

PUBLIC UTILITY DISTRICT NO. 1 *of* CHELAN COUNTY
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September 17, 2015

Honorable Kimberly D. Bose, Secretary, and
Nathaniel J. Davis, Sr., Deputy Secretary
FEDERAL ENERGY REGULATORY COMMISSION
888 First Street, NE
Washington, DC 20426

VIA ELECTRONIC FILING

Re: **Rocky Reach Hydroelectric Project No. 2145**
Article 403 – Wildlife Habitat Plan
Wildlife Habitat Management Plan (2016-2020) and Summary Report (2010-2015)

Dear Secretary Bose and Deputy Secretary Davis:

On September 22, 2010, the Federal Energy Regulatory Commission (Commission) issued the "*Order Approving Wildlife Habitat Management Plan Pursuant to Article 403*"[1] requiring the Public Utility District No. 1 of Chelan County, Washington (Chelan PUD) to update and file the plan for Commission approval at a minimum of every five years. The updated plan will provide a summary of habitat improvement measures implemented during the first years and measured proposed for the next five years.

In accordance with the above Order, Chelan PUD hereby files the new Rocky Reach Wildlife Habitat Management Plan (2016-2020) for Commission approval and the Rocky Reach Wildlife Habitat Management Plan 5-Year Summary Report (2010-2015). Please note that the 5-Year Summary Report includes implementation of activities through March 31, 2015. In order to draft and complete the 5-Year Summary Report, only implementation measures completed and approved through March 31, 2015 are included in the Report. Regarding the new 5-Year Plan, it proposes a continuation of, or similar, work approved in the first Plan and does not propose any major changes. Therefore, we respectfully request an expedited review and response no later than December 31, 2015, in order to implement work under the new plan in January of 2016.

This submittal was prepared in consultation with US Fish & Wildlife Service, Bureau of Land Management, the US Forest Service, the Rocky Reach Wildlife Forum, and the Washington Department of Fish and Wildlife. See Appendix A in the new Plan to view the consultation record.

[1] 132 FERC ¶ 62,179 (2010)

Please do not hesitate to contact Von Pope at (509) 661-4625 or me regarding any questions or comments regarding this report.

Sincerely,

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Attachment
c: Ron Fox, WDFW
Jesse McCarty, USFS
Erik Ellis, BLM
Stephen Lewis, USFWS

WILDLIFE HABITAT MANAGEMENT PLAN 2016-2020

LICENSE ARTICLE 403

Final

ROCKY REACH HYDROELECTRIC PROJECT
COMMISSION Project No. 2145

September 17, 2015

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

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*LIST OF FIGURES**

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EXECUTIVE SUMMARY

This second Rocky Reach Wildlife Habitat Management Plan (2016-2020) continues with existing projects and proposes new projects for the next 5 years as required under Article 403 of the Rocky Reach Operating License. The new Wildlife Habitat Management Plan (WHMP 2016) is planned for implementation in 2016 and contains a detailed description of projects proposed and wildlife monitoring to be conducted from 2016 – 2020. Many of these projects and monitoring efforts are being carried over from the first Rocky Reach Wildlife Habitat Management Plan (WHMP 2010). The 5-Year Summary Report for the first WHMP 2010 that summarizes implementation from September 22, of 2010 through March of 2015 is also included, as required by the Federal Energy Regulatory Commission (Commission).

The Commission Order on Offer of Settlement and Issuing New License (License) for the Rocky Reach Hydroelectric Project No. 2145 (Project) was issued February 19, 2009 to the Public Utility District No. 1 of Chelan County (Chelan PUD). Article 403 of the new Project License requires Chelan PUD to file for Commission approval a 5-Year Plan. The Commission approved the first WHMP 2010 on September 22, 2010. The WHMP 2010, amended in 2012, was to include new projects (Chelan PUD 2009, 2012). This updated WHMP 2016 includes proposed projects from 2016 – 2020. Projects under the current WHMP 2010 will be ongoing until this updated WHMP 2016 is reviewed and approved.

Development of this WHMP 2016 was conducted in consultation with the US Fish and Wildlife Service (USFWS), US Bureau of Land Management (BLM), US Forest Service (USFS), Washington State Department of Fish and Wildlife (WDFW), Washington Recreation and Conservation Office (WRCO), and the Rocky Reach Wildlife Forum (RRWF).

Similar to the first WHMP 2010, the primary goal of this WHMP 2016 is to protect and enhance wildlife habitats within and immediately adjacent to the Project reservoir. Habitat improvement projects proposed for implementation in this WHMP 2016 include:

- Complete the majority of field restoration efforts on 1,300 acres of abandon fields
- Install gates and barriers to reduce vehicle access and remove unnecessary fences that create barriers to wildlife
- Create riparian habitat
- Improve existing springs to provide a water source for wildlife
- Manage forested areas through controlled burns, thinning, and pruning
- Improve big game winter range by planting native plant species
- Manage noxious weeds to improve wildlife habitat
- Continue implementation of the Rocky Reach Integrated Terrestrial Invasive Plant Control Plan (RRITIPC)
- Conduct wildlife monitoring per RRWF recommendations
- Provide reports to the RRWF and Commission as required

SECTION 1: INTRODUCTION

The Federal Energy Regulatory Commission (Commission) Order on Offer of Settlement and Issuing New License (License) for the Rocky Reach Hydroelectric Project No. 2145 (Project) was issued February 19, 2009 to the Public Utility District No. 1 of Chelan County (Chelan PUD). Article 403 of the new Project License required Chelan PUD to file for Commission approval a 5-Year Wildlife Habitat Management Plan**.** On January 22, 2010, Chelan PUD filed the first Rocky Reach Wildlife Habitat Management Plan (WHMP 2010) for Commission approval. On September 22, 2010, the Commission approved the first 5-Year WHMP 2010, which covered years 2010 – 2015. The first Rocky Reach WHMP 2010 was modified to include additional projects on March 19, 2012. Per the Commission Order on September 22, 2010:

> "The plan will be updated and filed for Commission approval at a minimum of every 5 years as required by Article 403. The updated plan will provide a summary of habitat improvement measures implemented during the first 5 years and measure proposed for the next 5 years."

A summary report of implementation conducted during the first 5 years will be submitted concurrently. For 2015, projects approved under the current WHMP 2010 will continue, while the updated 5-Year Rocky Reach Wildlife Habitat Management Plan (WHMP 2016) is pending Commission approval.

Similar to the first WHMP 2010, the primary goal of this WHMP 2016 is to address requirements under Article 403 to protect and enhance wildlife habitats within the Project boundary and in a corridor within the Rocky Reach Wildlife Area (RRWA). The RRWA is defined as state and public lands in Chelan and Douglas counties within an approximate 6-mile-wide corridor of the Rocky Reach Reservoir. Proposed projects include:

1. Habitat improvement projects that occur on lands within an approximate 6-mile-wide corridor of the Rocky Reach Reservoir, which include:
    - Projects[1] to restore and improve habitat on the Chelan Wildlife Area managed by Washington Department of Fish and Wildlife (WDFW);
    - Projects[1] for habitat restoration on US Bureau of Land Management (BLM) lands;
    - Projects[1] for habitat restoration on USDA Forest Service lands (USFS);
2. Implementation of an integrated noxious weed control program; and
3. Annual wildlife surveys.

As required by Article 403, this WHMP 2016 covers the next 5 year period (2016 – 2020) and includes: (1) a detailed description of the habitat improvement measures, including the methods to be used; (2) a detailed description of the location where the improvements will occur, including maps and drawings; (3) a description of any annual or periodic maintenance and monitoring needed to ensure the success of the measures; and (4) a detailed implementation schedule.

[1] Projects proposed do not require maintenance or monitoring to ensure success, rather, all projects are one-time treatments, or progressions of one-time treatments. Therefore, none of these lands need be incorporated into the Rocky Reach Project boundary.

Federal public lands in the RRWA include those of the USFS and BLM. State lands owned adjacent to the Project include those owned and maintained by the WDFW and Washington Department of Natural Resources (WADNR). WDFW owns and operates the Chelan Wildlife Area (approximately 30,221 acres, WDFW 2006) which is comprised of the Swakane (11,273 acres), Entiat (9,851 acres), and Chelan Butte (9,097 acres) Wildlife Units.

Development of this updated 5-Year WHMP 2016 was conducted in consultation with the US Fish and Wildlife Service, BLM, USFS, WDFW, and Washington Recreation and Conservation Office (WRCO) through the Rocky Reach Wildlife Forum (RRWF)[2]. Documentation of the consultation that occurred during development and completion of this plan is attached as Appendix A.

Due to the dynamic nature of the RRWA environment (e.g., wildfires, development, or unforeseen circumstances) a variety of land management practices will be proposed that may or may not be implemented during this 5-Year WHMP 2016. While the objective will be to adhere to the plan, modification may be made in accordance with the RRWF as environmental conditions change. These modifications will be documented in the 5-Year Summary Report and updated as required by the Commission.

[2] The RRWF includes Chelan PUD, the US National Park Service (NPS), USFWS, BLM, WDFW, the Confederated Tribes of the Colville Reservation (CCT), the Yakama Nation (YN), Alcoa Power Generating, Inc., the City of Entiat, the Washington State Department of Ecology (Ecology), and the Washington State Parks and Recreation Commission (WRCO).

SECTION 2: BACKGROUND

Before European settlement, the vegetation of the area surrounding the Project was largely shrub-steppe, which was maintained by frequent wildfires. A number of factors have altered the historic vegetation in the vicinity of the Project. Before the Project was constructed in 1961, the area had already been altered to some extent by grazing, fires and fire suppression, farming, residential development and exotic weed invasion. These factors continue to affect current conditions.

Existing botanical resources closely resemble the historical botanical resources in the vicinity of the Project, consisting mainly of shrub-steppe communities. Subsequent to inundation by the reservoir, new riparian and aquatic plant communities have developed on the present day shoreline. There are also some areas of riparian vegetation along streams or rivers and some wetland communities within the Project boundary. In addition, there are some habitats with distinct vegetation communities; these include areas with gravelly or sandy soils, shallow and/or stony sites; and sand dunes near the Columbia River (Franklin and Dyrness, 1973).

Much of the area surrounding the Project has been developed or cultivated with a variety of crops or is grazed by livestock. Irrigated cropland and orchards dominate the river corridor lands around the Project reservoir.

In the mid-1960s, as part of the original license, Chelan PUD provided funds to the Washington Department of Game (now the WDFW) for the purchase of 20,397 acres of land along the Columbia River between Swakane Canyon and Chelan Butte, collectively referred to as the Chelan Wildlife Area (CWA). These lands were purchased to mitigate the loss of the wildlife habitat that was inundated by original Project construction. These lands are important mule deer winter range within Chelan County. In addition to WDFW lands, the CWA is intermingled with lands administered by the BLM, US Forest Service, and DNR, along with some private land in-holdings (Figure 2-1). These lands provide additional benefit to wildlife resources.

Mule deer (*Odocoileus virginianus*), bighorn sheep (*Ovis canadensis*), cougar (*Felis concolor*), bobcat (*Lynx rufus*), and coyotes (*Canis latrans*) inhabit range in the mid-Columbia region. These species are present near the Rocky Reach Reservoir, and have been recorded occasionally within the Project boundary. Upland game birds that use the Rocky Reach Reservoir shorelines and RRWA lands include ring-necked pheasants (*Phasianus colchicus*), California quail (*Lagopus californicus*), chukars (*Alectoris chukar*), and mourning doves (*Zenaidura macroura*).

Most of the state and federal lands proposed for habitat implementation measures in this plan are located outside the Rocky Reach Project boundary. Since wildlife resources cross multiple land management boundaries, the WHMP 2016 includes implementation of one-time treatments by Chelan PUD on specific portions of state and federal lands to assist these agencies in improving wildlife habitat to benefit wildlife resources on lands adjacent to the Rocky Reach Project area.

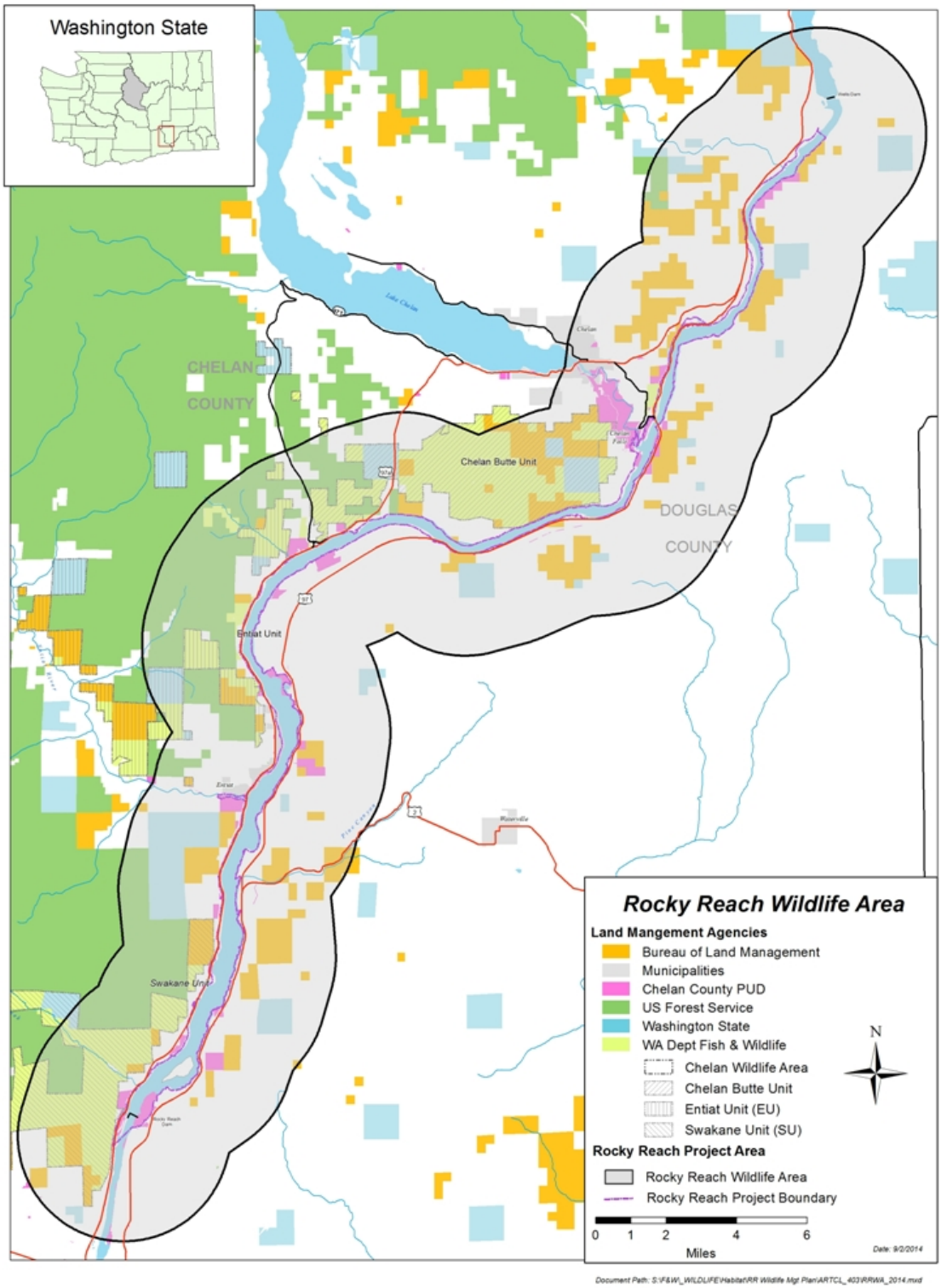

Figure 2-1: Rocky Reach Project Area

SECTION 3: STUDIES AND EVALUATION OF PROJECT EFFECTS

Under the direction of the Natural Sciences Working Group (NRWG), numerous studies were conducted during the Rocky Reach relicensing process, including the Rare Plant Survey of the Rocky Reach Reservoir (Calypso Consulting, 2000), Rare, Threatened, and Endangered Wildlife and Cover-Type Mapping Study (DES, 2000), historic and ongoing Chelan PUD monitoring studies, and the Mule Deer Mortality Study (Myers, 2003).

The first WHMP 2010 provides a description of studies conducted during the relicensing period that led to the proposed measures in the Rocky Reach Comprehensive Settlement Agreement (Chelan PUD 2006) and ultimately to Article 403 of the Commission License Order (January 2009). The first WHMP 2010 was drafted as required by Article 403 and consistent with the Rocky Reach Comprehensive Settlement Agreement.

SECTION 4: WILDLIFE HABITAT IMPROVEMENTS

Consistent with the Rocky Reach Settlement Agreement and Article 403 of the Rocky Reach operating license, the following habitat improvement projects will be implemented over the next 5 years (2016-2020) to protect and enhance wildlife habitats within an approximately 6-mile-wide corridor of the Rocky Reach Reservoir that defines the Rocky Reach Wildlife Area (RRWA). The habitat improvement projects will be located within the following federal and state management areas:

- WDFW Lands (Chelan Butte, Swakane, and Entiat Units) - Figures 4-1, 4-2, and 4-3
- BLM Lands (Chelan Butte, Swakane, and Azwell areas) - Figures 4-4, 4-5, and 4-6
- US Forest Service Lands (Entiat North and South) - Figure 4-7 and 4-8

All of the proposed projects are within or very near the 6-mile-wide corridor of the RRWA (Figure 2-1). Chelan PUD is proposing one-time treatments to assist federal and state managing agencies in restoring and improving wildlife habitat to benefit wildlife resources[3].

4.1 WDFW Habitat Improvements

WDFW manages approximately 30,000 acres of land within the Chelan Wildlife Area that includes the Chelan Butte (Figure 4-1), Swakane (Figure 4-2), and Entiat Wildlife Units (Figure 4-3) located within the RRWA. Chelan PUD will continue to assist WDFW with their goal to convert approximately 1,400 acres of abandoned agricultural fields within the Chelan Butte and Swakane Wildlife Units to self-sustaining shrub-steppe habitat[3], which should benefit big game present in the area, as well as a variety of other wildlife species dependant on shrub-steppe habitat.

[3] Projects proposed do not require maintenance or motoring to ensure success, rather, all projects are one-time treatments, or a series of activities (See Table 4-1). Therefore, none of these lands need be incorporated into the Rocky Reach Project Boundary.

During the first WHMP 2010, a progression of restoration efforts were initiated on over 934 acres of abandoned agricultural fields on Chelan Butte leading to over 500 acres being seeded with native grasses after several years of chemical and mechanical fallowing and soil preparation. All 103 acres of abandoned agricultural fields in Swakane Canyon were also managed and seeded with native forbs and grasses. During this WHMP 2016, seeded fields will be managed to reduce completion from weeds and the remaining fields will continue be worked and prepared for seeding. By 2020, all fields will be planted and only limited management should be necessary to complete the restoration effort. Field restoration measures are summarized in Table 4-1 and in the following sections.

4.1.1 Chelan Butte Wildlife Unit

4.1.1.1 Field Restoration

Proposed restoration efforts on the abandoned agricultural fields on the Chelan Butte Wildlife Unit will continue with a progression of treatments for restoration with most field restoration being completed during this WHMP 2016. Field restoration on approximately 1,300 acres of abandoned agricultural fields on Chelan Butte was initiated during the first WHMP 2010. Approximately 566 acres of the abandoned agricultural fields have been seeded with native grass seeds after several years of field preparation including chemical and mechanical following.

Most of the fields in groups 1, 2, and 3 have been seeded with native grasses will only need limited chemical treatments to reduce competition from weeds before being seeded/planted with trees and/or shrubs to complete the restoration effort. Completion of restoration efforts during this WHMP 2016 are scheduled as follows; group 1 fields in 2017, group 2 fields 2018, group 3 fields in 2019, and group 4 fields in 2020 (Table 4-1). Only fields in group 5 will remain for the next 5-Year Plan (2021-2024), consistent with the original estimate of completing the field restoration effort within 15 years (Chelan PUD 2009, Commission 2010).

4.1.1.2 Gates, Barriers, Fence Removal and Upland Bird Feeder

To protect the habitat improvements implemented during the first WHMP 2010 and habitat improvements proposed in this plan, WDFW proposes to install 4 barriers and 8 gates on the Chelan Butte Wildlife Unit. In addition, to reduce movement barriers and entanglement hazards, WDFW proposes to remove unnecessary fence posts and wire in Homestead Canyon and on Little Butte Ridge within the Chelan Butte Wildlife Unit (Table 4-1). WDFW will also install one upland bird feeder in the Goldmine Gulch to provide a winter food source for wildlife.

4.1.1.3 Riparian Plots and Spring Developments

For the second WHMP 2016, WDFW proposes to establish 4 acres of planted riparian habitat. Two acres will be supported by a drip irrigation system developed by WDFW and 2 acres will be along existing riparian areas. In addition, 6 springs will be developed with catch basins to provide additional water sources for wildlife on the Chelan Butte Wildlife Unit (Table 4-1).

4.1.2 Swakane Wildlife Unit

4.1.2.1 Field Restoration

Restoration of approximately 103 acres of abandoned fields is nearly complete as summarized in the first WHMP 2010 5-Year Summary (Chelan PUD 2015). These fields have been seeded with

native forbs and grasses and will only require limited weed control, shrub, and tree planting during this second WHMP 2016. By 2020, restoration efforts on the Swakane fields will include the introduction of biological controls for cheat grass. This will be the final step for field restoration in Swakane Canyon (Table 4-1).

4.1.2.2 Riparian Plots and Spring Developments

WDFW proposes to establish an additional 6 acres of planted riparian habitat that will be supported by the development of an irrigation system. Several 1-2 acre riparian plots will be developed similar to what was done during the first WHMP 2010 in Swakane Canyon. The irrigation system will be fed by the existing irrigation system. In addition, 2 springs will be developed with catch basins to provide additional water sources for wildlife. (Table 4-1)

4.1.2.3 Gates, Barriers, and Fence Removal

To protect the habitat improvements implemented during the first WHMP 2010 and habitat improvements proposed in this plan, WDFW proposes to install 5 barriers and 2 gates in Swakane Canyon and 4 barriers and 1 gate on Burch Mountain. In addition, to reduce movement barriers and entanglement hazards, WDFW proposes to remove unnecessary fence posts and wire in the bottom of Swakane Canyon (Table 4-1).

4.1.2.4 Restore Degraded Areas

Restore habitat at old homestead barn sites and disturbed off-road areas; includes cleaning up debris and managing weeds to improve wildlife habitat in Swakane Canyon.

4.1.3 Entiat Wildlife Unit

4.1.3.1 Field Restoration

Several abandoned wheat fields in the Knowles area of the Entitat Wildlife unit were restored to native habitat over the past few decades. The restoration efforts are proceeding as planned and only need some weed management, especially along the field border and access road. Weed spraying during 2019 and 2020 will enhance these previous restoration efforts (Table 4-1).

4.1.3.2 Install Upland Feeders, Gates, Barriers, and Fence Removal.

WDFW proposes to install 3 upland game feeders to provide a winter food source for wildlife. Feeders will be installed in Knowles Orchard Draw and Oklahoma Gulch and near the Entiat Cemetery on the Entiat Wildlife Unit. To reduce impacts from off-road vehicles and to eliminate animal movement barriers and entanglement hazards, WDFW proposes to install 2 gates to manage access and remove unnecessary fence posts and wire on the Roundy area within the Entiat Wildlife Unit (Table 4-1).

4.1.4 Fire Response

Much of the Chelan Wildlife Area has been affected by wildfires during the first WHMP 2010. Areas within the Chelan Wildlife Area burned by wildfire will be assessed for treatment needs and may become the priority for project work based on the needs identified in assessments. Typical fire response treatments would include control of invasive species for up to 3 years

following wildfire, seeding of native grass/forb/shrub species, and planting of containerized native grasses/forbs/shrubs.

Table 4-1: List of projects proposed by Wildlife Unit for WDFW habitat improvements for the 2016-2020 Rocky Reach Wildlife Habitat Management Plan.

YEAR	Project	Wildlife Unit	Activity	Purpose
1	Field Restoration	Chelan Butte	Weed Management – Group 1	Mechanical and or chemical weed management
1	Field Restoration	Chelan Butte	Shrub/Forb seeding – Group 1	Establish native forbs and shrubs
1	Field Restoration	Chelan Butte	Weed Management - Group 2	Mechanical and or chemical weed management
1	Field Restoration	Chelan Butte	Shrub/Forb seeding – Group 2	Establish native forbs and shrubs
1	Field Restoration	Chelan Butte	Weed Management – Group 3	Mechanical and or chemical weed management
1	Field Restoration	Chelan Butte	Weed Management – Group 4	Mechanical and or chemical weed management
1	Field Restoration	Chelan Butte	Field Prep – Group 5	Mechanical and /or chemical weed management
1	Field Restoration	Chelan Butte	Grass seeding – Group 5	Initial planting with native grasses
1	Field Restoration	Swakane	Weed Management – all fields	Mechanical weed management
1	Field Restoration	Chelan Butte	Weed Management-Field Borders	Chemical control of cereal rye to prevent reinvasion into restored fields
1	Irrigation system	Swakane	Purchase materials	Irrigate native shrub and tree plantings
1	Shrub/tree planting w/ drip irrigation	Swakane	Establish 2 acres of riparian habitat	Increase wildlife cover
1	Spring developments (2)	Swakane	Develop springs (2) with catch basins	Water source for wildlife
1	Restore degraded areas	Swakane	Clean up debris and weed management on 2 areas (5 acres)	Restore upland habitat
1	Gates and barriers	Chelan Butte	Install 2 barriers and 4 gates	Protect existing and restored habitat
2	Field Restoration	Chelan Butte	Weed Management – Group 1	Mechanical weed management
2	Field Restoration	Chelan Butte	Weed Management – Group 2	Mechanical weed management
2	Field Restoration	Chelan Butte	Weed Management – Group 3	Mechanical and or chemical weed management
2	Field Restoration	Chelan Butte	Shrub/Forb seeding – Group 3	Establish native forbs and shrubs
2	Field Restoration	Chelan Butte	Weed Management – Group 4	Mechanical and or chemical weed management
2	Field Restoration	Chelan Butte	Weed Management – Group 5	Mechanical and or chemical weed management
2	Field Restoration	Swakane	Tree and shrub planting – select fields	Establish shrubs and trees with container stock plants
2	Field Restoration	Chelan Butte	Weed Management-Field Borders	Chemical control of cereal rye to prevent reinvasion into restored fields
2	Shrub/tree planting w/ drip irrigation	Swakane	Weed management on 2 acres of planted riparian habitat	Increase wildlife cover
2	Shrub/tree planting w/ drip irrigation	Chelan Butte	Establish 1 acre of riparian habitat	Increase wildlife cover

YEAR	Project	Wildlife Unit	Activity	Purpose
2	Spring developments (2)	Entiat	Develop springs (2), with catch basins	Water source for wildlife
2	Restore degraded areas	Swakane	Weed management and seeding on 2 areas (5 acres)	Restore upland habitat
2	Gates and barriers	Chelan Butte	Install 2 barriers and 4 gates	Protect existing and restored habitat
2	Install upland bird feeder	Entiat	Install 1 feeder in Entiat Valley	Winter food source for wildlife
2	Fence removal	Swakane	Remove unneeded posts and wire	Reduce injury and mortality to wildlife
2	Fence removal	Chelan Butte	Remove unneeded posts and wire	Reduce injury and mortality to wildlife
3	Field Restoration	Chelan Butte	Weed Management – Group 2	Mechanical weed management
3	Field Restoration	Chelan Butte	Weed Management – Group 3	Mechanical weed management
3	Field Restoration	Chelan Butte	Weed Management – Group 4	Mechanical and or chemical weed management
3	Field Restoration	Chelan Butte	Shrub/forb seeding – Group 4	Establish native forbs and shrubs
3	Field Restoration	Chelan Butte	Weed Management – Group 5	Mechanical and or chemical weed management
3	Field Restoration	Swakane	Weed management - tree and shrub planting	Hand weeding/watering to increase survival and establishment
3	Field Restoration	Chelan Butte	Weed Management and seeding-Field Borders	Chemical control of cereal rye to prevent reinvasion into restored fields
3	Shrub/tree planting w/drip irrigation	Swakane	Establish 2 acre of riparian habitat	Increase wildlife cover
3	Shrub/tree planting w/ drip irrigation	Swakane	Weed management on 2 acres of planted riparian habitat	Increase wildlife cover
3	Shrub/tree planting	Chelan Butte	Weed management on 1 acre of planted riparian habitat	Increase wildlife cover
3	Spring developments (2)	Chelan Butte	Develop springs (2) with catch basins	Water source for wildlife
3	Restore degraded areas	Swakane	Weed management on 2 areas (5 acres) in Swakane Canyon	Restore upland habitat
3	Restore degraded areas	Swakane	Weed management on 1 area (8 acres) on Burch Mountain	Restore upland habitat
3	Gates and barriers	Swakane	Install 5 barriers and 2 gates in	Protect existing and restored habitat from vehicle access
3	Install upland bird feeder	Chelan Butte	Install 1 feeder	Winter food source for wildlife
4	Field Restoration	Chelan Butte	Weed Management – Group 3	Mechanical weed management
4	Field Restoration	Chelan Butte	Weed Management – Group 4	Mechanical weed management
4	Field Restoration	Chelan Butte	Weed Management – Group 5	Mechanical and or chemical weed management
4	Field Restoration	Chelan Butte	Shrub/forb seeding – Group 5	Establish native forbs and shrubs
4	Field Restoration	Swakane	Weed management - tree and shrub planting	Hand weeding/watering to increase survival and establishment
4	Field Restoration	Entiat	Weed Management- Knowles Field Borders and access road	Chemical control of cereal rye field borders and access road prior to restoration work (2021)

YEAR	Project	Wildlife Unit	Activity	Purpose
4	Shrub/tree planting w/drip irrigation	Chelan Butte	Establish 1 acre of riparian habitat	Increase wildlife cover
4	Shrub/tree planting w/ drip irrigation	Swakane	Weed management on 2 acres of planted riparian habitat	Increase wildlife cover
4	Shrub/tree planting	Chelan Butte	Weed management on 1 acre of planted riparian habitat	Increase wildlife cover
4	Spring developments (2)	Chelan Butte	Develop 2 springs including catch basins	Water source for wildlife
4	Restore degraded areas	Swakane	Weed management on 2 areas (5 acres)	Restore upland habitat
4	Restore degraded areas	Swakane	Weed management and seeding on 1 area (8 acres) on Burch Mountain	Restore upland habitat
4	Gates and barriers	Swakane	Install 4 barriers and 1 gate on Burch Mountain	Protect existing and restored habitat from vehicle access
4	Install upland bird feeder	Entiat	Install 1 feeder in Oklahoma Gulch	Winter food source for wildlife
4	Fence removal	Entiat	Remove unneeded posts and wire on Roundy Area	Reduce injury and mortality to wildlife
5	Field Restoration	Chelan Butte	Weed Management – Group 4	Mechanical weed management
5	Field Restoration	Chelan Butte	Weed Management – Group 5	Mechanical weed management
5	Field Restoration	Chelan Butte	Weed Management – all groups	Introduce cheatgrass biocontrol agent
5	Field Restoration	Swakane	Weed Management – all fields	Introduce cheatgrass biocontrol agent
5	Field Restoration	Entiat	Weed Management- Knowles Field Borders and access road	Chemical control of cereal rye field borders and access road prior to restoration work (2021)
5	Shrub/tree planting w/drip irrigation	Swakane	Establish 2 acres of riparian habitat	Increase wildlife cover
5	Shrub/tree planting w/ drip irrigation	Swakane	Weed management on 2 acres of planted riparian habitat	Increase wildlife cover
5	Shrub/tree planting	Chelan Butte	Weed management on 1 acre of planted riparian habitat	Increase wildlife cover
5	Spring developments (2)	Chelan Butte	Develop springs (2) with catch basins	Water source for wildlife
5	Restore degraded areas	Swakane	Weed management on 1 area (8 acres) on Burch Mountain	Restore upland habitat
5	Gates and barriers	Entiat	Install 2 gates on Roundy Area	Protect existing and restored habitat
5	Install 1 upland bird feeder	Entiat	Install 1 feeder in Knowles Area orchard draw	Winter food source for wildlife

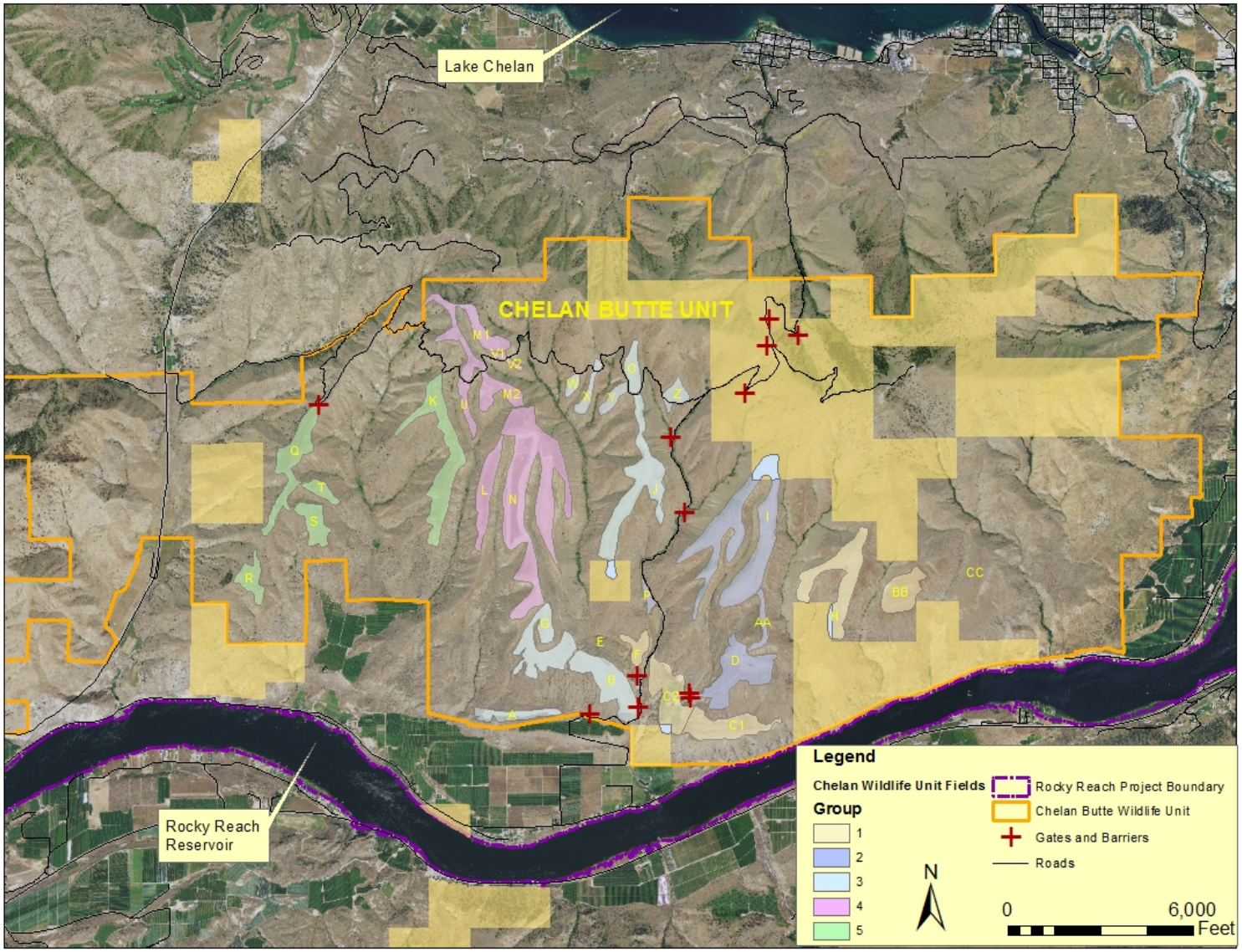

Figure 4-1: Chelan Butte Wildlife Unit, WDFW.

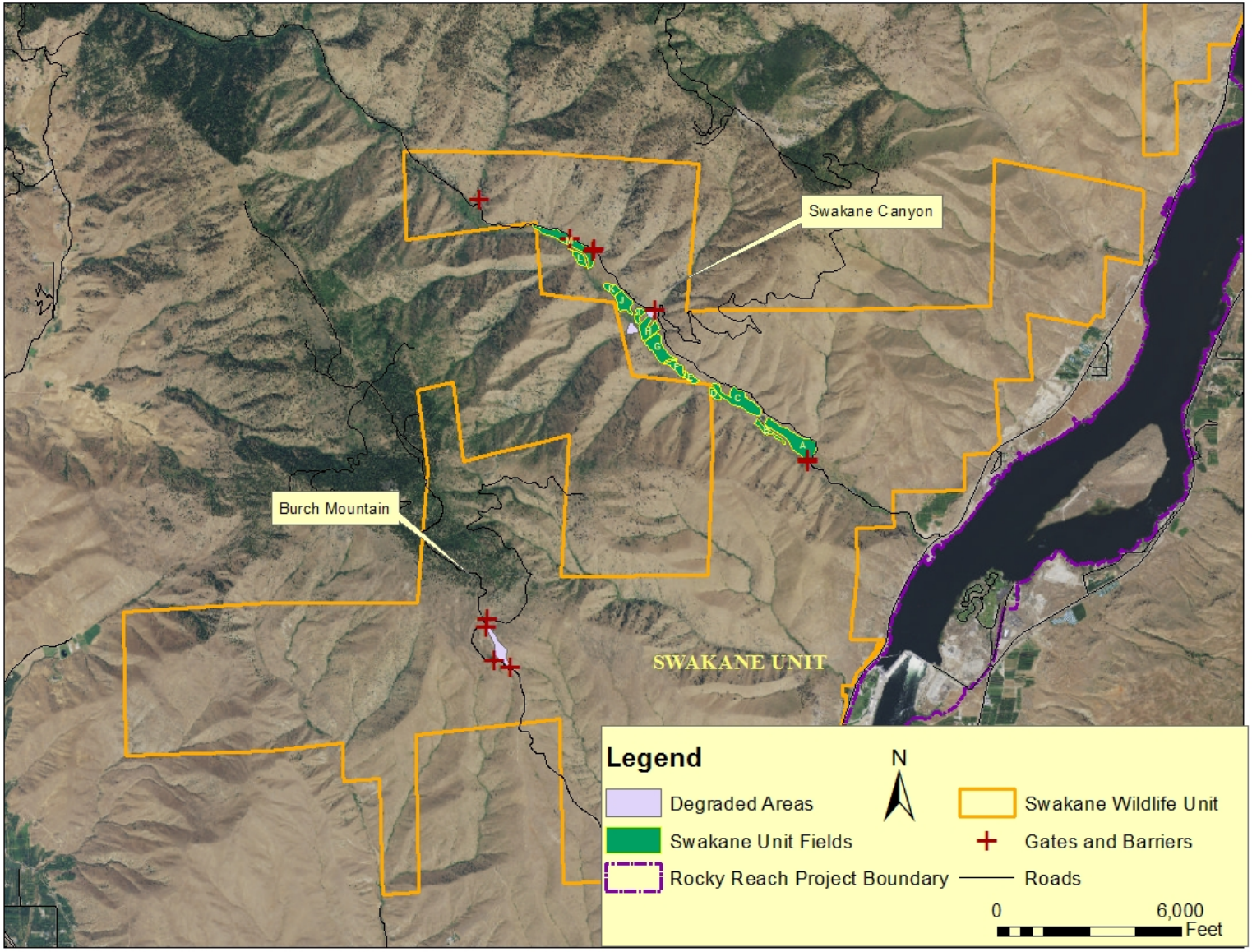

Figure 4-2: Swakane Wildlife Unit, WDFW.

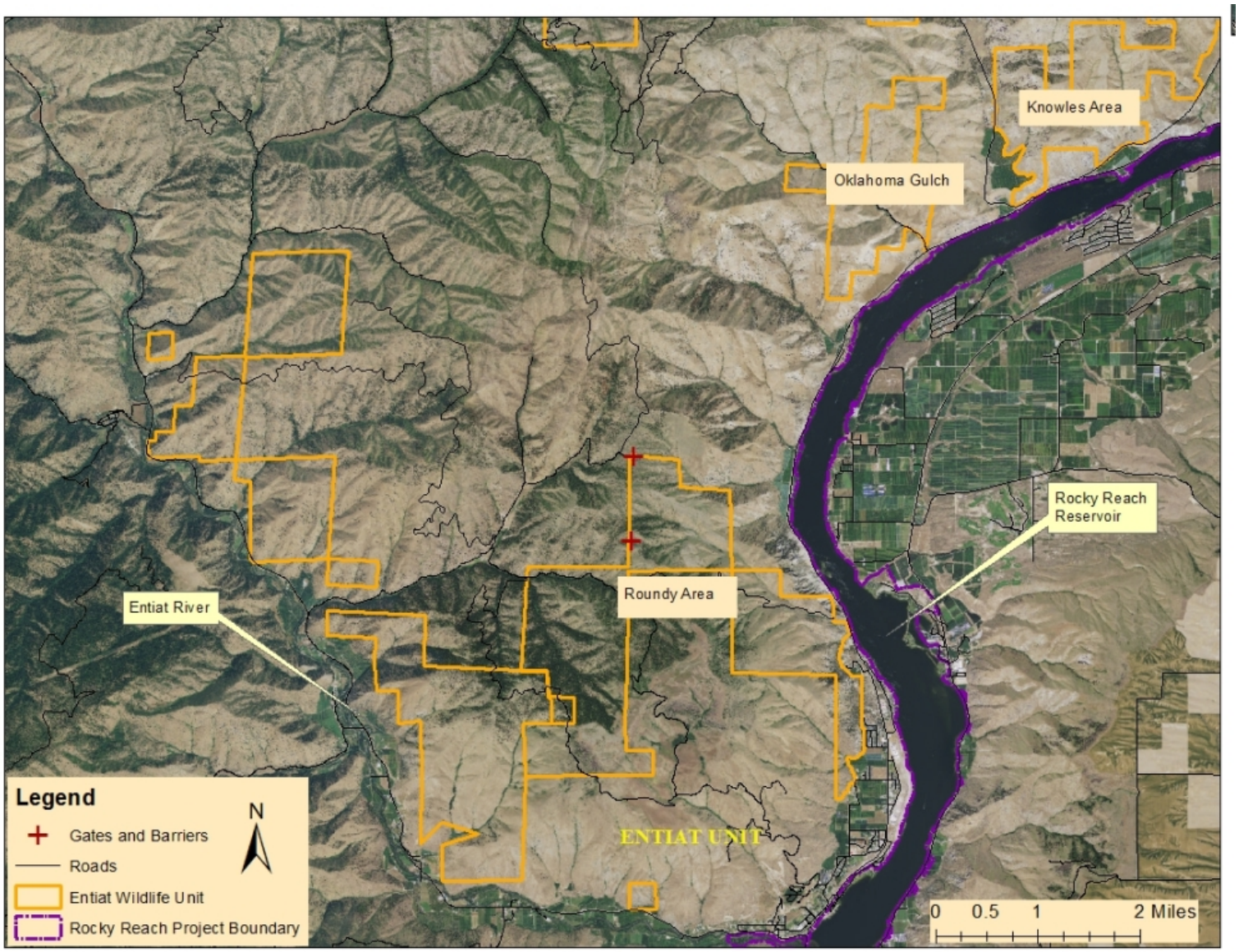

Figure 4-3: Entiat Wildlife Unit, WDFW.

4.2 BLM Habitat Improvements

The BLM administers approximately 17,400 acres within the six-mile corridor of the Rocky Reach Reservoir. These lands are relatively low elevation ranging from 750 – 3,200 feet. Shrub-steppe habitat with an over-story of sagebrush or bitterbrush and an under-story of various grasses and forbs are most common on these lands. Some mesic sites, which are often found at higher elevation or on north exposures, support conifers. Riparian areas support a mixture of deciduous shrubs and trees as well as conifers. Much of the area has burned during the past 15 years, with recent fires occurring 2010, 2012, and 2014. In most cases, these recently burned areas support fewer trees and shrubs and more grasses and forbs. Some burned areas have been invaded by exotic species and support little native vegetation. Much of the BLM lands in this area are considered part of the Swakane, Entiat, or Chelan Butte Wildlife Units, which comprise the CWA (Chelan Wildlife Area).

For this WHMP 2016, treatments will occur on the west side of the Columbia River in Chelan County where the BLM owns approximately 10,456 acres within the RRWA. The BLM administered lands were divided into three areas: Azwell (Figure 4-4), from the Okanogan County line south to Chelan; Chelan Butte (Figure 4-5), from Chelan to Entiat; and Swakane (Figure 4-6) from Entiat south to the Wenatchee River. Detailed descriptions of the projects to be implemented by Chelan PUD are shown in Table 4-2 below.

4.2.1. Swakane (approximately 2,436 acres within the Entiat and Swakane Wildlife Units)

- 2010 Swakane Fire Rehabilitation Treatment: Plant seeds or containerized native shrubs and grasses in portions of Units 1 and 2 totaling approximately 500 acres.
- 2010 Swakane Fire Rehabilitation Treatment: Control noxious weeds in Units 1 and 2 (herbicide and/or mechanical treatments followed by native grass seeding).
- Develop a spring near Tenas George Canyon and Swakane Creek to provide water for mule deer and bighorn sheep.

4.2.2. Azwell (approximately 4,686 acres)

- Plant containerized native shrubs in five units totaling approximately 473 acres. This treatment will only occur after completion of Swakane area shrub planting on 500 acres, and will depend on actual cost and time to complete Swakane plantings.
- Develop a spring to provide water for mule deer and bighorn sheep south of Deer Mountain in Section 8.
- Control noxious weeds (herbicide and/or mechanical treatments followed by native grass seeding).

4.2.3. Chelan Butte (approximately 3,334 acres within Chelan Butte and Entiat Wildlife Units)

- Control noxious weeds (herbicide and/or mechanical treatments followed by native grass seeding). Complete field restoration work on BLM lands within the WDFW Chelan Butte Wildlife Unit (Figure 4-5).
- Field restoration work on BLM lands within the Chelan Butte Wildlife Area (Figure 2-1). Continue effort to convert abandoned agricultural fields to native habit to benefit wildlife. Restoration by WDFW of BLM land in fields I, C, and J should be completed by 2021.

Completion of the proposed treatments will require the following clearances before being implemented:

1. Section 106 cultural surveys and consultation for Swakane and Azwell spring developments and Azwell shrub planting on 473 acres (consultation is complete for Swakane shrub planting on 500 acres).
2. Environmental Assessment (EA) under National Environmental Policy Act (NEPA) for shrub planting and spring development treatments in Swakane and Azwell areas. Internal/external scoping and draft are in progress at the time of this writing.
3. EA and approved Pesticide Use Proposal (PUP) for herbicide application for all areas. Draft EA is in progress, PUP will be completed following finalization of EA.

4.2.4. Fire Response

- Areas burned by wildfire within the planning area will be assessed for treatment needs and may become the priority for project work based on the needs identified in assessments. Typical fire response treatments would include control of invasive species for three years following wildfire, seeding of native grass/forb/shrub species, and planting of containerized native grasses/forbs/shrubs.

Table 4-2: Implementation schedule for proposed project within the RRWA (Swakane, Chelan Butte and Azwell areas) for 2016-2020.

Year	Project	Area-Unit	Activity	Purpose
2016	Planning, Clearances	All	Payment Agreement, Section 106, NEPA EAs, PUP	Project Permitting
2016	Weed Management	All	Weed management on up to 100 acres	Improve habitat quality
2016	Native species planting	Swakane-1,2 (Burn Area)	Seeding/planting of native shrubs/forbs/grasses	Fire Rehab/Increase available browse
2016	Field Restoration	Chelan Butte	Field restoration with WDFW	Restore habitat
2017	Weed Management	All	Weed management on up to 100 acres	Improve habitat quality
2017	Native species planting	Swakane-1,2 (Burn Area)	Seeding/planting of native shrubs/forbs/grasses	Fire Rehab/Increase available browse
2017	Field Restoration	Chelan Butte	Field restoration with WDFW	Restore habitat
2018	Weed Management	All	Weed management on up to 100 acres	Improve habitat quality
2018	Native species planting	Swakane-1,2 (Burn Area)	Seeding/planting of native shrubs/forbs/grasses	Fire Rehab/Increase available browse
2018	Develop a spring	Swakane-2	Develop a spring	Water source for wildlife
2018	Field Restoration	Chelan Butte	Field restoration with WDFW	Restore habitat
2019	Weed Management	All	Weed management on up to 100 acres	Improve habitat quality
2019	Native species planting	Swakane-1,2 (Burn Area)	Seeding/planting of native shrubs/forbs/grasses	Fire Rehab/Increase available browse
2019	Develop a spring	Swakane-2	Develop a spring	Water source for wildlife
2019	Field Restoration	Chelan Butte	Field restoration with WDFW	Restore habitat
2020	Planning, Clearances	All	Vegetation Inventory, Section 106, NEPA Scoping 2021-2025	Project Permitting
2020	Native species planting	Swakane-1,2 (Burn Area)	Seeding/planting of native shrubs/forbs/grasses	Fire Rehab/Increase available browse

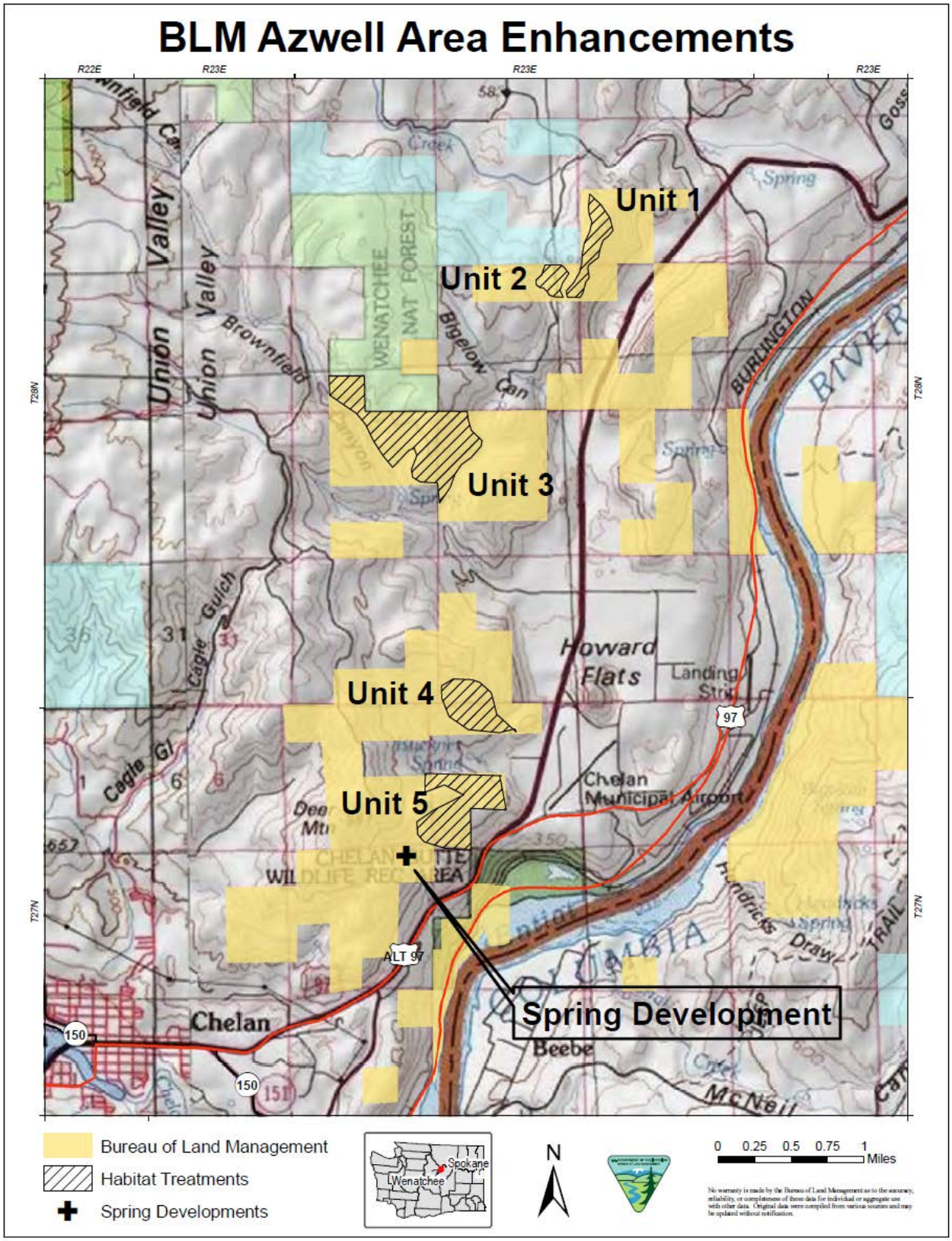

Figure 4-4: Azwell Area Habitat Projects, BLM.

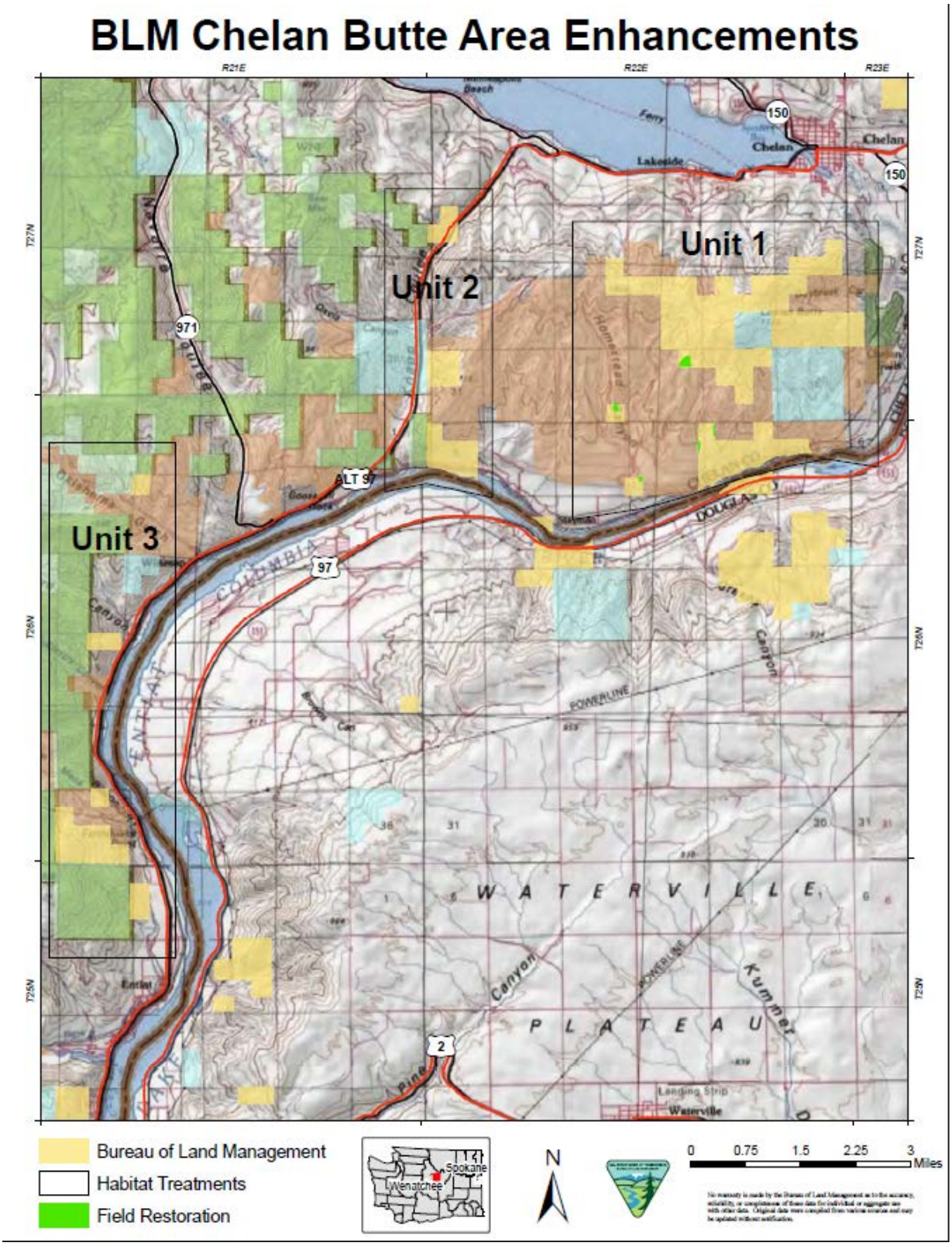

Figure 4-5: Chelan Butte Area Habitat Projects, BLM.

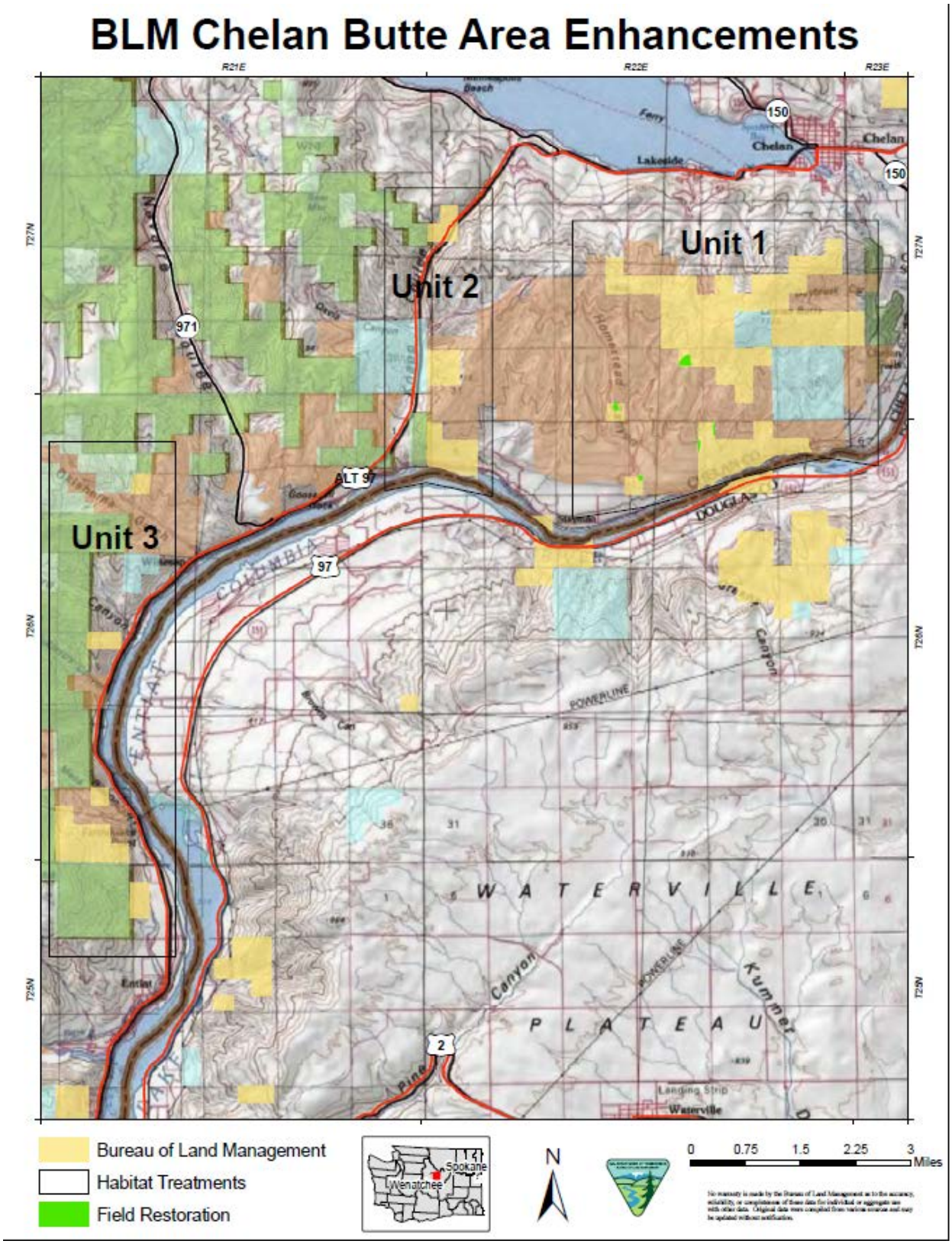

Figure 4-6: Swakane Area Habitat Projects, BLM.

4.3 USDA Forest Service Habitat Improvements

The US Forest Service (USFS) lands within the Rocky Reach Wildlife Area (RRWA) are separated into two Resource Units (RU); Entiat North (FS RU-1) and Entiat South (FS RU-2). FS RU-1 (Figure 4-7) contains Bigelow Canyon, Navarre Coulee, Oklahoma Gulch, Byrd Canyon, McKinstry Canyon, Byers Canyon, Osburn Canyon, Crum Canyon, and McArthur Canyon FS RU-2 (Figure 4-8) contains Burch Mountain, Swakane Canyon, Tenas George Canyon, and Spencer Canyon.

The following projects are largely placed in order of project priority. However, due to the changing nature of our fire prone landscape, and the unpredictability of opportunities to collaborate these projects with both internal and external funding sources, the priority order of these projects is likely to change as conditions and circumstances warrant. The treatments described below would increase winter browse and cover, decrease small tree density, open up dense areas for increased forage production, and will be beneficial to the wildlife using those drainages in the winter and year-round for sagebrush obligates[4].

4.3.1 Mule Deer and Big Horn Sheep Key Winter Range Improvements

The USFS intent is to improve mule deer and big horn sheep winter range within FS RU-1 and FS RU-2 through a combination of planting, fence removal, thinning/pruning, and/or prescribed fire. There are approximately 9,000 acres of forested and non-forested stands (non-contiguous) in these areas that would benefit from treatment; mostly due to effects of recent wildfires (Mills Canyon 2014, Byrd Fire 2012, Swakane Fire 2010, and others). Planting would likely occur in FS RU-2 (Tenas George Canyon and Spencer Canyon), and FS RU-1 (Osburn Canyon, Byers Canyon, McKinstry Canyon, Byrd Canyon, Oklahoma Gulch and Navarre Coulee). Thinning/Pruning would likely occur in FS RU-1 (Crum Canyon, Osburn Canyon and Bigelow Canyon). Prescribed fire could occur in all USFS lands within the RRWA to mitigate fuels issues and fight back cheat grass. Barbed wire may be removed in FS RU-1 (Crum Canyon, Osburn Canyon, Byers Canyon, McKinstry Canyon, Byrd Canyon, Oklahoma Gulch, Navarre Coulee, and Bigelow Canyon).

4.3.2 Planting

Bitterbrush and sagebrush seeds or seedlings would accelerate the development of winter browse and cover for ungulates and other wildlife on the winter range areas. Much of the shrubbery historically present has been negatively impacted by wildfires, thus will not become effective winter browse or cover for 5-25 years. The USFS proposes to plant up to 500 non-contiguous acres of winter browse at $100/ac for a total cost of $5,000.

4.3.3 Thinning/Pruning

Thinning/pruning would reduce ladder fuels and also accelerate the development of larger trees and canopies, reducing potential loss of thermal cover to wildfire or insects and disease while

[4] Projects proposed do not require maintenance or monitoring to ensure success, rather, all projects are one-time treatments, or progressions of one-time treatments. Therefore, none of these lands need be incorporated into the Rocky Reach Project boundary.

increasing sunlight to stimulate the understory. The USFS proposes approximately 300 non-contiguous acres slash thinning at $150/acre for a total cost of $45,000.

4.3.4 Prescribed Fire

Prescribed, low intensity burning benefits many species dependent on shrub steppe habitat by reducing fuels and, therefore, the severity of summer wildfires. Prescribed fire also rejuvenates plant communities that have evolved with fire, thereby improving habitat conditions for most species dependent on shrub steppe and grassland habitats. The USFS proposes approximately 400 acres prescribed burning at $75/acre for a total cost of $30,000.

4.3.5 Barbed Wire Removal

The past wildfires have damaged/destroyed much of the 3-strand barbed wire fence that has not been used since 1996. Annually removing 1-2 miles of fence will reduce or eliminate fence related injury and/or mortality of wildlife and humans alike. Removing decadent barbed wire will increase wildlife species winter survival by minimizing energy use during critical seasons (i.e. jumping over/through or crawling under fences), since movement on winter ranges is typically reduced in winter months to conserve fat reserves. The USFS proposes to remove 10 miles of fence at $500/mile for a total cost of $5,000.

4.3.6 Weed Control

Noxious weed management is an ongoing effort by the USFS. Weed control is an essential mitigation to prescribed fire and enhances desired forage production. Weed control treatments on winter range would benefit mule deer and bighorn sheep, as well as carnivores dependent on these ungulates, and other species dependent on shrub steppe and grassland habitats. All USFS Lands within the RRWA are in need of weed treatments as cheat grass exists throughout the project area and many roads currently have infestations of noxious weeds. The USFS can expand the terrain currently covered by the USFS with this additional funding.

4.3.6.1 Cheat Grass Control/Eradication

In large patches of continuous cheat grass, we propose to prescribe a spring-controlled burn prior to seed set of cheat grass and then seed the burned areas with native grasses/shrubs that following fall. This would be a multi-year effort to convert acres from cheat grass back to native grasses and shrubs. The USFS proposes approximate cost of cheat grass control: $3,000/year for 5 years ($15,000).

4.3.6.2 Cheat Grass Bacteria

A bacterium is in development that has early promising results, which target cheat grass for removal, but is not currently USDA approved. If the bacterial treatment becomes approved in the coming years, the USFS would like to use it. Estimates for application of bacteria on cheat grass: $2,000 for purchase of bacteria and application.

4.3.7 Ungulate Water Supplementation

Ungulate mortality resultant of motor vehicle collisions is an ongoing issue on HWY 97A adjacent to Rocky Reach Reservoir, especially in the winter and early spring. During the winter

months, bighorn sheep and mule deer are repeatedly observed licking the road surface after application of de-icier on the roadway. There may be some element of the de-icier that is appealing to ungulates out of necessity, i.e., fulfilling a mineral deficiency in their diet, or they may simply like it. The mineral supplements could occur in all suitable structures in both FS RU-1 and FS RU-2. Structures would be assessed in early spring to determine suitability

The USFS proposes to deploy a mineral supplement for wild ungulates using water-soluble products. The supplements contain "attractive" elements of de-icier, while providing the minerals beneficial to ungulate nutrition. The supplements will be deployed in artificial water chances (e.g. guzzlers, developed springs, etc.) within the winter range to decrease the need for animals to go down to the highway. Many of the water chances are currently present; the supplement would be added to the water in the artificial container periodically, approximate cost: $8,000.

4.3.8 Road Closures

Closing roads permanently and/or seasonally to vehicular traffic reduces disturbance to all wildlife species, weed propagation, and sedimentation. Several roads have been identified within FS RU-1 (Crum Canyon, Osburn Canyon, McKinstry Canyon, Byrd Canyon, Oklahoma Gulch, and FS RU-2 for seasonal or annual closing, and/or decommissioning.

4.3.8.1 Gate Removal, Translocation, and Installation

Metal gates are one tool to enforce road closures to preserve wildlife habitat that is very effective for motor vehicles. There are several gates in the Project area that are not being used effectively and could be better used in a different location. Estimated costs are $5,000/gate.

4.3.8.2 Natural Barriers (Tank Traps, Rocks, etc)

Natural barriers are often used to close roads that are not meant to be accessible in the future to preserve wildlife habitat. Equipment and operator costs are estimated at $2,000 per natural barrier creation.

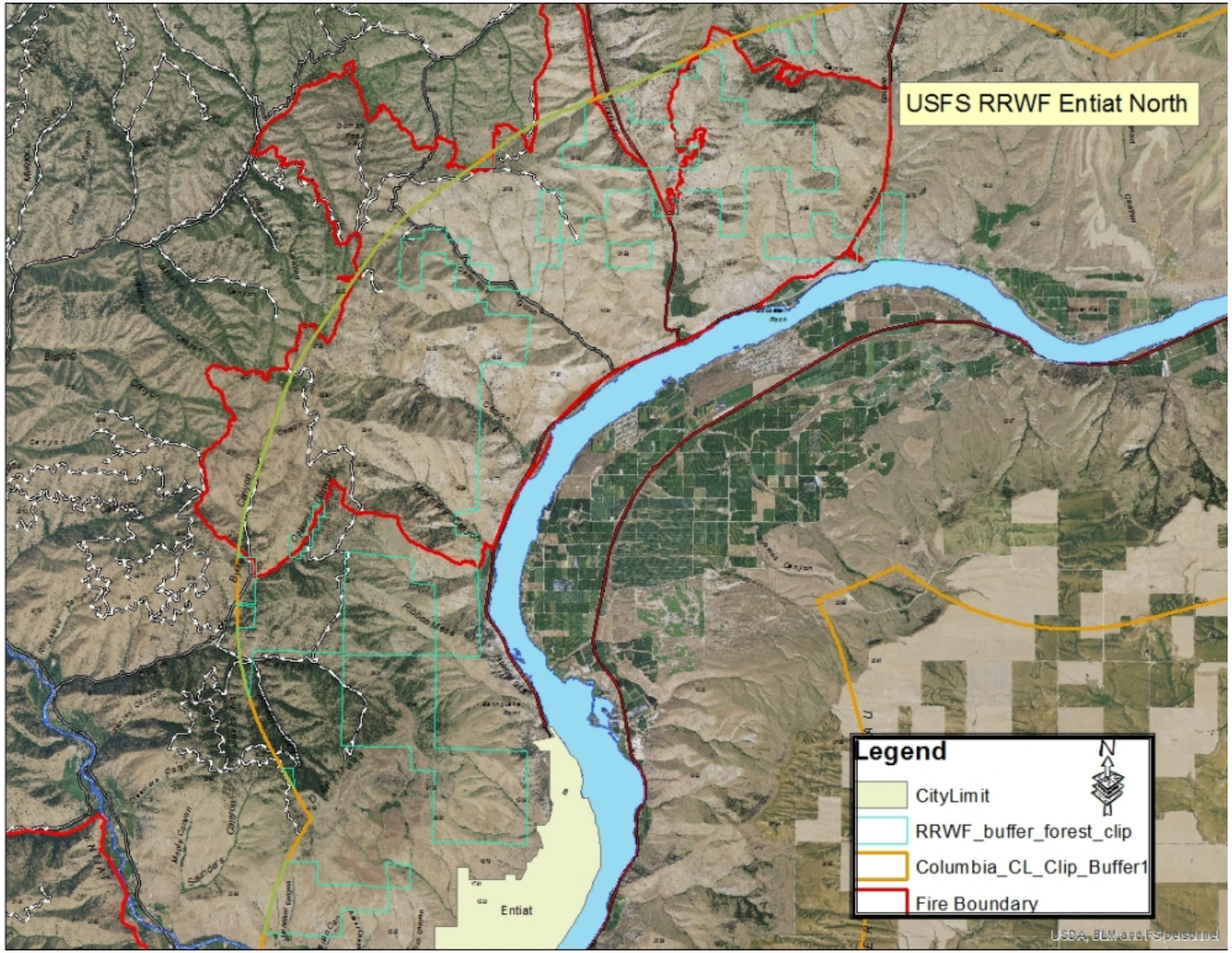

Figure 4-7: USFS Entiat Ranger District North (RU-1) containing areas of proposed habitat enhancement (2015-2020), including Bigelow Canyon near on the Chelan Ranger District near Wells Dam.

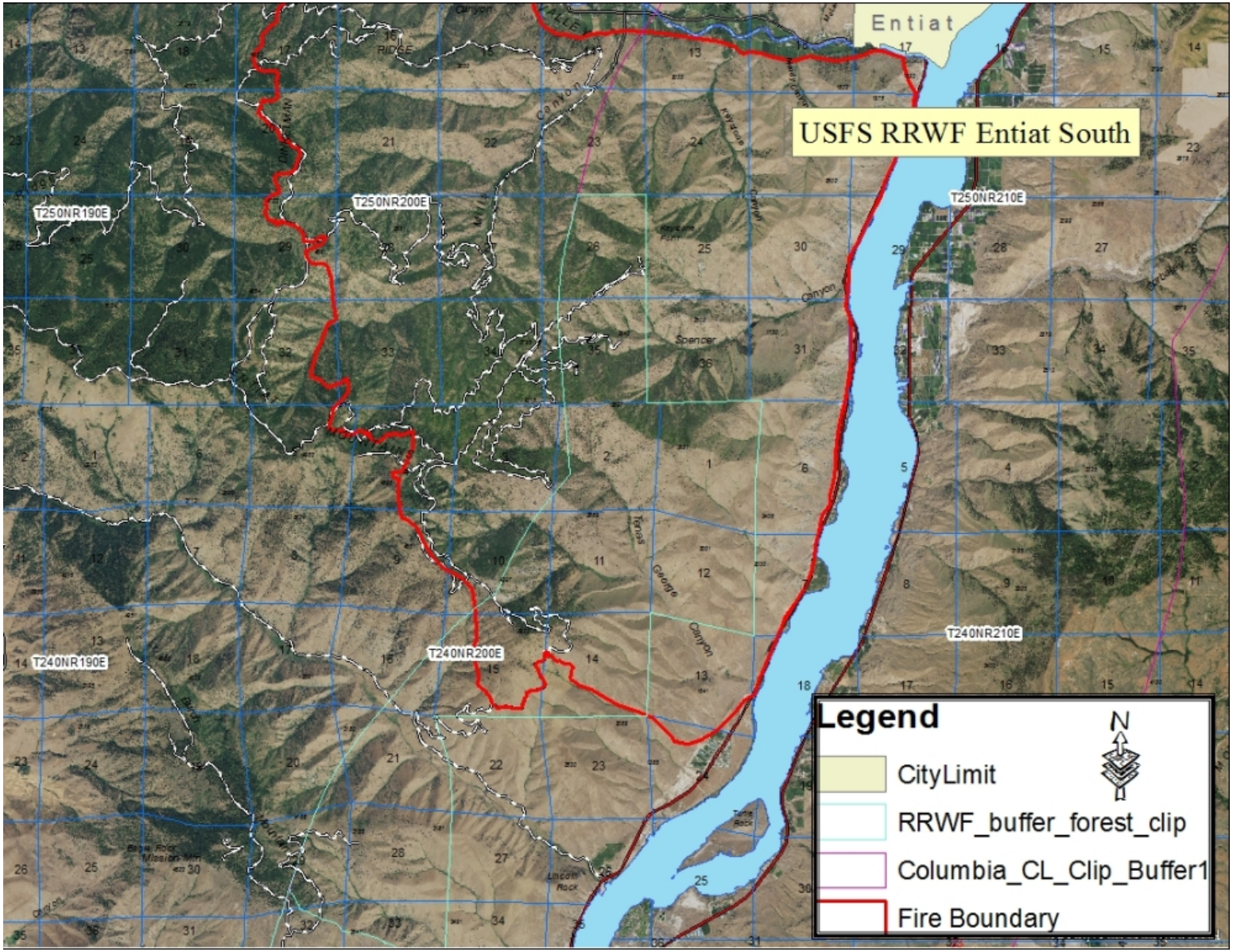

Figure 4-8: USFS Entiat Ranger District South (RU-2) including areas of proposed habitat improvement Projects, 2016-2020.

4.4 Noxious Weed Control

In 2012, the RRWF developed and approved an Integrated Terrestrial Invasive Plant Control Plan (ITIPCP) for the RRWA (Chelan PUD 2012). This ITIPCP provides the outline for annual proposals to be considered by the RRWF for weed control within the RRWA on a large scale. Using the annual funding provided by Chelan PUD ($10,000/annually) the RRWF proposes and implements weed control activities annually. For this WHMP 2016, the RRWF proposes to continue to review and approve or modify annual proposals to conduct weed control on a large scale.

SECTION 5: SUN COVE PROPERTY

5.1 Sun Cove Property Conservation Easement

Since Chelan PUD owns the Sun Cove Property in fee title, it is not necessary for Chelan PUD to seek additional rights for the property it owns. Since the area under consideration is within the Rocky Reach Project Boundary, any modification to this habitat would not be allowed without Commission and other agency approval. Therefore, Chelan PUD will manage the riparian habitat of Sun Cove in its natural state for as long as Chelan PUD owns the property. Should Chelan PUD decided to divest itself of the Sun Cove Property, a 50-foot wide conservation easement will be placed on the riparian habitat and 2-100 foot access corridors would be delineated prior to any change in the property status.

SECTION 6: WILDLIFE SURVEYS

Article 403 of the new license directed the licensee to conduct annual winter bald eagle surveys and Canada goose nesting surveys for the term of the license in coordination with the RRWF. From 2010 – 2015, Chelan PUD conducted up to 5 wintering bald eagle counts during each winter and conducted goose nest monitoring along Rocky Reach Reservoir each spring. The results of these surveys are summarized in the 2010 – 2015 Rocky Reach Wildlife Habitat Management Plan 5-Year Summary Report (2015).

6.1 Wintering Bald Eagles

Since 1988, numbers of wintering bald eagles observed within the RRWA has steadily increased (Figure 6-1) along Rocky Reach Reservoir. In the winter of 1988 – 1989, the average number of wintering bald eagles observed along Rocky Reach Reservoir was 15.1 bald eagles, for the winter of 2014 – 2015; the average number of wintering bald eagles was 25.0. During the first WHMP 2010 (winters 2010-11 through 2014-15) the average number of wintering bald eagles observed was 27.5.

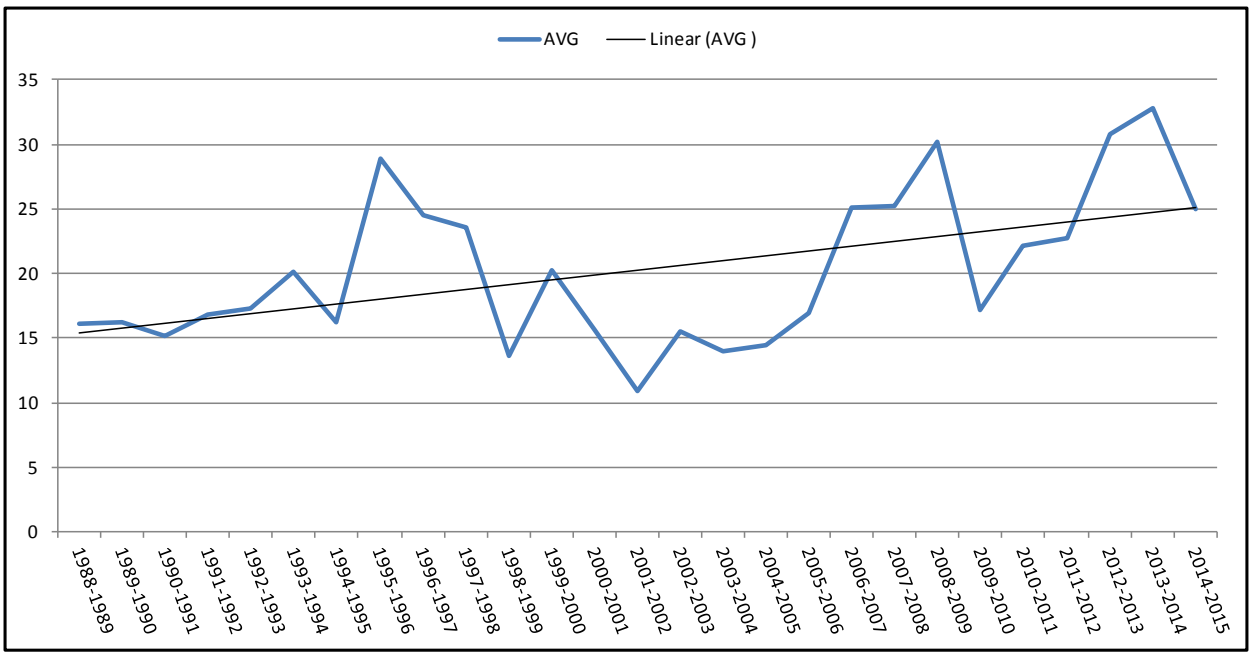

Figure 6-1: Average number of wintering bald eagles observed each winter from 1988 – 2013 showing an increasing trend in the average number of wintering bald eagles observed.

In 2007, Chelan County PUD curtailed its wintering bald eagle monitoring program along Rocky Reach Reservoir from bi-weekly surveys to monthly surveys following the delisting of the bald eagle from the Endangered Species List. A review of the average monthly number of wintering bald eagles observed from 1988 – 2013 (Figure 6-2), shows that the highest average count for wintering eagles occurs in the month of January or February in all years, and more frequently in January (63%). For the WHMP 2016, the RRWF recommends that the frequency of monthly winter bald eagle surveys be reduced from five surveys each winter (November – March) to one survey in January, which will coincide with the National Mid-winter Bald Eagle Survey.

6.2 Bald Eagle Nest Monitoring

In addition to monitoring wintering bald eagles, the RRWF agreed to continue monitoring of nesting bald eagles within the RRWA initiated by Chelan PUD in 2005. From 2005 to 2010, the number of nesting bald eagles observed within the RRWA grew from only a few nests to seven nests. From 2010 to 2014, the number of active nests within the RRWA has remained at seven nests and the number of successful nests increased from 3 nests in 2010 to 6 nests in 2014 (Chelan PUD 2015). Consistent with the first WHMP 2010, bald eagle nest monitoring would continue annually by Chelan PUD to determine nest occupancy and success.

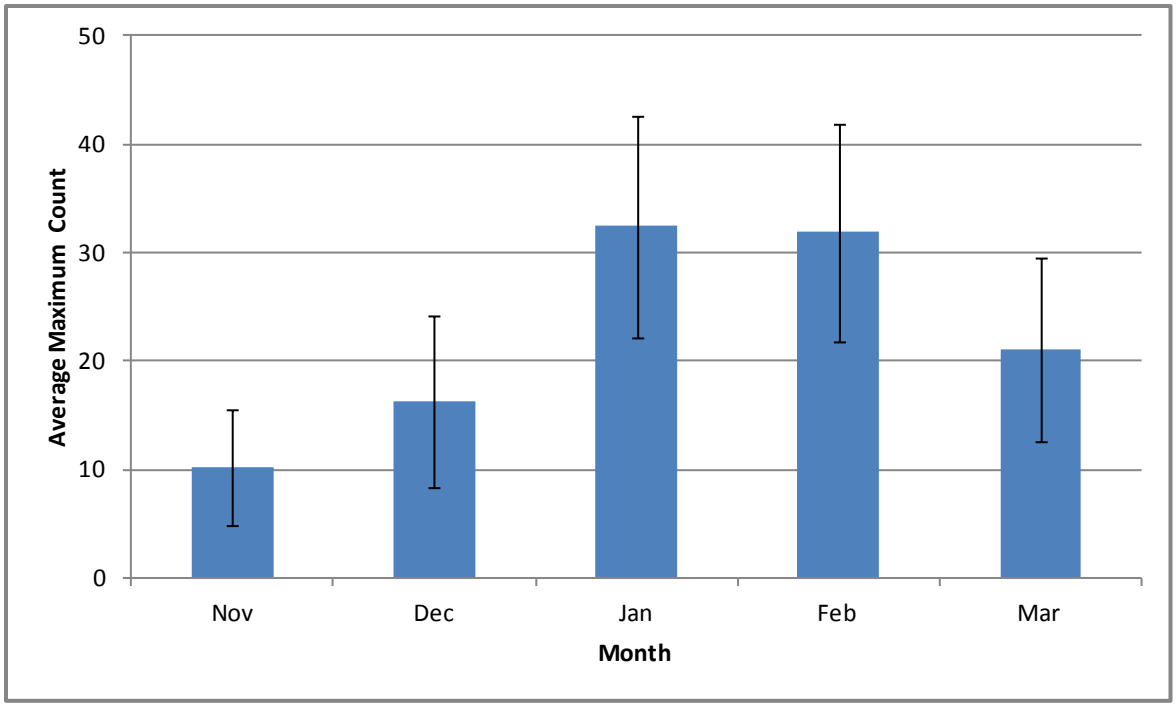

Figure 6-2: Average maximum count of wintering bald eagles on Rocky Reach Reservoir, 1983 – 2014.

6.3 Canada Goose Nest Monitoring

Canada goose nesting surveys along Rocky Reach Reservoir were initiated as a pre-implementation measure for the 1991 proposed pool raise on the Rocky Reach Reservoir. The pool raise was rejected in 1994 (Commission 1994) and never implemented. However, Canada goose nest monitoring by Chelan PUD continued. During the first WHMP 2010, Canada goose nest monitoring was continued and was to be evaluated in the future years.

Rocky Reach Reservoir has approximately 20 islands, which are used by Canada geese for nesting. From 2010 – 2014, the number of available artificial nesting platforms varied from 22 in 2011 to 17 in 2013 with a 5-year average of 19.4 artificial nest tubs available.

Numbers of nesting Canada geese on Rocky Reach Reservoir have remained relatively stable with a minimum of 49 nests located in 2010 and a maximum of 69 nests in 2012. The 5-year (2010 – 2014) average number of nests observed was 56.2 is slightly above the 30-year average of 54 (Pope and Cordell-Stine 2014). Nest success ranged from 67.3% at a minimum up to a maximum of 81.7% during the first 5-Year WHMP. The average nest success for the 2010 – 2014 period was 74.9%, which is above the 30 year average of 70%.

Canada goose nest success rates for the 2010 – 2014 period were similar between natural nest sites and man-made nest sites (Chelan PUD 2015). Both ground and man-made nests fail due to avian and/or mammalian predation as well as unknown factors that lead to nest abandonment. For natural nest sites, the lowest nesting success was 67.5% during 2014 while the highest was

86.0% during 2013. For man-made nests, the lowest nesting success was 64.7% during 2010 with a maximum of 100% success in 2014. Overall, the average nest success for natural sites 73.8% was slightly lower than for man-made nest sites at 77.8% for the 2010 – 2014 period.

6.4 Annual Wildlife Monitoring (2016-2020)

In the first WHMP 2010, Chelan PUD continued to conduct wildlife surveys similar to those conducted during the original license. The Rocky Reach Settlement Agreement (2006) allows up to $10,500 annually for wildlife surveys or habitat improvements. The intent of this funding is to survey and monitoring threatened, endangered, and sensitive species on a periodic schedule as directed by the RRWF (Chelan PUD 2006).

With the delisting of the bald eagle from the endangered species list and the increase in both wintering and nesting numbers along Rocky Reach Reservoir, the RRWF would like to consider other wildlife monitoring within the RRWA. Per the Rocky Reach Settlement Agreement (2006) and the Order approving the Wildlife Habitat Management Plan pursuant to Article 403 (Commission 2010), annual wildlife surveys would be conducted in coordination with the RRWF.

Rather than set 5-year monitoring criteria, the RRWF proposes a more adaptive approach for wildlife monitoring by meeting annually each fall to identify and prioritize potential wildlife monitoring efforts for the subsequent year. Each year, the RRWF would propose a wildlife monitoring activity that would be reviewed and approved by the RRWF prior to implementation. Proposals would be limited to wildlife species and habitats that are present in, or likely to be present in the RRWA. Each annual proposal would include the area to be monitored, monitoring frequency, and protocol to be used for the proposed survey effort and be within the annual funding allocation per the Rocky Reach Settlement Agreement (2006).

Annual wildlife monitoring would be carried out by Chelan PUD or a contractor (including any agency) and a final report would be provided to the RRWF that summarizes the monitoring effort, cost, and results. Chelan PUD would only be responsible for conducting the monitoring and providing the data related to annual surveys to the RRWF and not for any protection, mitigation, or enhancement measures that might be identified from the monitoring efforts. Consistent with the Rocky Reach Settlement Agreement (2006), Chelan PUD will conduct annual wildlife monitoring for a cost not to exceed $10,500 (adjusted annually) or equivalent man-days (Chelan PUD 2006) for the this 5–Year WHMP 2016. The adjusted amount available for 2016 is expected to be approximately $13,150.00. Consistent with the Rocky Reach Settlement Agreement (2006), funding allocations for annual wildlife monitoring would only be made available annually and unspent funds would not accumulate for future use.

SECTION 7: REPORTING

Annual wildlife monitoring reports will be provided to the RRWF at the annual meeting to be held in the fall (at a minimum) of each year to review the results of the monitoring and provide potential guidance for future monitoring.

By December of 2020, a new summary for the second 5–Year Rocky Reach Wildlife Habitat Management Plan will be submitted along with a new 5–Year Rocky Reach Wildlife Habitat Management Plan drafted in consultation with the RRWF.

Table 7-1: Fiscal Table for work proposed for the 2016-2020 Rocky Reach Wildlife Habitat Management Plan (January 2016 – December 2020) and total funding remaining beyond 2020.

AGMT ARTICLE	DESCRIPTION	5-YEAR ACTIVITIES SUMMARY	TOTAL PROPOSED FUNDING PROVISIONS (2016 TO 2020)	TOTAL PROJECTED FUNDING AVAILABLE AS OF DECEMBER 31, 2020[1]	
RR07ab	WDFW Wildlife Habitat	Task 1: Chelan Butte	$139,438.00	Balance Available:	295,538.71
		Task 2: Swakane[2]	$0.00		
		Task 3: Entiat	$36,875.00	2016-2020 Contributions:	$1,150,098.46
		Task 4: Field Restoration	$634,781.00		
		Task 5: Project Oversight	$100,000.00	Total with NPV:	$2,054,389.91
		Task 5: Stipend	$7,500.00		
		Task 7: Cultural	$15,000.00		
RR07c1	BLM Wildlife Habitat Regular	Task 1: Permitting	$0.00	Balance Available:	$183,455.81
		Task 3: Swakane	$100,000.00		
		Task 4: Azwell	$0.00	2016-2020 Contribution:	$135,021.61
		Task 5: Weed Control	$0.00		
		Task 6: WDFW Field Restoration	$0.00	Total with NPV:	$658,821.00
		Task 8: Tenas George	$0.00		
RR07c2	BLM Wildlife Habitat Match	Task 1: Permitting	$16,600.00	Balance Available:	$214,726.78
		Task 3: Swakane	$6,500.00		
		Task 4: Azwell	$6,500.00	2016-2020 Contribution:	$135,021.61
		Task 5: Weed Control	$39,700.00		
		Task 6: WDFW Field Restoration	$0.00	Total with NPV:	$690,091.94
		Task 8: Tenas George	$20,000.00		
		Task 9: Project Mgmt	$12,700.00		

AGMT ARTICLE	DESCRIPTION	5-YEAR ACTIVITIES SUMMARY	TOTAL PROPOSED FUNDING PROVISIONS (2016 TO 2020)	TOTAL PROJECTED FUNDING AVAILABLE AS OF DECEMBER 31, 2020[1]	
RR07d1	USFS Wildlife Habitat	Task 5: Winter Range Improvements.....	$7,000.00	Balance Available:	$42,651.23
		Task 6: Weed Control	$2,000.00		
		Task 7: Water Supplements	$8,000.00	2016-2020 Contribution:	$33,755.40
		Task 8: Road Closures	$3,000.00		
		Task 9: Fire Response	$5,000.00	Total with NPV:	$161,492.53
RR07d2	USFS Wildlife Habitat Match	Task 5: Winter Range Improvements.....	$85,000.00	Balance Available:	**($67,616.45)**
		Task 6: Weed Control	$15,000.00		
		Task 7: Water Supplements	$0.00	2016-2020 Contribution:	$33,755.40
		Task 8: Road Closures	$4,000.00		
		Task 9: Fire Response	$0.00	Total with NPV:	$51,224.85
RR07f	Noxious Weed	Task 1.....	$64,000.00	Balance Available:	$12,381.32
				2016-2020 Contribution:	$68,095.43
				Total with NPV:	$252,122.18
		TOTALS	**$1,328,594.00**		

1 For all measures: Balance Available – All contributions minus net amount of proposed expenditures during 2016-2020.
For measures with annual contributions: 2016-2020 Contributions – annual contribution amounts adjusted at an assumed 2.5% CPI.
For measures with annual contributions: Total with NPV – Total of 2020 balance and remaining net present value of future contributions calculated at an assumed 7% discount rate and 2.5% inflation.

2 Revised August 25, 2015, to remove the Swakane 2016-2020 budget.

SECTION 8: LITERATURE CITED

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Pope and Cordell-Stine. 2014. Goose Nest Monitoring along Rock Island and Rocky Reach Reservoirs, 2014. Chelan PUD, Wenatchee, WA.

APPENDIX A: CONSULTATION SUMMARY

The following table summarizes the consultation history for developing the Rocky Reach Wildlife Habitat Management Plan 5-Year Summary Report and new 5-Year Rocky Reach Wildlife Habitat Management Plan (WHMP 2016) with the Rocky Reach Wildlife Forum (RRWF) as required by the Commission.

Date	Activity/Comment	Action
March 5, 2014	RRWF meeting to initiate development the 5-Year Summary and new 5-Year Plan as required by the Commission by September 22, 2015.	Established timeline for developing required 5-Year Summary Report and new 5- Year Plan
October 1, 2014	RRWF meeting to review 1st draft 5-Year Summary and continue discussions on new 5-Year Plan.	Reviewed draft 5-Year Summary and reiterated need for input to draft a new 5-Year Plan.
January 13, 2015	RRWF meeting to review 2nd draft of the 5-Year Summary and 1st draft of the new 5-Year Plan.	Continued review and modification of the 5-Year Summary and began discussing changes for the new 5-Year Plan, including changes to the annual wildlife survey monitoring effort.
June 30, 2016	RRWF meeting to review 3rd draft of the 5-Year Summary and 2nd draft of the new 5-Year Plan.	Since work was being conducted while the 5-Year Summary was being drafted, the cutoff date for information included in the 5-Year Summary was set to be March 31, 2015. The RRWF agreed to propose a reduction in the bald eagle monitoring frequency to once annually and provide an annual proposal for wildlife monitoring within the Rocky Reach Wildlife Area.
July 10, 2015	Final draft of the 5-Year Summary Report and the new 5-Year Plan was sent to the RRWF representatives of WDFW, BLM, and USFS for further review.	Comments received were addressed and included in the Final 5-Year Summary Report and new 5-Year Plan to be submitted for 30 day review.
August 3, 2015	Final copy of the 5-Year Summary Report was sent out to the RRWF for 30 day review.	No comments received on 5-Year Summary Report.
August 4, 2015	Final draft of the new 5-Year Plan (2016-2020) was sent out the RRWF for 30 day review.	Comment (1) received and addressed (*see below*).
August 24, 2015	WDFW comment*: I took one last look at the 5-year plan and it appears that the funding for Task 2: Swakane still includes funds for the forest thinning project that was eliminated from my project list.*	The funding table was updated, removing the costs associated with the forest thinning project removed from the new 5-Year Plan.

ROCKY REACH WILDLIFE HABITAT MANAGEMENT PLAN

5 – Year Summary Report
(2010-2015)

ROCKY REACH HYDROELECTRIC PROJECT
COMMISSION Project No. 2145

September 17, 2015

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

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**Due to the complexity of GIS figures, they are intended to be viewed in color.*

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EXECUTIVE SUMMARY

This 5-Year Summary Report summarizes monitoring and improvement measures approved in the first Rocky Reach Wildlife Habitat Management Plan (WHMP 2010). Since the current WHMP 2010 is still in effect, this report summarizes implementation measures through March of 2015. This cut-off allows the continued implementation during 2015 while drafting the 5 - Year Summary Report and new 5-Year Rocky Reach Wildlife Habitat Management Plan for 2016-2020 as required by Article 403 of the new operating license.

The Federal Energy Regulatory Commission (Commission) Order on Offer of Settlement and Issuing New License (License) for the Rocky Reach Hydroelectric Project No. 2145 (Project) was issued February 19, 2009 to the Public Utility District No. 1 of Chelan County (Chelan PUD). Article 403 of the new Project License required Chelan PUD to file for Commission approval a 5-Year Wildlife Habitat Management Plan (WHMP). The plan is to be updated every five years thereafter.

On January 22, 2010, Chelan PUD submitted the first WHMP 2010 developed in consultation with the Rocky Reach Wildlife Forum (RRWF). On September 22, 2010, the Commission issued the Order Approving Wildlife Habitat Management Plan Pursuant to Article 403. The approving order also stated that;

> "…the plan will be updated and filed for Commission approval at a minimum of every 5 years as required by Article 403. The updated plan will provide a summary of habitat improvement measures implemented during the first 5 years and measures proposed for the next 5 years."

Shortly after approval, Chelan PUD entered into Payment Agreements with the Washington Department of Fish and Wildlife (WDFW), the US Forest Service (USFS), and the US Bureau of Land Management (BLM) consistent with the Rocky Reach Comprehensive Settlement Agreement (Chelan PUD 2006). At the request of the RRWF, Chelan PUD filed a revised WHMP 2010 on March 19, 2012, that included projects to address recent wildfires within the Rocky Reach Wildlife Area (RRWA). The Revised WHMP 2010 was approved by the Commission on July 31, 2012.

Through March of 2015, WDFW has initiated habitat restoration activities on approximately 1,203 acres of abandoned agricultural fields within the Chelan Wildlife Area, which includes the Chelan, Swakane, and Entiat Wildlife Units. Restoration efforts have progressed through chemical and mechanical treatments and resulted in 669 acres seeded with native grasses. In addition, WDFW has constructed and installed 40 nest boxes, 2 wildlife guzzlers, 7 wildlife feeders, and 2 ponds, developed and improved 8 springs for water sources and created 2 acres of riparian habitat supported with drip irrigation within the Chelan Wildlife Area.

For the BLM, restoration of abandoned agricultural fields is progressing with WDFW as the contractor and much of the National Environmental Policy Act (NEPA) process has been completed to proceed with habitat improvement projects proposed in the first WHMP 2010 and future proposed habitat work.

The USFS has conducted weed control and grass seeding to improve winter range habitat, particularly in areas affected by fires.

In 2012, the RRWF approved the Rocky Reach Wildlife Area Integrated Terrestrial Invasive Plant Control Plan (ITIPCP). The ITIPCP is a guidance document that considers the responsible implementation of weed control across a wide variety of public lands and habitats. Under this plan, annual proposals are made, reviewed, and, if appropriate, approved by the RRWF for implementation.

Through March of 2015, the RRWF has approved the release of 56,065 biological control agents to help manage diffuse knapweed (*Centaurea diffusa*) and Dalmatian toadflax (*Linaria dalmatica*) within the RRWA. Many of the releases have been in areas affected by multiple wild fires that occurred within the RRWA since 2010.

Consistent with the first WHMP 2010 and the Rocky Reach Comprehensive Settlement Agreement, Chelan PUD conducted a variety of wildlife monitoring, similar to monitoring completed under the previous license and provided the required reports. Monitoring summarized includes surveys for wintering bald eagles (*Haliaeetus leucocephalus*), nesting bald eagles, and nesting Canada geese (*Branta canadensis*). Monitoring data are summarized to provide the RRWF an opportunity to consider changing the focus of wildlife monitoring efforts going forward.

Lastly, a financial summary is provided that summarizes the cost of wildlife monitoring efforts completed (through March of 2015) and the reimbursements provided to the agencies for work completed on approved projects under the first WHMP 2010 approved on September 22, 2010.

SECTION 1: INTRODUCTION

The Federal Energy Regulatory Commission (Commission) Order on Offer of Settlement and Issuing New License (License) for the Rocky Reach Hydroelectric Project No. 2145 (Project) was issued February 19, 2009 to the Public Utility District No. 1 of Chelan County (Chelan PUD). Article 403 of the new Project License requires Chelan PUD to file for Commission approval a 5-Year Rocky Reach Wildlife Habitat Management Plan. The plan is to be updated every of 5 years at a minimum thereafter.

The first Rocky Reach Wildlife Habitat Management Plan (WHMP 2010) described implementation measures planned over the first five years of the plan (2010 – 2015) consistent with Article 403 to protect and enhance wildlife habitats within the Rocky Reach Project boundary and in a corridor within the Rocky Reach Wildlife Area (RRWA). The RRWA is defined as state and public lands in Chelan and Douglas counties within an approximate 6-mile corridor of the Rocky Reach Reservoir (Figure 1-1).

Federal public lands in the RRWA include those of the US Forest Service (USFS) and Bureau of Land Management (BLM). State lands owned adjacent to the project include those owned and maintained by the Washington Department of Fish and Wildlife (WDFW) and Washington Department of Natural Resources (WDNR). WDFW owns and operates the Chelan Wildlife Area (approximately 30,221 acres, WDFW 2006) which is comprised of the Swakane (11,273 acres), Entiat (9,851 acres), and Chelan Butte (9,097 acres) Wildlife Units.

On January 22, 2010, the first WHMP 2010 was filed for Commission approval and subsequently approved by the Commission on September 22, 2010. Shortly after approval, Chelan PUD entered Payment Agreements with WDFW (December 29, 2010), the USFS (June 27, 2011), and the BLM (January 11, 2012) consistent with the Rocky Reach Comprehensive Settlement Agreement (Chelan PUD, 2006), and implementation of the projects in the approved WHMP 2010 began.

At the request of the RRWF, Chelan PUD filed a revised WHMP 2010 on March 19, 2012, that included projects to address recent wildfires within the RRWA. The revised WHMP 2010 was approved by the Commission on July 31, 2012.

As required under Article 403, the 5-Year Summary Report summarizes the habitat improvement measures completed under the first approved WHMP 2010, and its revisions, implemented since its approval on September 22, 2010.

The primary goals of the WHMP from 2010 to 2015 were to protect and enhance wildlife habitats adjacent to the project reservoir. Habitat improvement projects that were implemented within the first five years included:

1. Planning for and implementing wildlife habitat improvement projects within the RRWA which surrounds Rocky Reach Reservoir, including:

- Projects[1] to restore and improve habitat on the Chelan Wildlife Area managed by WDFW including the Chelan Butte, Swakane, and Entiat Wildlife Units.
- Projects[1] for habitat restoration on BLM lands;
- Projects[1] for habitat restoration on USFS lands

2. Providing a riparian buffer zone on Sun Cove property owned by Chelan PUD;
3. Implementing an integrated noxious weed control program;
4. Conducting annual wildlife surveys; and
5. Providing annual wildlife monitoring reports to the RRWF.

For the current WHMP 2010, each of resource agencies has a project plans that are ongoing. However, implantation measures summarized in this 5-Year Summary Report are through March of 2015. This cut-off allows the continued implementation during 2015 while drafting the required 5-Year Summary Report and new 5-Year Rocky Reach Wildlife Habitat Management Plan (2016-2020).

[1] Projects proposed do not require maintenance or monitoring to ensure success, rather, all projects are one-time treatments, or progressions of one time treatments. Therefore, none of these lands need be incorporated into the Rocky Reach Project Boundary.

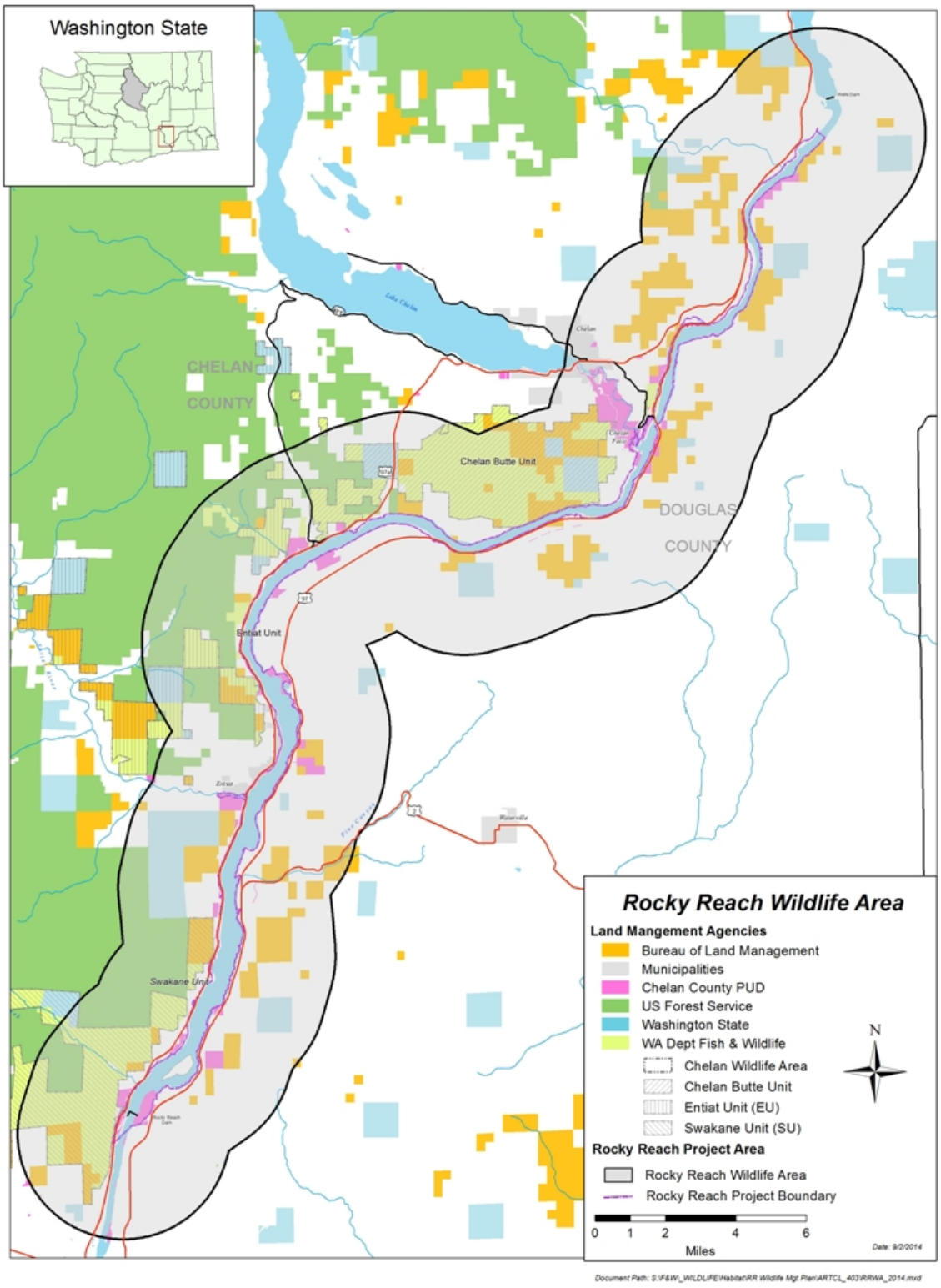

Figure 1-1. Rocky Reach Wildlife Area (RRWA) Rocky Reach Reservoir.

SECTION 2: WILDLIFE HABITAT IMPROVEMENTS, 2010-2015

2.1 Habitat Improvements on WDFW Lands

WDFW manages approximately 30,000 acres of land within the Chelan Wildlife Area that includes the Chelan Butte, Swakane, and Entiat Wildlife Units located within the RRWA (Figure 1-1). With approval of the first WHMP 2010 and signed Payment Agreements between Chelan PUD and WDFW, WDFW began field restoration in the fall of 2010 with chemical and mechanical fallowing operations. Currently, WDFW continues efforts to restore abandoned agricultural fields on both the Chelan Butte and Swakane Wildlife Units as well as implementing other wildlife habitat improvements approved in the first WHMP 2010. Implementation progress by WDFW with reimbursement from Chelan PUD is summarized below by Wildlife Units within the Chelan Wildlife Area.

Funding for approved projects initiated or completed on all three WDFW Wildlife Units were either partially or fully reimbursed by Chelan PUD through monthly certification of work completed in accordance with Section 18 of the Rocky Reach Settlement Agreement.

2.1.1 Chelan Butte Wildlife Unit

2.1.1.1 Field Restoration

Under the current WHMP 2010, WDFW initiated restoration activities on approximately 1,100 acres including fields in all groups (Figure 2-1) within the Chelan Butte Wildlife Unit (Figure 2-1 and Table 2-1). During initial evaluation, it was determined that some fields needed to be managed differently, some areas were in relatively good shape, and some areas had been left out of the initial delineation. As a result, the number of fields changed from the original map developed, but the total number of acres has not been affected by these changes.

Through March of 2015, 566 acres of fields (40%) have been managed by WDFW to the point of being seeded with native grasses. This includes most of the fields in groups 1 and 2, and 3 fields in group 3 (Figure 2-1). Some fields in groups 1, 2, and 3 were scheduled for seeding in the fall of 2014 but early inclement fall weather-prevented fall seeding (Appendix A). These fields will remain fallow until the fall of 2015 when seeding is scheduled to occur. Fields in groups 1, 2, and 3 are nearing the final stages of their one–time restoration efforts and are scheduled to be completed in within the original 6 – year restoration schedule (Chelan PUD 2010). Cereal rye is still a problem in some of the fields and will require additional control measures. Examples of progress made during the first WHMP 2010 for field restoration work are shown in (Appendix A). Rather than collecting native grass, forb, and shrub seeds to be propagated for use in the restoration effort, local native seeds were purchased by WDFW from local sources (i.e., the native shrub and tree propagation and collection efforts were abandoned).

2.1.1.2 Other Wildlife Improvements

In addition to field restoration, several other wildlife habitat improvement measures were approved in the first WHMP 2010. For the Chelan Butte Wildlife Area, 20 nest boxes were built and installed throughout the wildlife area for bluebirds *(Sialia* spp.) and/or American kestrel (*Falco sparvarius*).WDFW was also reimbursed for the installation of 3 feeders, 1 guzzler and

one spring (Huni Spring) developed as a water source for wildlife (Figure 2-1). The list of projects proposed on the Chelan Butte Wildlife Unit and their current status are shown in Table 2-1.

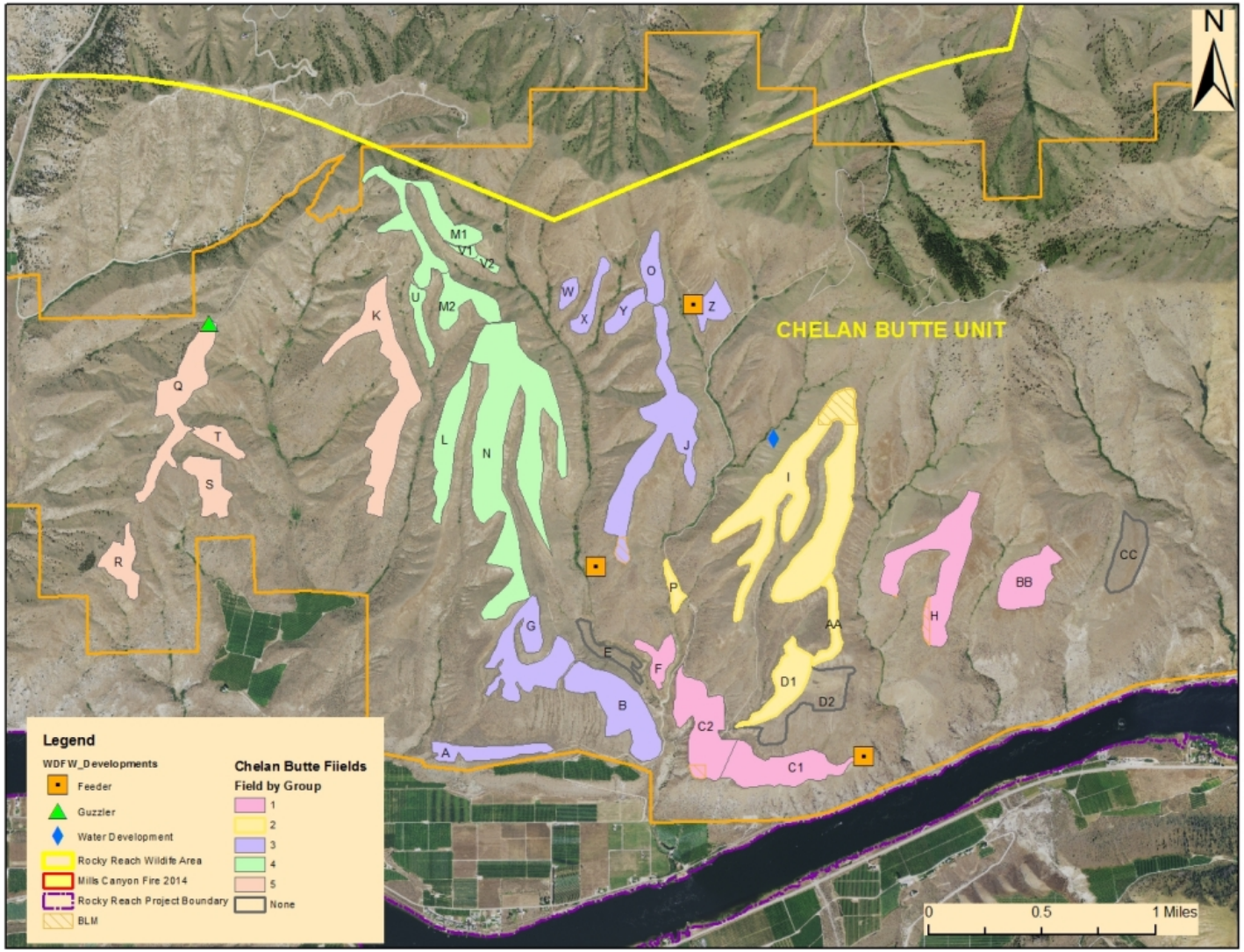

Figure 2-1. Chelan Butte Unit showing field restoration project with individual fields by group and locations of feeders, guzzlers and spring developments, 2015.

Table 2-1. List of approved projects and their status (as of March 2015) by Wildlife Unit for WDFW improvements during the first Rocky Reach Wildlife Habitat Management Plan (2010).

Project	Wildlife Unit(s)	Activity	Status
Native seed collection	All	Collect seeds from native shrubs and trees	**Cancelled** – WDFW will purchase native plant/seeds for restoration work
Native seed collection	All	Collect seeds from native shrubs and trees	**Cancelled** – WDFW will purchase native plant/seeds for restoration work
Install 6 feeders	Chelan Butte	Install 6 feeders	**Initiated** – 3 feeder installed; Lower Homestead Canyon, Field C, and Main Draw
Install 3 guzzlers	Chelan Butte	Install 3 guzzler	**Initiated –** 1 guzzler installed – Downie Ridge
Kestrel and Bluebird nest boxes	Chelan Butte	Build and install 20 nest boxes	**Complete –** boxes placed throughout unit
Spring development	Chelan Butte	Develop a spring	**Complete** – Huni Spring
Install watering basin	Entiat - OK gulch	Develop spring	**Complete** – Horse Draw Spring
Develop watering basins	Entiat - Roundy	Develop spring	**Complete** – Maple Draw Spring
Construct a pond	Swakane	Create a pond	**Complete –** combined with pond from Burch Mtn.
Develop pond - Burch Mountain	Swakane	Create pond at spring	**Complete** – location moved to Swakane Canyon
Forest thinning - Burch Mtn.	Swakane	Thin forested areas	**Pending –** potential project for next 5-Year plan
Install 1 guzzlers	Swakane	Install 1 guzzler	**Complete –** Tenas George Canyon
Install 5 feeders	Swakane	Install 5 feeders	**Initiated** – 4 feeders installed, 1 planned for 2015
Irrigation System	Swakane	Purchase materials	**Complete –** irrigation system installed for 3 shrub plots totaling 2 acres
Kestrel and Bluebird nest boxes	Swakane	Build and install 20 nest boxes	**Complete –** boxes place throughout unit
Shrub/tree plantings	Swakane	Establish 3 acres of riparian habitat	**Complete –** 2 acres of shrub plots completed with irrigation
Wildlife Watering Basins (6)	Swakane	Install 6 water basins	**Complete**- spring improvements throughout unit
Field Restoration	Swakane	Field prep	**Complete -** 103 acres fallowed in 2012
Field Restoration	Swakane	Field Seeding	**Complete -** 103 acres seeded with grasses and forbs in 2013
Field Restoration	Swakane	Field Shrub planting	**Pending -** additional weed control proposed prior to shrub and tree plantings (see 2016-2020 Plan)
Field Restoration	Chelan Butte	Field prep – group 1	**Complete -** fallowing complete
Field Restoration	Chelan Butte	Field prep – group 2	**Initiated – f**ield I (BLM portion) remains in fallow
Field Restoration	Chelan Butte	Field prep - group 3	**Initiated** – field J will be in fallowed in 2015

Project	Wildlife Unit(s)	Activity	Status
Field Restoration	Chelan Butte	Field prep - group 4	**Initiated** – initial fallowing begun
Field Restoration	Chelan Butte	Field prep - group 5	**Initiated –** initial fallowing begun
Field Restoration	Chelan Butte	Seeding -group 1	**Complete –** seeded with native grasses, fields H, C1, and F seeded with forb shrub mix as wel
Field Restoration	Chelan Butte	Seeding - group2	**Complete** – seeded with native grass seed.
Field Restoration	Chelan Butte	Seeding – group3	**Initiated** –3 fields planted with native grass, except field I
Field Restoration	Chelan Butte	Tree and shrub planting – group 1	**Pending**
Field Restoration	Chelan Butte	Tree and shrub planting – group 2	**Pending**
Field Restoration	Chelan Butte	Weed management - group 1	**Initiated –** additional weed control necessary prior to shrub and tree planting (see 2016-2020 Plan)
Field Restoration	Chelan Butte	Weed management - group 2	**Initiated –** additional weed control necessary prior to shrub and tree planting (see 2016-2020 Plan)
Field Restoration	Chelan Butte	Weed management - group 3	**Initiated –**mechanical and chemical treatments initiated
Shrub and tree propagation	Swakane/Chelan Butte	Propagate native shrubs and trees	**Cancelled** – WDFW will purchase native plants/seeds for restoration work
Shrub and tree propagation	Swakane/Chelan Butte	Propagate native shrubs and trees	**Cancelled** – WDFW will purchase native plants/seeds for restoration work
Shrub and tree propagation	Swakane/Chelan Butte	Propagate native shrubs and trees	**Cancelled** – WDFW will purchase native plants/seeds for restoration work
Shrub and tree propagation	Swakane/Chelan Butte	Propagate native shrubs and trees	**Cancelled** – WDFW will purchase native plants/seeds for restoration work
Shrub and tree propagation	Swakane/Chelan Butte	Propagate native shrubs and trees	**Cancelled** – WDFW will purchase native plant/seeds for restoration work

2.1.2 Swakane Wildlife Unit

2.1.2.1 Field Restoration

Restoration of approximately 103 acres of abandoned fields (Figure 2-2, Table 2-1, and Appendix A) in the Swakane Wildlife Unit is nearly complete. These fields received both mechanical and chemical treatments in 2012 prior to be being seeded with native grass and forb species in the fall of 2013. Post-seeding, weed control was conducted in 2014 to manage noxious weeds prior to shrub and tree planting planned during the second WHMP 2016 submitted for Commission approval. Cereal rye is still a problem in some of the fields and will require additional control measures. Rather than collecting native grass, forb, and shrub seeds to be propagated for use in the restoration effort, local native seeds were purchased by WDFW from local sources (i.e., the native shrub and tree propagation and collection efforts were abandoned).

The Swakane Wildlife Unit was impacted by three wildfires from 2007 – 2014 (Figure 2-3). The Easy Street fire of 2007 burned only a small portion of the southern end of the Swakane Wildlife Area and did not affect measures approved in the first WHMP 2010. The Swakane fire of 2010 was a much larger and hotter fire that burned native habitat over a large portion of the Swakane Wildlife Area (Figure 2-3). Several artificial wildlife feeders and guzzlers were destroyed in this fire. Fortunately, the Swakane fire did not affect field restoration efforts or riparian plots being established under the first WHMP 2010. Perhaps the greatest impact from the Swakane fire was the invasion of Dalmatian toadflax (*Linaria dalmatica)* post-fire, which was addressed through the newly developed Rocky Reach Integrated Terrestrial Invasive Plant Control Plan (Section 2.4). In 2014, the Mills Canyon fire also burned a portion of the Swakane Wildlife Area, especially in the Tenas George Canyon area.

2.1.2.2 Other Wildlife Improvements

In addition to field restoration work, several other wildlife habitat improvement measures approved in the first WHMP 2010 for the Swakane Wildlife Unit were implemented. Projects completed by WDFW and reimbursed by Chelan PUD include construction and installation of 20 nest boxes for blue birds and/or American kestrel, creation of 2 ponds, development of 6 water basins associated with irrigation system improvements, 4 wildlife feeders installed, and 1 guzzler (Appendix A). In addition, two acres of shrub plots (riparian habitat) were installed and are maintained by a drip irrigation system fed from Swakane Creek irrigation system (Appendix A).

Figure 2-2. Location of habitat improvements in the WDFW Swakane Wildlife Unit including; fields being restored, feeders, guzzlers, ponds, and water basins within Swakane Canyon, 2015.

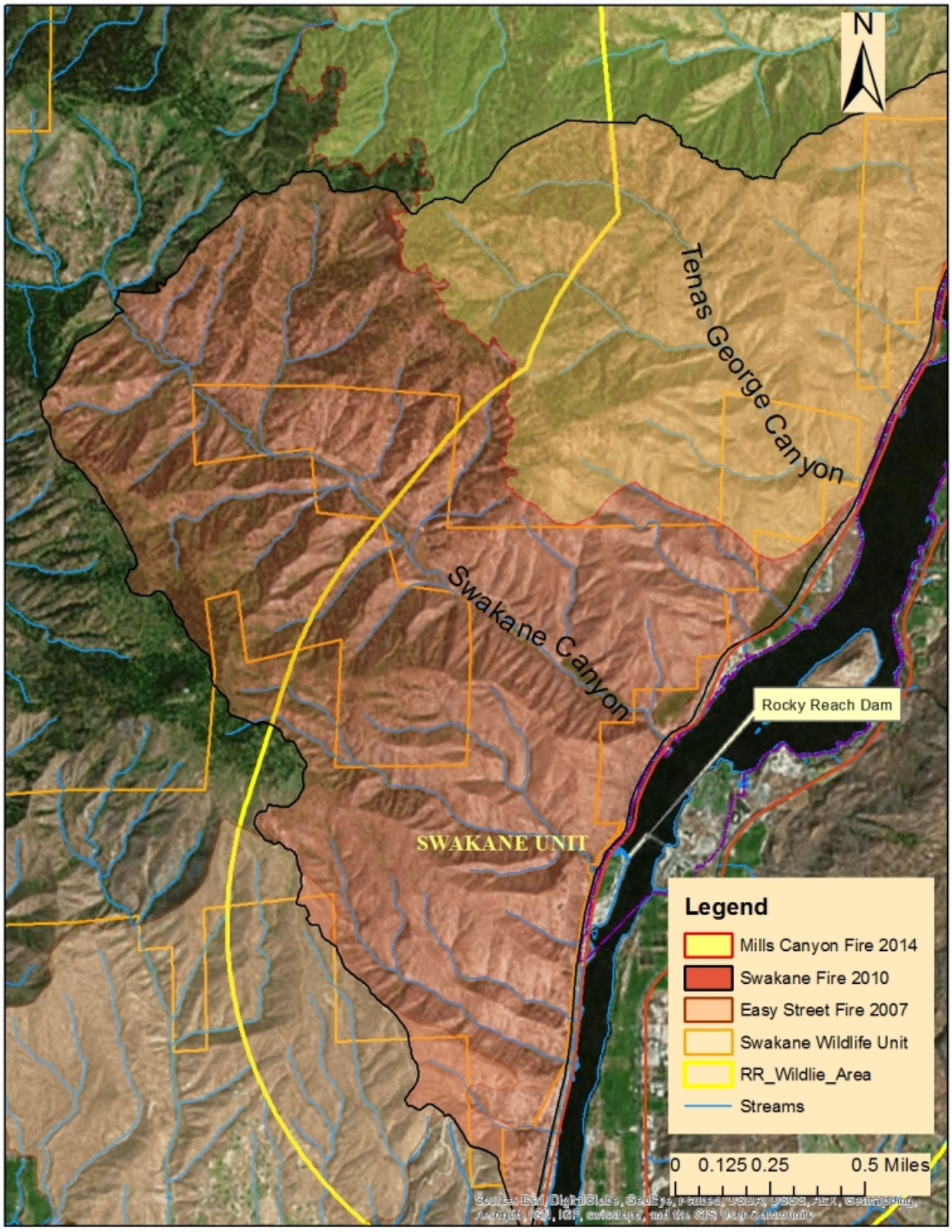

Figure 2-3. WDFW Swakane Wildlife Unit showing fire activity in the area from 2007 to 2014.

2.1.3 Entiat Wildlife Unit

The only measures approved in the first WHMP 2010 were spring developments. Both planned spring improvements, Horse Draw and Maple Springs, have been completed (Appendix A).

2.2 Habitat Restoration on BLM Lands

The Bureau of Land Management (BLM) is responsible for approximately 17,400 acres within the RRWA. These lands are of relatively low elevation ranging from 750 – 3,200 feet. Shrub-steppe habitat with an over-story of sagebrush (*Artemisia* spp.) or bitterbrush (*Purshia tridentata*) and an under-story of various grasses and forbs are most common on these lands. Some mesic sites, which are often found at higher elevation or on north exposures, support conifers. Riparian areas support a mixture of deciduous shrubs and trees as well as conifers. Much of the area has burned during the past 15 years. In most cases, these recently burned areas support fewer trees and shrubs and more grasses and forbs. About half of the BLM lands in this area are considered part of the Swakane, Entiat, or Chelan Butte Wildlife Units, which comprise the Chelan Wildlife Area.

In order to complete desired habitat improvements, the BLM was required to follow the National Environmental Policy Act (NEPA) and consult with State Historical Preservation Office (SHPO) and tribes for ground disturbing activities. The BLM has conducted NEPA and tribal consultation for the Chelan Butte Wildlife Unit field restoration areas and Swakane area habitat improvements that were requested as a result of the Swakane fire and the subsequent erosion on BLM lands. In addition, the BLM has been preparing overall Environmental Assessments for the proposed shrub planting, spring development, and weed control projects. Progress on these NEPA processes will facilitate implementation for proposed habitat improvement projects in the second WHMP 2016 submitted for Commission Approval.

Using WDFW as the contractor, progress was made on the restoration of BLM lands, which are part of the Chelan Butte Wildlife Unit field restoration effort. Under WDFW management, the BLM portions of fields have been chemically and mechanically fallowed. Some of the BLM fields have been seeded; the remainder is scheduled for seeding in the fall of 2015 with native grasses.

Native shrub planting for Swakane area has been contracted and shrub grow-out is on going, with plantings scheduled to begin in fall of 2015 or spring of 2016 depending on optimal weather conditions for planting.

Funding for approved projects initiated or completed on BLM lands within the RRWA were either partially or fully reimbursed by Chelan PUD through quarterly certification of work completed in accordance with Section 18 of the Rocky Reach Settlement Agreement.

2.3 Habitat Restoration on USFS Forest Service Lands

During the first WHMP 2010, the USFS conducted weed control and grass seeding to improve winter range habitat, particularly in areas that burned in the Swakane Fire of 2010 (Figure 2-4). In 2012, Chelan PUD submitted a revised WHMP 2010 to include restoration of lands impacted by the 2010 wildfires and subsequent erosion in Tenas George Canyon. With approval of the revised WHMP 2010 from the Commission on July 31, 2012, seeding in the Tenas George area

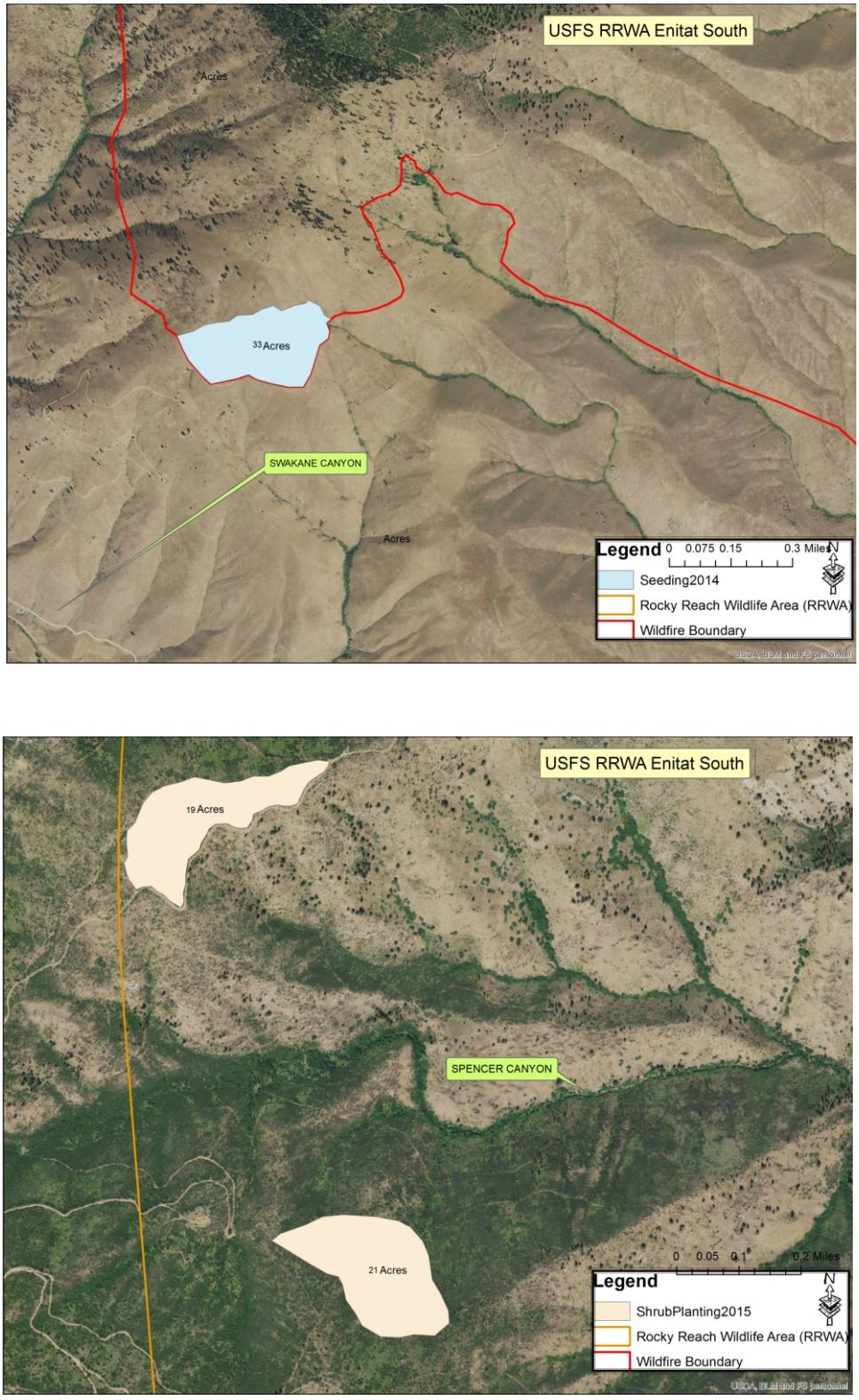

Figure 2-4. USFS seeding and planting areas post fire in 2014 and 2015.

was completed. Planning efforts for prescribed burns, shrub planting, and small tree thinning treatments have been completed; however, no prescribed burns have been conducted by the USFS under the current WHMP. Thinning was completed in 2013 and the Mills Canyon Wildfire burned over the entire Swakane and Spencer area in 2014. Of the USFS lands within the RRWA, 113 acres met prescribed burning conditions post-fire. Planting of native winter browse shrubs that covered 22 acres was completed in March of 2015 (Appendix A).

Funding for approved projects initiated or completed on USFS lands within and adjacent to the RRWA were either partially or fully reimbursed by Chelan PUD through quarterly certification of work completed in accordance with Section 18 of the Settlement Agreement.

2.4 Noxious Weed Control

Consistent with the Rocky Reach Settlement Agreement (Chelan PUD 2006) and Article 403 of the new operating license, Chelan PUD formalized an integrated noxious weed control program for the RRWA in consultation with the RRWF. In 2012, the RRWF approved the Rocky Reach Wildlife Area Integrated Terrestrial Invasive Plant Control Plan (ITIPCP) (Chelan PUD 2012). The purpose of this plan is to address weed control on a broad scale within the RRWA (Figure 1-1) that considers the potential benefits and risks of weed control.

The ITIPCP is a guidance document that considers the responsible implementation of weed control across a wide variety of public lands and habitats. Under this plan, proposals are made, reviewed, and, if appropriate, approved by the RRWF for implementation. For each proposal, consideration of agency limitations with regard to herbicide use and the presence of listed (State or Federal) plant species are considered during the review process.

In 2012, the RRWF approved the first action completed under the ITIPCP, which included limited weed spraying on public lands in Swakane Canyon and the release of 21,010 biological control insects through the Washington State University Douglas County Extension to control Dalmatian toadflax and diffuse knapweed (*Centaurea diffusa*), both Class B noxious weeds in Chelan County. These releases were done between Burch Mountain, adjacent to Rocky Reach Dam, and the Entiat River on the Chelan County side of Rocky Reach Reservoir (Figure 2-5).

In 2013, a similar project was proposed and approved releasing 12,100 biological control agents for diffuse knapweed within the RRWA between Entiat and Knapp's Tunnel. These areas were affected by the 2012 Byrd Canyon Fire in Chelan County.

In 2014, the RRWF once again proposed to release additional biological control agents for diffuse knapweed (9,355 insects) and Dalmatian toadflax (8,450 insects) in the same areas as completed in 2012 to bolster biological control populations from Entiat to Knapp Coulee. The 2014 Mills Canyon Fire along the Entiat River likely had direct impacts to biological control populations released in this area over the past three years. Biological controls may be released in the areas yet again, as noxious weeds will likely be some of the first species to colonize these areas post-fire. In total, the Washington State University Douglas County Extension released 56,095 biological control agents within or adjacent to the RRWA between 2012 and 2014 (Figure 2-5) as directed by the RRWF and the ITIPCP approved in 2012.

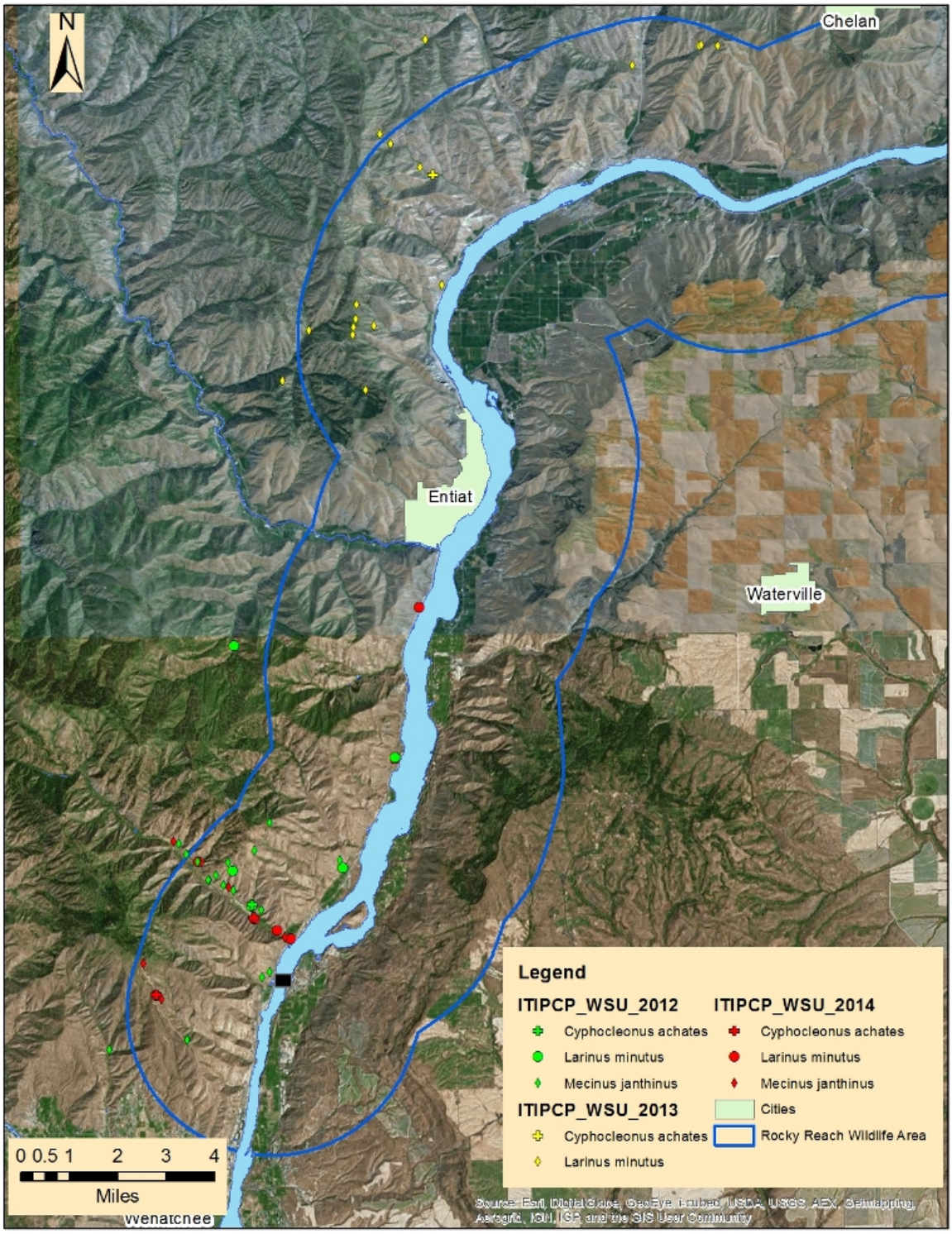

Figure 2-5. Release sites for biological control agents for diffuse knapweed (*Cyphocleonus achates* and *Larinus minutus*) and Dalmatian toadflax (*Mecinus janthinus*) within or adjacent to the RRWA under the Rocky Reach Integrated Terrestrial Plant Control Plan (ITIPCP), 2015.

SECTION 3: SUN COVE PROPERTY

3.1 Sun Cove Property Riparian Buffer

As directed by the Commission in Article 403 and consistent with the Rocky Reach Settlement Agreement, Chelan PUD will provide a 50-foot wide by 3,500-foot long riparian buffer zone on the District's Sun Cove property to preserve its relatively natural condition except for two 100-foot-long access corridors to provide community access.

Since Chelan PUD owns the Sun Cove property and it is within the Rocky Reach Project Boundary, the area will be maintained as natural habitat and conservation rights will be retained to meet the license requirement should the Chelan PUD ever divest itself of this property. Access corridors will be identified when necessary.

SECTION 4: WILDLIFE SURVEYS

Article 403 of the new Rocky Reach license directs the licensee to conduct annual winter bald eagle surveys and Canada goose nesting surveys for the term of the license in coordination with the RRWF. For the first WHMP 2010, Chelan PUD continued winter bald eagle monitoring monthly (November – March), annual bald eagle nest monitoring within the RRWA, and Canada Goose monitoring along Rocky Reach Reservoir. Results of these monitoring efforts are listed below. Since the winter bald eagle monitoring was completed for the 2014-2015 winter, those data are presented through March of 2015 for this report.

4.1 Winter Bald Eagle Monitoring

From 2010–2015, Chelan PUD conducted 23 of the scheduled 25 winter bald eagle (*Haliaeetus leucocephalus*) monitoring surveys. The highest number of wintering bald eagles recorded from November of 2010 – March of 2015 was 62, in January of 2013. For all winters (2010-11 through 2014-15), the highest counts occurred during the month of January (n = 2) or February (n = 2) with the same high count being recorded in both months (37 bald eagles observed in both January and February) in the winter of 2013-14 (Table 4-1). The highest number of bald eagles observed during winter counts under the first WHMP 2010 was 62 bald (32 sub-adults and 28 adults) eagles in January 2013, which is the highest count recorded since consistent monitoring began in the winter of 1988-89. The next highest count was 44, which occurred on 2 occasions, both in the month of February, once in the winter of 2011-12 and again in the winter of 2014-15 (Table 4-1). The average number of bald eagles observed for all surveys during the first WHMP 2010 was 26.5 bald eagles, compared to the 1988-89 to 2009-10 winter average of 18.4 bald eagles.

For the first WHMP 2010, the average number of wintering bald eagles observed increased from 22.2 wintering bald eagles during the winter of 2010-11 to 25.0 for the winter of 2014-15 (Figure 4-1). From the winter of 1988-89 the winter of 2014-15 the average number of wintering bald eagles has ranged from a low of 10.9 wintering eagles (2001-02) to the high of 32.8 (2013-14).

Chelan PUD has conducted winter bald eagle monitoring along Rocky Reach Reservoir consistently from November through March each winter from November of 1988 through March of 2015 (N = 27). The 27-year average of wintering bald eagles along Rocky Reach Reservoir is 19.3 eagles/winter season. For the first WHMP 2010, the average number of wintering bald eagles (26.5 per survey) was higher than the 27-year average (19.3 eagles per survey) in all years.

Winter bald eagle monitoring effort has not been consistent throughout the 27-year monitoring period. Prior to 2007, when the bald eagle was delisted and Chelan PUD curtailed the monitoring rate to one survey per month during the winter period, an average of 8.9 surveys were conducted per winter from November 1988 through March of 2007. The average number of eagles observed/survey during that period was 18.0 eagles/ survey. From November of 2007 through March of 2015, the average number of surveys conducted was 4.8 surveys per winter and the average number of bald eagles observed was 25.7 bald eagles per survey for that period.

During the first WHMP 2010, Chelan PUD has monitored nesting bald eagles along Rocky Reach Reservoir. Since 2010, the number of nesting bald eagles observed along Rocky Reach Reservoir has remained the same with seven territories (Chelan PUD 2010, 2014). Since nest initiation for bald eagles begins in mid- late winter (USFWS 2007) each year, the number of "wintering" bald eagles recorded during the winter bald eagle survey along Rocky Reach Reservoir includes nesting bald eagles.

Table 4-1. Maximum number of wintering bald eagles observed by month for each winter season (November through March) along Rocky Reach Reservoir with high counts for each winter season shown in green, Chelan PUD 1988 – 2015.

Season	N	November	December	January	February	March
1988-1989	12	4	18	31	31	27
1989-1990	11	9	10	30	37	25
1990-1991	9	8	4	28	20	23
1991-1992	5	3	9	25	33	14
1992-1993	4	7	6	36	20	.
1993-1994	9	6	18	29	33	22
1994-1995	8	9	14	28	27	.
1995-1996	9	12	29	50	56	23
1996-1997	8	17	15	34	36	29
1997-1998	8	.	15	50	28	15
1998-1999	8	7	16	20	20	.
1999-2000	9	6	19	39	30	35
2000-2001	10	9	16	23	23	18
2001-2002	9	8	7	23	12	8
2002-2003	10	9	13	24	26	20
2003-2004	9	5	13	27	24	9
2004-2005	10	10	10	25	25	10
2005-2006	11	16	29	25	29	14
2006-2007	10	21	31	50	45	37
2007-2008	5	6	23	35	46	16
2008-2009	5	15	33	37	42	24
2009-2010	5	9	22	24	23	8
2010-2011	5	9	9	31	30	32
2011-2012	5	7	16	27	44	20
2012-2013	5	16	11	62	39	26
2013-2014	4	25	.	37	37	32
2014-2015	4	13	.	25	44	18

**Shaded seasons represent monitoring under current WHMP (2010).*

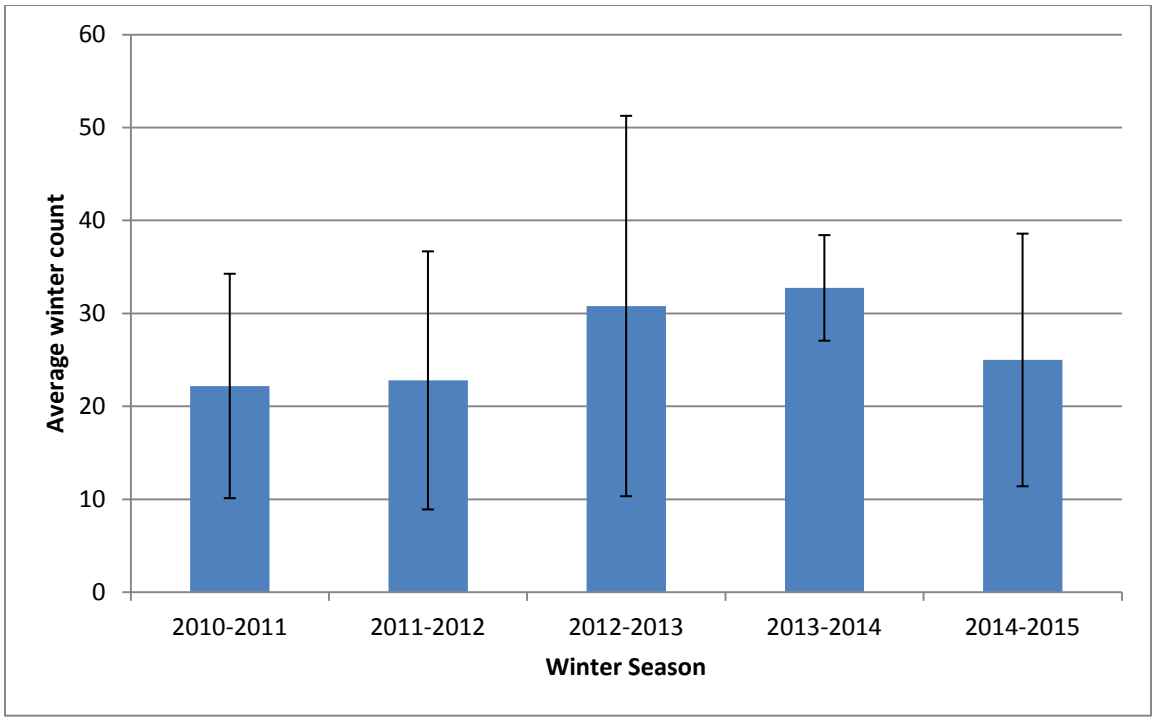

Figure 4-1. Average number (including standard deviation) of bald eagles observed by winter season during the first Rocky Reach Wildlife Habitat Management Plan, 2015.

4.2 Bald Eagle Nest Monitoring

Chelan PUD monitored bald eagle nesting activity along Rocky Reach Reservoir as required in the WHMP 2010. Monitoring for 2015 nesting activity under the current WHMP 2010 is underway. This monitoring is conducted within the RRWA from early March through August each year during the bald eagle breeding season (USFWS 2007). From 2010 through early 2015, a total of 7 territories were monitored annually. No additional territories were discovered during the first 5 years of monitoring (Table 4-2). Results of seasonal surveys were shared with the RRWF in the form of annual reports. An annual average of 5.6 bald eagles fledged from nests within the RRWA (Table 4-2).

Table 4-2. Summary of Bald Eagle Nesting Activity within the RRWA, 2010 – 2014. Nest monitoring for 2015 is in progress.

Year	# Territories Monitored	# Successful	# Failed	# Unknown outcome	# Fledged
2010	7	3	1	3	4
2011	7	5	1	2	6
2012	7	5	1	1	5
2013	7	5	1	1	6
2014	7	6	1	0	7
2015	7	N/A	N/A	N/A	N/A
Average	**7**	**4.8**	**1**	**2**	**5.6**

4.3 Canada Goose Nest Monitoring

Per the first WHMP 2010, Chelan PUD conducted Canada goose (*Branta canadensis*) nest monitoring each spring along Rocky Reach Reservoir from 2010 – 2014. Canada goose nest monitoring along Rocky Reach Reservoir for 2015 is currently underway. The highest number of nests initiated during the first WHMP 2010 was in 2012, with 69 nests initiated (with 29% of the nests in man-made tubs) and the remaining 49 nests occurring on island sites on natural substrates (Table 4-3). Overall, nest success was high (75%) during the 5-year period with an average number of 233 goslings produced each year (Table 4-3).

Table 4-3. Summary of Canada goose nest monitoring along Rocky Reach Reservoir 2010 – 2014 including nest success and average nest success summaries, 2015.

Year	# of initiated nests	Avg. clutch size	% successful nests	# successful nests	# Goslings fledged
2010	49	6.0	67.3%	33	180
2011	59	5.5	74.6%	44	214
2012	69	5.7	73.9%	51	280
2013	60	5.6	81.7%	49	257
2014	56	5.4	76.8%	43	234
Average	**58.6**	**6.0**	**74.9%**	**44.0**	**233**

For the 2010 – 2014 period, occupancy of man-made tubs by Canada geese was high with an average of 87.4 % occupancy of nest tubs available (avg. = 19.4 tubs/year) with an average nest success of 77.8% (Table 4-4). The success rate of natural nests was similar, with a success rate of 73.8% compared to 77.8% nest success for man-made nests (Table 4-4). Overall, man-made tub structures help increase gosling production by about 33% over natural nests.

Table 4-4. Summary of Canada goose nest monitoring on Rocky Reach Reservoir, including nest occupancy and success by nest type (man-made and natural nests, 2010 –2014), including the 2010 - 2014 averages.

	Man-made nest tubs					Natural Nests		
YEAR	# available	# occupied	% occupied	# successful	% success	# nests	# successful	% success
2010	20	17	85.0	11	64.7	32	22	68.8
2011	22	14	63.6	11	78.6	45	33	73.3
2012	20	20	100.0	15	75.0	49	36	73.5
2013	18	17	94.4	12	70.6	43	37	86.0
2014	17	16	94.1	16	100.0	40	27	67.5
Average	**19**	**16.8**	**87.4**	**13**	**77.8**	**41.8**	**31**	**73.8**

SECTION 5: REPORTING

As required under the first WHMP 2010, reports of annual monitoring for wintering bald eagles, bald eagle nesting, and Canada goose nest monitoring were provided to the RRWF on the dates shown in Table 5-1.

Table 5-1. Summary of monitoring report submitted to Rocky Reach Wildlife Forum (RRWF) by year, for the first Rocky Reach Wildlife Habitat Management Plan (2010-2015.

	Date Report Provided to RRWF		
YEAR	Canada Goose Nest Monitoring	Bald Eagle Nesting	Wintering Bald Eagle
2010	October 4*	December 10*	October 4*
2011	July 20	September 20	April 6
2012	July 16	September 24	April 13
2013	July 26	September 30	April 8
2014	July 31	September 12	April 14
2015	Pending	Pending	April 14

** The RRWHMP was not approved until September 22, 2010. Required monitoring reports for winter and spring surveys were provided after plan approval.*

SECTION 6: FINANCIAL STATEMENT

Consistent with the Rocky Reach Settlement Agreement and the approved Rocky Reach Wildlife Habitat Management Plan, the following tables summarize the cost of conducting wildlife monitoring (Table 6-1) as directed in the new Rocky Reach license and reimbursements made (Table 6-2) to the agencies for work completed through 2014 (2015 projects are ongoing under the current WHMP 2010).

Table 6-1. Financial summary of annual costs for required wildlife surveys completed by Chelan PUD during the first Rocky Reach Wildlife Habitat Plan (2010). Wildlife Monitoring for 2015 is ongoing and reports will be filed as required.

Year	Bald Eagle Nesting	Bald Eagle Wintering	Canada goose nesting	Vehicle Cost (Trucks, boats & cars)	**TOTAL COSTS**	Adjusted Annual Funding
2010		$ 1,043.17		$ 478.50	$ 1,521.67	$ 11,923.62
2011	$ 571.85	$ 3,134.15	$ 2,475.37	$ 2,322.25	$ 8,503.62	$ 12,119.17
2012	$ 1,883.97	$ 2,380.26	$ 2,699.81	$ 2,734.00	$ 9,698.03	$ 12,502.13
2013	$ 4,608.43	$ 3,141.20	$ 2,614.45	$ 2,489.00	$ 12,853.08	$ 12,760.93
2014	$ 4,100.27	$ 3,506.48	$ 3,839.99	$ 2,404.50	$ 13,851.24	$ 12,947.64
2015*	$ 0.0	$ 3,658.42	$ 1338.03	$ 977.75	$ 13,851.24	$ 12,947.64
TOTAL	$ 11,164.52	$ 16,863.68	$ 12,967.65	$ 11,406.00	$ 60,278.88	

**2015 surveys only complete through March 31 of 2015, monitoring is currently underway for the remainder of 2015.*

Table 6-2. Summary of funding reimbursed to each agency for project work conducted by Article for the first Rocky Reach Wildlife Habitat Management Plan (2010- 2015.

AGMT ARTICLE	DESCRIPTION	5-YEAR ACTIVITIES SUMMARY	TOTAL SPENT
RR07ab	WDFW Wildlife Habitat	Task 1: Chelan Butte Task 2: Swakane Task 3: Entiat Task 4: Field Restoration Task 5: Project Oversight Task 5: Stipend Task 7: Cultural	$7,840.74 $49,874.00 $5,661.60 $886,537.47 $94,509.68 $1,500.00 $16,747.60
RR07c1	BLM Wildlife Habitat Regular	Task 1: Permitting Task 3: Swakane Task 4: Azwell Task 5: Weed Control Task 6: WDFW Field Restoration Task 8: Tenas George	$15,732.08 $0.00 $0.00 $0.00 $8,017.96 $0.00
RR07c2	BLM Wildlife Habitat Match	Task 1: Permitting Task 3: Swakane Task 4: Azwell Task 5: Weed Control Task 6: WDFW Field Restoration Task 8: Tenas George	$11,966.39 $0.00 $0.00 $0.00 $0.00 $0.00

AGMT ARTICLE	DESCRIPTION	5-YEAR ACTIVITIES SUMMARY	TOTAL SPENT
RR07d1	USFS Wildlife Habitat	Task 1: Swakane Thinning Task 2: Swakane Spencer Task 3: Tenas George Seeding	$0.00 $0.00 $3,421.02
RR07d2	USFS Wildlife Habitat Match	Task 1: Swakane Thinning Task 2: Swakane Spencer	$18,679.27 $5,164.99
RR07f	Noxious Weed	Task 1	$58,609.75
		TOTALS	**1,184,262.55**

SECTION 7: LITERATURE CITED

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APPENDIX A: PROJECT PHOTOGRAPHS

Photographs of project progress made during the first Rocky Reach Wildlife Management Plan (2010).

Chelan Butte Field Restoration: Group1 Fields (C1, C2, F, H, and BB)

Aerial Seeding on Field BB on Chelan Butte, November 2012.

East side of field C in June of 2013, showing great progress.

Field C (west half). Seeded in 2012 and spot seeded 2013.
Broadleaf weeds, showing signs of stress from herbicide application, 2014.

East side of field C in late May 2014.

Chelan Butte Field Restoration: Group 1 Fields (C1, C2, F, H, and BB)

Field H in June of 2013, cereal rye is still a problem.

Field C being mowed for purple mustard weed, June 2013.

Field H in late May of 2014, after wicking of cereal rye.

Wicking rod used to apply herbicide to control cereal rye.

Chelan Butte Field Restoration: Group 2 Fields (I, D1, AA, and P)

Field I after being disked, May of 2012.

Drill seeding grass on Field I on Chelan Butte, November 2012.

Field I after wicking treatment for cereal rye in May of 2013.

Field AA on Chelan Butte was seeded in 2012. In 2014, it is still showing rather severe weed competition from cereal rye and Russian thistle.

Chelan Butte Field Restoration: Group 3 Fields (A, B, G, J, O, W, X, Y, and Z)

Harrowing Field X prior to aerial seeding, November 2013.

Seeding attempt on Field J in 2014, poor conditions prohibited seeding efforts.

Chelan Butte: Huni Spring Development

Huni Spring development 2013, showing spring box.

Huni Spring catchment basin.

Entiat Unit: Maple Draw Spring Development

Spring box and trench for pipe visible, 2013.

Maple Draw catch basin completed in 2013.

Feeder and Guzzler Installations: Chelan Butte and Swakane Units

Feeder located in Main Draw on Chelan Butte Unit, 2014.

This is the Downie Ridge guzzler, Chelan Butte Unit, installed May 2014.

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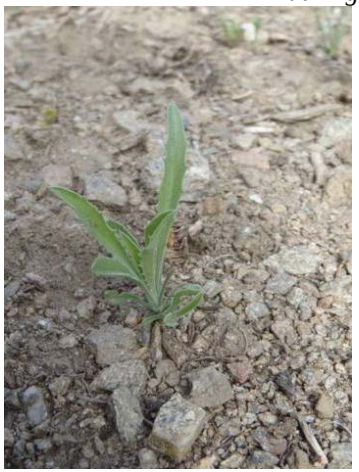
One of 20 nest boxes installed on the Chelan Butte Unit, 2014.

Swakane Fields Restoration

Seeding Swakane Canyon fields in late fall of 2012.

Wicking glyphosate herbicide on cereal rye in Swakane Canyon Fields during 2014. Cereal rye is still a problem weed in some of the fields.



Sagebrush seedling (left) and hoary tansy aster (right) were part of the shrub-forb mix seeded in Swakane Canyon Fields in 2013. Photo taken in summer 2014.

Spring improvement on Swakane Unit.

Swakane Fields Restoration

Swakane field in June of 2013.

Swakane field in June of 2013. Grass is well established and weeds are a minimal problem in this field.

Swakane field in May of 2014.

Swakane Canyon Field in early summer 2014. A very good stand of grass in this field with little weed problems.

Swakane Shrub Plots

One of two shrub plots installed in 2013.

This shrub plot shows the drip irrigation system under construction in 2013.

Shrub plot in May 2014.

Shrub plot in early spring 2014, one year after planting.

Swakane Pond Development

Swakane Pond 1 prior to construction in 2013.

Swakane Pond 1 after construction in 2013 including new water control structure.

Swakane Pond 1 in May 2014.

Swakane Pond 2 (adjacent to Pond 1) in May 2014.

USDA Forest Service Habitat improvements

Post- fire shrub planting and seeding on USDA Forest Service lands in Mills Canyon Fire area within the RRWA, 2015.