning conducted for habitat improvement in some portions of the winter range, and in themselves, constitute an improvement in habitat by improving forage for wildlife. Project may be conducted in conjunction with propagation of native plants for PUD funded erosion control which could include shrubs and trees such as bitterbrush and dogwood.

2.2.2 Habitat and Wildlife Enhancement: 2008-2011 habitat improvement projects

These projects are placed in order of project readiness to some degree but due to the changing nature of our fire prone landscape, and the unpredictability of opportunities to partner these projects with both internal and external funding sources and implement projects with the greatest potential benefit to wildlife and habitats, the priority of these projects will change as conditions and circumstances warrant.

NOTE: None of the planned projects will require periodic maintenance. Any monitoring and maintenance needs will be accomplished with Forest Service program funds.

4th of July Mountain Winter Range Thermal Cover Planting – Approximately 110 acres on the north side of 4th of July Mountain burned with high severity in the 2002 Deer Point Fire, consuming a relatively dense stand of trees that had been planted after the 1968/70 fires (Figure 2.). The entire stand is located in mapped Key Winter Range and, prior to the Deer Point Fire, provided winter thermal cover for mule deer, as well as snow-intercept cover in some portions of the area. It is also located adjacent to a key riparian area at Antilon Lake that provides fawning habitat. As such the stand also has the potential to offer summer thermal cover, making this area one of very few areas in the lower north shore that can support deer year round. Estimated costs in 2006 dollars: \$24,000. Does not include costs for layout, and contract prep which have already been accounted for. This project is ready to go for 2008.

Coyote Creek Prescribed Burning (Road-less winter range) – Complete prescribed burns planned in the North Shore Restoration CE including 2 lakeshore units on either side of Coyote Creek (695 acres up lake and 169 acres down lake). These 2 units are located in the unburned strip between the Rex Creek and Deer Point Fires. In the six years since the last fire, grasses and shrubs in the adjacent burned areas have regenerated sufficiently to allow burning of these relatively small units without unduly impacting forage availability for mule deer or bighorn sheep. Both units would be accomplished

using aerial ignition by helicopter at an average of \$46 per acre (2006 costs). Total estimated cost for both units would be \$39,744. Fewer acres may be burned (minimum 500 to maintain cost efficiency of helicopter operation) to remain within annual budget, and/or funds may be supplemented through natural fuels program. Prescribed burning benefits all species dependent on shrub steppe habitat by reducing fuels and, therefore, the severity of summer wildfires. Prescribed burning also rejuvenates plant communities that have evolved with fire, thereby improving habitat conditions for all species dependent on shrub steppe and grassland habitats on the North Shore.

Lucerne Late-Successional Reserve Prescribed Burn Plan Preparation – The Lucerne LSR (total of 8420 acres) is the only LSR on the Chelan Ranger District that has not burned in stand replacement fire in the last 10 years, and has seen very little fire in the last 100 years. This LSR is at high risk of stand replacement fire due to fire exclusion and fuel build up. 95% of the late-successional habitat within the LSR is at high risk of stand replacement fire and high risk of ignition. Unique habitats such as the wetlands at Domke Lake, deciduous/mixed conifer forest in Lightning Creek, late-successional ponderosa pine habitat (becoming more and more limited in the Chelan Basin), and late-successional cedar/mixed conifer habitat at Domke Lake are all at risk from the threat of stand replacement fire. These areas are presently acting as an important fire refuge for wildlife since so many other late-successional habitats on the Chelan Ranger District have burned in the last 12 years. Abundant fuels in the Lightning Creek portion of the area on the up-lake side of the LSR will threaten the entire LSR if lightning strikes during dry conditions. Preparation of a prescribed burn plan will allow the district to be better prepared in the event that a natural ignition occurs that can be managed within prescription. It will also allow us to be ready in the event that funding for intentional prescribed burning becomes available. Two burn plans would need to be developed at an estimated cost of \$5000 each. Prescribed burning would directly protect 754 acres in the Lightning Ridge area and 2229 acres in the Domke Mountain area. Additionally, these burns would break up fuel continuity, reducing the potential for loss of the entire LSR in the event of an up-lake lightning strike and a down-lake wind. Prescribed burning will allow for fuel reductions that will reduce loss of late-successional habitat features important to dependent species in the event of a future wildfire.

Prescribed burning elsewhere on the North shore between Safety Harbor and Antilon Creek – A 5-10 year fire return cycle begins in 2007 (Deer Point Fire in 2002). This area supports road less and un-roaded winter range (11,650 acres). Many of the potential prescribed burn units in this area will require weed control for project mitigation and will require completion of an EA for use of herbicide in an Integrated Weed Management Plan for noxious weed control. In some areas where weed infestations are determined to be lower, post-burn seeding may be sufficient to mitigate for noxious weed concerns. There are also some limited areas where noxious weeds are not present and implementation could begin as soon as the area is determined to be weed free. Cost per acre in 2006 dollars ranges from an average of \$46 per acre (500 acre minimum) for aerial ignition to approximately \$85 per acre for hand lighting. As with the Coyote Creek Prescribed Burning project described above, burning will improve habitat conditions for

mule deer, bighorn sheep and other species dependent on shrub steppe and grassland habitats.

North 25 (Shady Pass Late-Successional Reserve) Restoration – High intensity fire has burned almost entirely through the Chelan side of the LSR. Many areas, particularly the North Fork of 25 Mile Creek, will require planting to accelerate reestablishment of a forest that can again support late-successional dependent species. ~~Pre-commercial~~ ~~Thinning~~ in areas where seed sources are abundant or remnant “dog-hair” stands remain will also help accelerate development of ~~L~~late-successional habitat. Funds for planting and thinning are limited in availability through standard National Forest Programs due to the non-commercial nature of this land allocation. The North 25 planning area is approximately 4140 acres, with at least 400 acres of planting needs already identified. Trees for planting will be available as soon as 2008. Remaining needs will be assessed during the summer of 2007. Preliminary costs for the first 400 acres of planting are \$50,000 for the planting contract and approximately \$28,000 for trees for a total of \$78,000. Annual project funding limits may be achieved through reducing acres (approximately 110 acres per year), or cost sharing with Forest Service reforestation and/or watershed improvement programs, as funds are available. Acceleration of a sustainable dry late-successional forest would benefit many late-successional species known to occur in the area including pileated woodpeckers, marten, white-headed woodpeckers, and spotted owls.

Figure 2: Lake Chelan Habitat Improvement Projects (Mallory Lenz figure)

Bear Mountain Thinning – Key Winter Range – Thinning would be focused on reducing ladder fuels and reducing risk of losing snow-intercept/thermal cover to wildfire. Thinning would also speed development of larger trees and canopies, and reduce potential loss of thermal cover to insects and disease. Prescribed burning is not currently an option due to proximity to private residences. Winter range treatments would cover approximately 162 acres. Costs to thin, prune and pile are variable but range around \$250 - \$350 per acre, for a project total of \$40,500 - \$56,700, though costs could vary considerably due to size of material being removed (potential cost share with natural fuels and/or timber programs). Treatments would improve the condition and sustainability of thermal cover and snow intercept cover for mule deer, and would benefit all species dependent on mature to late-successional dry Douglas-fir and ponderosa pine forest. (Treatment description altered 7/07 to broaden scope of potential thinning methods).

25-Mile Creek Key Winter Range Prescribed burning – A 5 year fire return interval for this area following the 2004 Pot Peak and Deep Harbor Fires starts in 2009 for prescribed burning (approximately 2182 acres in the Box Canyon area and 454 acres in the Grouse Mountain area). Some limited areas did not burn in the 2004 and 1998 wildfires, or in prescribed burns conducted in the mid-late 1990s. These areas would be available for immediate prescribed burning implementation (700 acres in 2 potential burn units). These projects will likely involve some level of weed control mitigation. Costs are estimated at \$85 per acre for hand lighting and a total of \$29,750 each for the 2 units that remain unburned. Benefits are as described for other winter range improvement projects except that this area does not support bighorn sheep, and supports more mid to late successional ponderosa pine forest, and the species dependent on this type of forest (e.g. white-headed woodpecker, pygmy nuthatch, Western gray squirrel).

Antilon Lake – Remove old fences that are a hazard to wildlife (up to 1100 feet), enhance aspen stands, close roads (implement new travel management plan), and possible use of funds to rehabilitate riparian sites and locate new non-riparian recreation sites when Recreation Facilities Master Plan is completed. Implementation of this project will depend upon the completion of both the plans mentioned above.

Echo Ridge Forest Recovery – This 12,000 acre area continues to suffer the adverse effects of severe stand replacement fire. The severity of the fire removed most of the nutrients and organic matter in the soil, which has limited the establishment and growth of the young forest. Restoration activities include micro-site planting of conifers to establish seed sources in key areas, soil amendments to boost soils depleted by the severity of past fires, and ~~pre-commercial~~ thinning and burning activities to improve forest growth and reduce the risk of losing the recovering forests and additional soil nutrients to future wildfires. Restoration of the ponderosa pine and Douglas-fir dry forest in this area will improve habitat conditions for many key species of concern in the area, particularly those dependent on ponderosa pine ecosystems (e.g. white-headed woodpeckers and Western gray squirrels).

WhiteBark Pine Habitat Protection and Enhancement – Whitebark pine on the Chelan Ranger District has recently been under attack by the mountain pine beetle and blister rust. This high elevation habitat is extremely important to ecosystem function, and to several key species such as the Grizzly Bear. Research is currently underway to determine the effectiveness of aerial application of Verbenone, an anti-aggregant pheromone that causes mountain pine beetles to avoid treated areas. Application of Verbenone by helicopter to areas that would otherwise be inaccessible to treatment will protect an ecologically important tree species and the wildlife species dependent on it. Similar technology may also be used to treat late-successional Douglas fir stands with MCH (another naturally occurring anti-aggregant pheromone) following forest fires. Seed collection, propagation, and planting of blister resistant strains of whitebark pine are also potential enhancement measures that are planned in future years.

Crupina Control on wilderness winter range – Continued *crupina* control and native grass seeding. Though this project is partially funded through the separate weed funds made available through the license, the intent of that funding was to address weed control in TES plant populations. *Crupina*, which is a Class A noxious weed that requires eradication, infests the majority of the winter range that lies within the Lake Chelan Sawtooth Wilderness. Eradication of this weed, and restoration of the native plant community, will result in restoration of a wilderness winter range for both mule deer and mountain goats. Winter range protected by wilderness status is extremely rare and valuable, as it has the capability of providing for ungulates as well as their predators, including threatened and endangered species such as the grizzly bear and gray wolf that require remote habitat conditions for security. Control and eventual eradication of this noxious weed population (the only known *crupina* infestation in the State of Washington) will protect the productivity and functionality of shrub steppe habitats throughout the Lake Chelan Basin, and the state. The project is currently partnered with the Washington Conservation Corp, the Washington State Department of Agriculture, various land owners, and various research entities. Funds may be used in any increment of \$5000 (the cost of 1 WCC crew per tour, or the cost of Forest Supervision and boat support per tour).

North Shore Winter Range Weed Control Program – Use of an integrated weed management (IWM) program to effectively reduce weed infestations on the north shore will require NEPA to engage in herbicide application. The development of an IWM that includes herbicides is a precursor to initiation of any effective weed control projects on the winter range. Weed control is an essential mitigation to other habitat improvement activities such as prescribed burning. We may be able to cover this activity with new forest wide EA by end of first 5 year planning cycle, but funding the project through or in conjunction with the PUD habitat improvement funds will expedite effective weed control. Estimate \$20,000 for EA to treat weeds on all or a part of the north shore winter range (Planning area 11,971 acres). Weed control on winter range would benefit mule deer and big horn sheep, as well as carnivores dependent on these ungulates, and other species dependent on shrub steppe and grassland habitats.

Weed control activities – On-going in all project areas, but may be stand alone projects in areas where prescribed burning is either not an option (e.g. near private land), or is not

needed. Treatment areas will be determined during the environmental analysis process to develop an integrated weed management plan for the winter range.

2.2.3 Noxious Weed Control

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for USDA Forest Service noxious weed control:

(2) Within 180 days of the effective date of the New License, and by January 31st of each subsequent year, Chelan PUD shall make available to the USDA Forest Service \$5,000 per year for years one through three of the New License for noxious weed control at Threatened, Endangered, and Sensitive (TES) plant locations.

2008-2011: Ongoing projects/programs

Weed Control: \$5000 for crew leadership and boat support in areas where *crupina* infests rare plant populations. Project will occur in April 2007-08 **(Is this correct?)**.

2.3 Washington Department of Fish and Wildlife

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for wildlife surveys:

(3) Chelan PUD, in coordination with WDFW, shall continue to conduct wildlife surveys similar to those conducted during the second FERC license for the Project, maintain upland bird feeders, and/or conduct habitat improvement projects for a cost not to exceed \$10,000 per year during the term of the New License, and any subsequent annual licenses. Chelan PUD shall provide an annual wildlife survey report to WDFW.

2.3.1 Wildlife Surveys

Chelan PUD has been conducting big game surveys along Lake Chelan annually since the winter of 1982-83 (Fielder and McKay 1984). Each year, the results are documented in a Lake Chelan Big Game Status Report, which is provided to WDFW, the U.S. Fish and Wildlife Service (USFWS), USDA Forest Service, and the NPS.

During the winter of 2005-2006, Chelan PUD biologists surveyed the Lake Chelan shores for mule deer (*Odocoileus hemionus*), and mountain goats (*Oreamnos americanus*), as well as bighorn sheep (*Ovis canadensis*), coyotes (*Canus latrans*), bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*). A total of 12 surveys were conducted: 3 each in early winter (November 22-December 8); mid-winter (December 20-January 4); late winter (February 4-24), and early spring (March 14-29). A minimum of two people conducted the surveys from an open top, 21 foot boat. The boat

was driven at a slow speed, usually within 100 yards of shore. The same area (Lake Chelan State Park to Stehekin) was observed each survey. The shores traveled on the up-lake and down-lake trips were alternated every survey to equalize morning and afternoon sighting opportunities along each shore. These same survey methods will be employed during big game surveys conducted by Chelan PUD, unless otherwise recommended by the Lake Chelan Wildlife Forum (LCWF), during the term of the new license.

SECTION 3: RIPARIAN HABITAT IMPROVEMENTS

3.1 National Park Service

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for NPS riparian habitat improvements:

(1) Within 180 days of the effective date of the New License, and by January 31st of each subsequent year, Chelan PUD shall make available to the NPS \$20,000 per year for the first five years of the New License, then \$10,000 per year for the remainder of the New License term, and any subsequent annual licenses, for Stehekin area habitat improvements.

(2) Within 180 days of the effective date of the New License, Chelan PUD shall make available:

(B) \$50,000 to the NPS to enhance riparian habitat in the Lake Chelan basin.

The NPS made the decision to include the License Article 406, Article 9 of the Settlement Agreement, measures stated previously in the Stehekin Area Implementation Monitoring Plan developed according to License Article 403, Article 4 of the Settlement Agreement. Many of the measures, and funding for those measures, contained in Articles 403 and 409 overlap, thus making more sense to include all actions for the NPS in one document, the Stehekin Area Implementation Monitoring Plan.

3.2 USDA Forest Service

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for USDA Forest Service riparian habitat improvements:

(2) Within 180 days of the effective date of the New License, Chelan PUD shall make available:

(A) \$50,000 to the USDA Forest Service to enhance riparian habitat in the Lake Chelan basin;

~~Riparian Habitat improvement: Seed for low elevation cedar will need to be collected in order to have seedlings available by 2009. Collection would occur in August or September. Planting in some mid-elevation zones will occur (approximately 510 trees) in 2007 as trees can not be held over. High grading of woody debris stockpiled at Prince Creek must also occur in 2007. This woody debris may be useable for riparian habitat enhancements elsewhere along the lakeshore.~~

3.2.1 Riparian Habitat Improvements: 2007 Activities

The following list includes activities associated with riparian habitat enhancement for the USDA Forest Service:

- Seed for low elevation cedar will need to be collected in order to have seedlings available by 2009. Collection would occur in August or September. Planting in some mid-elevation zones will occur (approximately 510 trees) in 2007 as trees can not be held over. High grading of woody debris stockpiled at Prince Creek must also occur in 2007. This woody debris may be useable for riparian habitat enhancements elsewhere along the lakeshore.
- 510 cedar trees available for riparian planting, 2 days, 3 people - \$1600-\$2000. Will be accomplished in mid-elevation areas along streams as no seed has yet been collected from the low elevation, lakeshore areas.
- Low elevation cedar seed collection and propagation. 2 people plus boat and operator for 2-3 days, est. \$3000. Seed processing and management: \$500. Total 2007 cost: \$3500. Planned for August and September 2007.
- High grade woody debris stockpiled at Prince Creek from log boom flood debris. Identify and reserve structural material that may be used for future riparian habitat improvements. May involve barging excavator to site. Can be done in conjunction with identification and reserve of woody material that could be used for erosion work covered under Chapter 1 of the Lake Chelan Comprehensive Plan. Identify riparian habitats that may be improved with large woody debris.

3.2.2 Riparian Habitat Improvements: 2008 Activities

- Continue propagation of cedar seed collected in 2007. May need additional seed collection if 2007 proves to be a poor seed production year. Identify areas for planting in 2009, and subsequent years. \$3500 for seed collection and processing. \$1500 for planting site identification. Total = \$5000.
- Move and place woody debris in areas identified above. Barge supported heavy equipment likely needed to move and place woody debris. May be completed in conjunction with PUD funded erosion repair near riparian sites, and costs will depend on contracts and share agreements.

3.2.3 Riparian Habitat Improvements: 2009 Activities

- Begin planting low elevation cedar. Likely to be able to plant 2-3 sites per day at a cost of approximately \$1000 per day including boat transportation. Costs will continue to accrue to continue cedar propagation. Additional species (cottonwood, dogwood, various shrubs, and ponderosa pine for lakeshore perching habitat) may be added as needs are identified.

3.3 Washington Department of Fish and Wildlife

Ordering Paragraphs (D) and (E) of the Project License both provide that Article 9 and other 4(e) conditions are made part of the license. The following excerpt from Appendix A of the Project License, Article 9 of the Settlement Agreement, describes the methods and funding for WDFW habitat improvements:

(c)(2) Within 180 days of the effective date of the New License, Chelan PUD shall make available:

(C) \$35,000 to the WDFW to enhance habitat in the Lake Chelan basin.

WDFW biological staff recommend ~~no expenditure of the available habitat enhancement funding for 2007 and 2008, reserving expenditure of these funds until after~~ The rationale is that the first priority is acquisition of conservation easements are acquired (see section 2.1). Once easements are acquired, ~~then~~ funding from this source could be used to provide additional habitat restoration or enhancement activities on lands where easements are acquired, or for other habitat enhancements projects on other lands identified in the future. Due to the uncertainty at this time the precise location of lands where restoration efforts would be most valuable, WDFW desires to hold this funding in order to maximize flexibility until such time as specific habitat enhancement needs and projects are identified.

SECTION 4: IMPLEMENTATION SCHEDULE

Projects are placed in order of project readiness to some degree, ~~but~~However, due to the changing nature of our fire prone landscape, ~~and~~ the unpredictability of opportunities to partner, ~~these~~ projects ~~with~~ having both internal and external funding sources, and the desire to implement projects with the greatest potential benefit to wildlife and habitats, the priority of these projects will change as conditions and circumstances warrant. Estimated dates of project implementation are included previously in project descriptions in sections 2 and 3. Specific projects to be implemented in future years will be outlined in the annual implementation and planning reports submitted to FERC.

Reporting

Annual Report

Chelan PUD shall provide an annual report of the results of wildlife surveys conducted under section 2.3 of this plan to WDFW by April 30 of each year.

Five Year Wildlife Habitat Plan Update

The Wildlife Habitat Plan shall be updated and filed for Commission approval, at a minimum, of every five years after approval of this plan. The updated plan shall include a summary of upland and riparian habitat improvement measures implemented during the previous five years and measures projected to be implemented in the next five years. The plan shall also contain a summary of the results of the wildlife surveys conducted for WDFW.

SECTION 5: FUNDING

Payment Agreement

All payments for work conducted by Agencies will be on a reimbursable basis, as described in Funding Agreements (See Appendix B). Funding will be provided within (90) ninety days of the Agency submitting a quarterly invoice/variance form, and only after review and approval by Chelan PUD. As a condition of payment for any work performed under the Settlement Agreement, Agencies must submit annual planning reports with cost estimates and description of work to be conducted. Planned and completed work provided by the Agencies (i.e. worked completed in the previous year and work planned for the upcoming year) will be summarized annually and included in an Annual R~~report submitted to the Commission by Chelan PUD~~. All costs, balances, or payment amounts shall be in accordance with Section 19.1 of the Settlement Agreement.

SECTION 6: LITERATURE CITED

Eldred, T. E. 2007. Lake Chelan Wildlife Forum meeting, July 10, 2007.

Fielder, P.C. and C.E. McKay, Jr. 1984. Lake Chelan wildlife studies with emphasis on mountain goats and mule deer. Technical report of the Public Utility District No. 1 of Chelan County and the WA. Dept. of Game, Wenatchee, WA.

Gaines, W.L., M. Haggard, J. F. Lehmkuhl, A.L. Lyons, and R.J. Harrod. 2007. Short-term response of land birds to ponderosa pine restoration. In Press, Journal of Restoration Ecology.

Lyons, A.L., W.L. Gaines, J.F. Lehmkuhl, and R.J. Harrod. 2007. Short term effects of fire and fire surrogate treatments on foraging tree selection by cavity-nesting birds in dry forests of central Washington. In Review, Forest Ecology and Management.

USFS 2002. Okanogan and Wenatchee National Forests Fire Management Plan, Chapter III, Section E - Fire Regimes and Disturbance Processes, Resource Benefits (pages 16-52).

APPENDIX A: CONSULTATION WITH STAKEHOLDERS

APPENDIX B: PAYMENT AGREEMENTS
