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May 31, 2018

Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 1st Street N.E.
Washington, D.C. 20426

Subject: Wells Hydroelectric Project – FERC Project No. 2149
2017 Annual Wildlife and Botanical Report and 2018 Work Plan

Dear Secretary Bose:

Public Utility District No. 1 of Douglas County, Washington (Douglas PUD), licensee for the Wells Hydroelectric Project No. 2149 (Wells Project) respectfully submits the enclosed annual report titled: 2017 Annual Wildlife and Botanical Report and 2018 Work Plan. This report describes the implementation of activities conducted during calendar year 2017 in compliance with Article 409 of the license for the Wells Project, and the terms of the Wildlife and Botanical Management Plan (WBMP), Avian Protection Plan (APP) and Off-License Settlement Agreement. The enclosed report also includes a description of the measures to be implemented during calendar year 2018 in association with the same resource protection plans and agreements.

Article 409 of the Federal Energy Regulatory Commission (FERC) license for the Wells Project requires Douglas PUD to implement the WBMP filed with the FERC on May 27, 2010 as Appendix E-3 of Exhibit E of the Final License Application. Article 409 also requires the development of an annual report that documents the results of the prior year’s measures and describes the upcoming year’s proposed measures pursuant to the WBMP. Article 409 further requires Douglas PUD to annually update the list of sensitive plant species found in the WBMP based upon an annual review of the Washington Natural Heritage Program rare plant list, and it requires Douglas PUD to develop the WBMP annual report and work plan in consultation with specific federal and state agencies and the Confederated Tribes of the Colville Reservation.1 Douglas PUD is required to submit the annual report and work plan to the FERC by May 31st of each year following license issuance.

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In addition to Article 409, Ordering Paragraph (I) of the license directs Douglas PUD to implement the APP that was included within Appendix E-6 of Exhibit E of the Final License Application filed with the FERC on May 27, 2010.

The Off-License Settlement Agreement is not a requirement of the FERC license. However, many of the measures funded by Douglas PUD, through this agreement, are also required measures contained within the WBMP. Because of the interrelated nature of all of the wildlife and botanical measures associated with the new license and the Off-License Settlement Agreement, Douglas PUD has elected to report on both actions within one report.

The 2017 Annual Wildlife and Botanical Report and 2018 Work Plan provides a summary of all of the actions implemented by Douglas PUD in compliance with Article 409 of the license, and in compliance with the terms of the WBMP, APP and Off-License Settlement Agreement. The body of the report provides a summary of all of the actions implemented in compliance with the various plans and agreements.

If you have any questions or require further information related to this report, please feel free to contact me at (509) 881-2208 or sbickford@dcpud.org.

Sincerely,

Shane Bickford
Natural Resources Supervisor

Enclosure: 2017 Annual Wildlife and Botanical Report and 2018 Work Plan

Cc: Terrestrial Resource Work Group
    Jason Schilling – Douglas PUD
    Wells Compliance

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2 In December 2007, Douglas PUD entered into an Off-License Settlement Agreement with the Washington State Department of Fish and Wildlife (WDFW). The Off-License Settlement Agreement was filed with the FERC on May 27, 2010 as Appendix E-11 of Exhibit E of the Final License Application. The Off-License Settlement Agreement is not a requirement of the FERC license for the Wells Project. Instead, it is a contract between Douglas PUD and WDFW that addresses funding for various wildlife and botanical related projects located both within and adjacent to the Wells Project.
2017 ANNUAL WILDLIFE AND BOTANICAL REPORT
AND 2018 WORK PLAN

WELLS HYDROELECTRIC PROJECT

FERC NO. 2149

April 2018

Prepared for:
Public Utility District No. 1 of Douglas County
East Wenatchee, Washington
For copies of this Annual Wildlife and Botanical Report, contact:

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1.0 INTRODUCTION

On November 9, 2012, the Federal Energy Regulatory Commission (FERC or Commission) issued a license for the Wells Hydroelectric Project (Wells Project, FERC No. 2149-152). This annual 2016 Wildlife and Botanical Report and 2017 Work Plan describes the implementation of activities conducted during calendar year 2016 in compliance with Article 409 of the license for the Wells Project, and the terms of the Wildlife and Botanical Management Plan (WBMP), Wells 230 kV Transmission Line Avian Protection Plan (APP), and Off-License Settlement Agreement. The report also includes a description of the measures to be implemented during calendar year 2017 in association with these same resource protection plans and agreement. Consultation with the U.S. Fish and Wildlife Service (USFWS), Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology (Ecology), the Confederated Tribes of the Colville Reservation (CCT), and U.S. Bureau of Land Management (BLM) is also documented in the report.

2.0 BACKGROUND

There are approximately 108 miles of reservoir shoreline in the Wells Project. Also within the Project boundary are approximately 15 miles of shoreline around isolated ponds, the largest being Washburn Pond. Public Utility District No. 1 of Douglas County (Douglas PUD) owns over 99 percent of the shoreline within the Wells Project boundary. Lands within the Wells Project boundary include shrub steppe; irrigated agriculture; wildlife habitat, such as the Wells Wildlife Area (WWA); and recreation lands, including parks in Pateros, Brewster, and Bridgeport.

Douglas PUD owns approximately 2,649 acres of the 2,664 acres of land adjacent to the Wells Reservoir within the Project boundary. There is no private land ownership below the Project boundary around Wells Reservoir. There are also 1,117 acres within the 235 feet wide, 41 mile transmission line right of way (ROW), the majority of which are privately owned. There is no federal land ownership within the transmission line ROW.

The WWA, managed by WDFW, is located in Douglas and Okanogan counties in Washington State and consists of six units: three shoreline/riparian units and three upland units. Bridgeport Bar (502 acres), Okanogan (91 acres) and Washburn Island (300 acres) are located along the shoreline of the Wells Reservoir and a portion of each unit lies within the Project boundary. West Foster Creek (1,025 acres), Central Ferry (1,602 acres) and Indian Dan Canyon (4,716 acres) are upland units and are entirely outside the Wells Project boundary (Figure 2.0-1). As of June 2012, Douglas PUD funds the operation of the WWA under the requirements of the Off-License Settlement Agreement Resident Fish Stock and Wells Wildlife Area Funding (OLSA) with WDFW.

The Cassimer Bar Wildlife Management Area (CBWMA; 116 acres) is located in Okanogan County, and is a shoreline/riparian and wetlands unit at the Okanogan River confluence on the Colville Indian Reservation (Figure 2.0-1). The CBWMA is managed by Douglas PUD in cooperation with the CCT.
Figure 2.0-1    Wells Project Map
3.0 WILDLIFE AND BOTANICAL MANAGEMENT PLAN

The WBMP, in conjunction with Douglas PUD Land Use Policy directs implementation of resource protection measures for wildlife and botanical resources during the term of the FERC license for the Wells Project. Douglas PUD developed this management plan in consultation with agency and tribal natural resource managers (Terrestrial Resource Work Group or Terrestrial RWG). During the development of the WBMP, the Terrestrial RWG focused on developing management priorities for resources potentially impacted by ongoing Project operations. The plan is also intended to guide wildlife management activities and to protect rare, threatened and endangered (RTE) wildlife and plant species on Project lands during the term of the new license for the Wells Project.

3.1 Protect RTE Terrestrial Species Habitat on Wells Project Lands

The WDFW maintains a list of endangered, threatened and sensitive fish and wildlife species (Washington Administrative Codes (WAC) 232-12-014 and 232-12-011). Listing procedures were developed by a group of citizens, interest groups, and state agencies and adopted by the Washington Fish and Wildlife Commission in 1990 (WAC 232-12-297).

State-listed wildlife species known to use the Wells Project include the American white pelican (Pelecanus erythrorhynchos) and Columbia sharp-tailed grouse (Tympanuchus phasianellus).

3.1.1 American White Pelican

The American white pelican is listed as a state endangered species in Washington State; white pelicans are not federally-listed. White pelicans usually arrive on the reservoir in June and remain on the reservoir until October or mid-November. There is no evidence of sexually mature birds being present within the Project; all white pelicans observed appear to be immature. Consequently, there does not appear to be any nesting taking place within the Project. The white pelicans are feeding on the abundant resident fish found within the reservoir.

- Beginning in year 2 of the new license, Douglas PUD will provide educational material (signs) at Douglas PUD boat launches and local visitor centers. Educational materials will advise boaters to avoid pelicans while boating, fishing and hunting. Signs will be inspected during other duties and repaired as soon as practicable after damage is discovered.

Douglas PUD installed the pelican signs at all six formal boat launches and two informal launches on Wells Reservoir during September 2013. The launches include: Starr Boat Launch, Pateros Methow Boat Launch and Winter Boat Launch, Brewster Boat Launch, Bridgeport Boat Launch, Monse Boat Launch, Okanogan River Unimproved Boat Launch, and Crazy Rapids Unimproved Boat Launch. The pelican signs were inspected in November 2017 and were found to be intact.
### 3.1.2 Sharp-tailed Grouse

Columbian sharp-tailed grouse are federal species of concern and a threatened species in Washington State. Sharp-tailed grouse are found in shrub steppe and riparian areas at higher elevations, except during hard winters when snow depth and crusting snow force them to lower elevations. Sharp-tailed grouse have been found on Project lands (Bridgeport Bar Unit of the WWA) in the past but they have not been observed there in the past twenty years (M. Hallet, WDFW, pers. comm.). Within the Wells Project, the irrigated riparian vegetation on the Bridgeport Bar Unit provides food items that could be used by sharp-tailed grouse during harsh winter conditions. There is no known Project effect on sharp-tailed grouse.

- Beginning in year one of the new license, as an enhancement, Douglas PUD will continue to water irrigation-dependent riparian trees, shrubs and associated vegetation located below Project boundary within the confines of the Bridgeport Bar Unit of the WWA. Continued management of this habitat will benefit a wide range of wildlife species, including sharp-tailed grouse.

Through the OLSA, WDFW waters the irrigation-dependent riparian trees, shrubs and associated vegetation growing below Project boundary within the confines of the Bridgeport Bar Unit of the WWA. Dan Peterson, manager of the WWA, states in his Wells Wildlife Area Annual Report for 2017 that the riparian plantings were irrigated weekly between April and October 2017. A copy of Dan Peterson’s report can be found in Appendix A.

### 3.2 Protect RTE Botanical Species from Land Disturbing Activities and Herbicide Sprays

The Washington Natural Heritage Program (WNHP), which is administered by the Washington Department of Natural Resources, has developed a list of plant species considered endangered, threatened, sensitive, possibly extirpated, and under review (lists 1 and 2) for conservation purposes.

EDAW, Inc. (2006a) conducted a baseline botanical survey of Wells Project lands and Parametrix, Inc. (2009) conducted baseline botanical studies on the Wells 230 kV transmission line corridor. Studies included cover type mapping, RTE plant surveys and weed surveys. The four RTE plant species that were documented include two state-threatened species, Thompson’s clover (*Trifolium thompsonii*) and little bluestem (*Schizachyrium scoparium*); and one WNHP Review 1 Species: northern sweetgrass (*Hierochloe hirta*). All RTE plant locations were documented using a handheld Global Positioning System (GPS) unit.

#### 3.2.1 Resurvey Thompson’s Clover and Little Bluestem Protected Sites

- Beginning in year five (2017) of the new license, and every 10 years thereafter, Douglas PUD will survey and revise site boundaries for populations of little bluestem and Thompson’s clover found within the Wells Project boundary.
Surveys were conducted in the Spring and Summer of 2017. Little bluestem was found in the same location as the 2006 survey, but in smaller quantities (Appendix B). Thompson’s clover’s distribution on the transmission line was comparable to that found in 2009 (Appendix C).

3.2.2 Ground Disturbing Activities and Weed Control at RTE Plant Protection Sites

- Beginning in year one of the new license, for lands owned by Douglas PUD within the Wells Project boundary, no new ground disturbing activities will be allowed within a 500 foot buffer zone surrounding the RTE plant locations and no land use permits will be issued for these buffer areas. Any weed control needed within the buffer zone will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide. Details of the Weed Control Plan can be found in Section 4.6 of the WBMP.

Douglas PUD did not allow any ground disturbing activities to happen below Project boundary within five hundred feet of the RTE plant locations identified in the EDAW (2006a) RTE plant surveys. The Douglas PUD vegetation management employees have been informed of the RTE plant sites and no weed control was needed in any of the RTE plant locations during 2017. Bi-monthly reservoir surveys will continue as a deterrent to future ground disturbing activities adjacent to the RTE plants identified within the Wells Project boundary.

3.2.3 Weed Control at Thompson Clover Sites

- Beginning in year one of the new license, Douglas PUD will control weeds within a 500 foot buffer of Thompson’s clover occurrences within the transmission line right of way. Weed control work will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide.

No ground disturbing activities happened within 500 feet of the Thompson’s clover site identified by Parametrix (2009) in the Wells 230 kV transmission corridor. The Douglas PUD vegetation management employees have been informed of the Thompson’s clover sites and no weed control was needed in the Thompson’s clover site during 2017.

3.2.4 Washington Natural Heritage Program Rare Plant List (Updated List Requested 2/6/2017)

Douglas PUD is required by Article 409 of the license for the Wells Project to annually consult the WNHP to review their rare plant list and include an updated copy in the annual Terrestrial Report to the FERC.

A current copy of the WNHP rare plant list can be found in Appendix D of this report. The list was compiled by WNHP rare plant database for Chelan, Douglas and Okanogan counties, updated by WNHP on May 1, 2017.
3.3 Conserve Habitat for Species on Wells Project Lands Protected by the Federal Endangered Species Act, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act

3.3.1 Bald Eagle

Bald eagles (*Haliaeetus leucocephalus*) were delisted from the federal Endangered Species Act on August 8, 2007 (72 FR 37345) and were listed as sensitive on the Washington State list of wildlife classified as protected under WAC 232-12-011, in 2008. USFWS has published guidelines for protecting bald eagle habitat under the authority of the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act (USFWS 2007). In the 1980s, Douglas PUD installed 25 shoreline bald eagle perch poles to provide the eagles elevated perches for hunting, sunning and resting. The eagles also perch on ponderosa pine and black cottonwood (*Populus balsamifera ssp trichocarpa*) trees and old snags. The abundant waterfowl and American coots (*Fulica americana*), found within the Wells Reservoir, provide the majority of prey eaten by bald eagles during the winter (Fielder, 1982).

3.3.1.1 Bald Eagle Perches Pole Inspection

- Beginning in year one of the new license, Douglas PUD will inspect raptor perch poles annually and repair or replace perch poles as warranted. The perch poles near the Starr Boat Launch will be removed to reduce avian predation on downstream migrating salmonids.

*Douglas PUD staff inspected 31 perch poles on Wells Project lands (Appendix E). Douglas PUD replaced three poles in the fall of 2017 that burned in 2015. The perch poles near Starr Boat Launch were removed during the first year of license implementation.*

3.3.1.2 Bald Eagle Surveys

- Beginning in year one of the new license, Douglas PUD will perform monthly boat surveys during the months of November through March to inventory wintering bald eagle numbers and to identify large perch trees regularly used by bald eagles. Douglas PUD will determine if the perch trees need immediate protection from beavers or if they are likely to fall down in the near future due to bank erosion.

*Wells Reservoir is an important waterfowl wintering area in north central Washington. Bald eagles from Canada and Alaska migrate to the reservoir in December to feed on the abundant American coots and waterfowl. The eagles begin their migration to northern breeding areas in late February and early March.*

*Douglas PUD conducted bald eagle surveys on Wells Reservoir during the winter of 2017-18. Eagles were counted from a boat. All perched and flying eagles were identified as either immature or adult. Table 3.3-1 shows the bald eagle counts for the winters of 2011-2012 through 2017-2018.*
### Table 3.3-1  Wells Reservoir Bald Eagle Surveys 2011-2017

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*Imm. = immature non-breeding bird

#### 3.3.1.3 Protect Trees from Beaver Damage

- Beginning in year two of the new license, Douglas PUD will begin, and then continue as necessary, protecting large living trees within the Project boundary that are used by eagles as perches and which are likely to be lost from beaver (*Castor Canadensis*) damage. Protection measures will be completed by year five of the new license for those trees identified within the first four years of the new license. To prevent beaver damage to eagle perch trees, each tree will be wrapped with galvanized welded wire. Wire wrapped trees will be inspected annually and the wire repaired or replaced, as needed.

*Douglas PUD has wrapped one hundred and ninety one (191) total trees on the Wells Reservoir shoreline between 2012 and 2016. Cottonwood trees were wrapped with 16 gauge wire with one inch by one inch square mesh. The trees were wrapped with wire that is three feet tall and encircled the entire circumference of each tree. The District is in its third year of an aggressive beaver translocation and removal program. Due to the dramatic reduction in nuisance beaver activity on the reservoir, no additional trees where wrapped with wire in 2017. A map depicting the location of the protected trees can be found in Appendix F.*

#### 3.3.1.4 Loss of Perch Trees due to Erosion

- At any time during the implementation of the new license, as site specific issues arise regarding potential losses of large eagle perches due to bank erosion, Douglas PUD will consult with the Terrestrial RWG to determine if any reasonable measures are available to address the issue.

*No eagle perch trees were lost due to shoreline erosion during the 2017 reporting period.*
3.3.1.5 Protection of Small Trees

- Beginning in year one of the new license, Douglas PUD will ensure establishment and protection of sufficient smaller trees of appropriate age classes to ensure future abundance of potential perch trees is at least equal to the baseline abundance documented in year one of the new license.

Beaver residing on the Wells Reservoir feed on native cottonwoods, willows and on fruit trees found in orchards near the reservoir. Douglas PUD hired a trapper with Wildlife Control Operator (WCO) licenses to reduce the population of beaver that reside on the Wells Reservoir. The WCOs removed forty-eight (48) from the Wells Reservoir during the winter of 2017-18. The removal of beaver is one way that Douglas PUD is helping to ensure that sufficient small trees have an opportunity to recruit into appropriate age classes to ensure future abundance of potential eagle perch trees.

No cottonwood cuttings were planted during 2017.

3.3.2 Waterfowl

Wells Reservoir is an important waterfowl wintering area in eastern Washington.

Waterfowl (ducks, geese and swans) are protected as migratory game birds under the Migratory Bird Treaty Act. Wells Reservoir is an important waterfowl wintering area in eastern Washington. Aerial survey data from fall 2001 to spring 2005 show a maximum of 33,912 ducks and geese during the fall migration, and a maximum of 38,909 ducks and geese wintering on the Wells Reservoir. The native pond weeds found growing in the Wells Reservoir, along with grain crops grown on the WWA, provide food for wintering and migrating waterfowl. Spring and summer resident waterfowl, mostly Canada geese (*Branta canadensis* Brant), utilize the islands, wetlands and open areas of grass for breeding habitat and food.

Douglas PUD conducted an aquatic macrophyte study in the Wells Reservoir (Kyger 2017). The results indicated the macrophyte community found within the Wells Project is healthy and dominated by native species. Project operations, including reservoir fluctuations, do not appear to be encouraging the growth of non-native macrophytes, including Eurasian watermilfoil (*Myriophyllum spicatum*). Daily reservoir fluctuations do have an effect on the growth of macrophytes in the upper 2-4 feet of the reservoir but the overall community types and species composition are not affected by reservoir operations (DTA, 2006).

Shoreline wetlands have developed under the daily fluctuations of the reservoir. Wells Reservoir provides the water that supports a variety of wetland cover types that were less abundant or did not occur in the former Columbia and Okanogan river basins. These wetlands are composed of species requiring high and relatively consistent soil moisture during the growing season and that can also withstand frequent water level fluctuations (EDAW, 2006a).

- Beginning in year one of the new license, Douglas PUD will plant at least 50 acres of annual grain crops within the Bridgeport Bar Unit of the WWA below Project boundary, to provide food for wintering Canada geese and dabbling ducks.
The 2017 Wells Wildlife Area annual report documents the planting of grain crops within the WWA (Appendix A). Douglas PUD paid WDFW to produce a total of 150 acres of irrigated grain crops on the Bridgeport Bar and Washburn Island units, 101 acres of these grain crops were planted within the Wells Project Boundary. Grain crops planted on the wildlife area included 62 acres of spring wheat, 38 acres of winter wheat, 5 acres of buckwheat, 29 acres of corn, 3.5 acres of canola and 3.4 acres of millet.

3.4 Protect Wildlife Habitat on Wells Project Lands

The Wells Reservoir and wetlands provide habitat for a variety of waterfowl, shorebirds and aquatic furbearers. Riparian plant communities within the Wells Project support more wildlife species than any other vegetation type and include important habitat for migratory and nesting birds, mammals, reptiles and amphibians. Shrub steppe plant communities provide habitat for birds, reptiles and mammals adapted to thrive in this dry open habitat. Wildlife surveys detected 120 avian, 3 amphibian, 6 reptile, and 12 small mammal species within the Wells Project. The results of the wildlife surveys indicate that the Wells Project supports an abundance of healthy, native wildlife species (EDAW 2006b).

Douglas PUD has planted riparian shrubs and trees on the shoreline of the Wells Reservoir as mitigation for various construction projects and in areas where erosion was occurring to help stabilize the shoreline. Riparian shrubs and trees have been replanted where livestock disturbance has damaged the shoreline. Fencing has been installed to exclude livestock from shoreline riparian areas.

Land use permits are a tool Douglas PUD uses to balance private use of Wells Project lands with fish, wildlife, cultural resources and public recreation demands. Project lands have been monitored twice a month by boat to detect unauthorized encroachments from adjoining properties including vegetation removal and livestock trespass. Douglas PUD staff also monitors activities on Project land while performing normal land maintenance duties.

Douglas PUD has worked cooperatively with the CCT concerning land use issues within Project boundary on the Colville Indian Reservation. WDFW and Douglas PUD have worked closely on land use issues within Project boundary outside of the Reservation. In an effort to continue these important relationships, Douglas PUD will request an annual meeting with the CCT and WDFW to discuss land use and wildlife management issues related to implementation of this WBMP.

- Beginning in year one of the new license, Douglas PUD will continue twice a month boat monitoring of Project lands for unauthorized encroachment and damage caused by recreational activities and adjacent land owners. Wildlife habitat damage caused by unauthorized encroachment activities will be repaired or replaced with in-kind habitat within 12 months of identifying unauthorized activity.

*Douglas PUD conducts twice monthly boat monitoring of Project lands for unauthorized encroachment and damage caused by recreational activities and adjacent land owners. Please see memo from John Brown, Property Supervisor for Douglas PUD in Appendix G.*
3.5  Maintain Productive Wildlife Habitat on the Cassimer Bar Wildlife Management Area

The CBWMA protects and enhances wildlife habitat on 116 acres of land near the mouth of the Okanogan River. Since 1970 Douglas PUD, in cooperation with the CCT, has managed the land for wildlife habitat.

The three sloughs on Cassimer Bar were diked in the 1980s to provide furbearer and waterfowl habitat. After more than 25 years, the tide gates and culverts through the dikes, used to regulate the water elevation, have failed.

3.5.1  Weed Control

- Beginning in year one of the new license, Douglas PUD will implement weed management annually to control new occurrences of noxious weeds and to reduce existing weed occurrences.

*Douglas PUD annually controls all State Classified A and B weeds known to occur on project lands including those lands found within the CBWMA.*

3.5.2  Access Management and Habitat Replacement

- Beginning in year one of the new license, Douglas PUD will manage access and replace damaged habitat to reduce adverse effects of recreation on wildlife habitat.

*Access to the CBWMA is controlled by a fence with locked gates. All access to the area by the public is on foot or by boat along the shoreline. No wildlife habitat was found damaged due to public recreation during 2017.*

3.5.3  Fencing

- Beginning in year one of the new license, Douglas PUD will install and maintain perimeter fencing to protect Cassimer Bar wildlife habitat from livestock.

*The CBWMA is protected by a fence that runs along the east boundary of the area. The fence prevents livestock from gaining access to the CBWMA. The fence was inspected in 2017 and no damage was found. The CBWMA is monitored by Douglas PUD staff as they travel past the area on other assignments.*

3.5.4  Cassimer Bar Dikes

- Beginning in year one of the new license, Douglas PUD will evaluate the dikes on Cassimer Bar and determine an appropriate method to fix the dikes. In year two, Douglas PUD will apply for permits from appropriate agencies. Contingent on receiving the necessary permits, Douglas PUD will repair the dikes to enhance waterfowl and other aquatic habitats on Cassimer Bar. In year four and every year
thereafter, the dikes will be inspected and repaired as soon as the design work and permitting allow.

*Douglas PUD completed permitting for the Cassimer Bar dikes in December 2014. Construction plans have been finalized and the project will be advertised for bid in 2018. Project construction is anticipated for September 2018.*

### 3.5.5 Control Noxious Weeds on Project Lands

Invasive weeds are introduced either deliberately (e.g., free seeding garden plants) or accidentally through human activity. Because of their aggressive growth and lack of natural enemies, these plants can be highly destructive, competitive, or difficult to control. These exotic species can harm the economy and natural resources by reducing crop yields, destroying native plant and animal habitat, reducing recreational opportunities, decreasing land value and in some cases poisoning humans and livestock.

Invasive non-native plants under Washington State law (17.10 RCW) are considered noxious weeds. The Washington State Noxious Weed Control Board annually develops a list of noxious weed species of statewide importance. The Chelan and Okanogan Noxious Weed Control Boards maintain a noxious weed list which includes those weed species found in their counties that must be controlled by landowners. Douglas County has not established a noxious weed control board, but still must follow Washington State noxious weed mandates. On each weed board list, noxious weeds are classified according to their current distribution and degree of concerns; control efforts are required of landowners for some weed classes.

### 3.5.6 Weed Map

EDAW, Inc. (2006a) and Parametrix (2009) conducted noxious weed surveys on Project lands and the transmission corridor, respectively. The noxious weed map was developed in ArcView Geographic Information Systems (GIS) to identify weed infestation on Project lands.

- Beginning in year one of the new license, Douglas PUD will annually control identified Class A and B designated weed occurrences on Wells Project lands.

*Douglas PUD had two employees that controlled Class A and Class B weeds during the spring, summer and fall of 2017. Weeds were controlled on Wells Project land and the Wells 230 kV Transmission Line Corridor. Douglas PUD worked with the Okanogan County Weed Control Board to identify any new infestation of weeds on Wells Project lands within Okanogan County.*

- Beginning in year five of the new license, Douglas PUD will survey Wells Project lands for new terrestrial weed infestations every five years throughout the term of the new license. Douglas PUD will use weed maps to identify problem areas and will update the maps as new weed populations are discovered.

*Beck Botanical Services and Douglas PUD surveyed project lands for weed infestations and mapped problem areas in the spring and summer of 2017 (Appendix H).*
3.5.7 *Weed Management Plan*

- Within one year of receipt of a new license, Douglas PUD will implement the following steps to control weeds on Project lands:

1. Consider the species of noxious weeds, density and size of the sites and surrounding vegetation when determining control measures.
2. Consider the land use of the site.
3. Acquire all environmental permits required (e.g., wetlands).
4. Consult the Washington State Department of Agriculture, pesticide-sensitive individual lists for properties adjacent to the control site.
5. Determine the effectiveness of various control options: burning, tilling, digging, herbicide application by wicking, spot spraying or broadcast spraying, or biological control agent.
6. Determine the most effective physiological growth stages of the target weed to obtain maximum control with least impact to surrounding vegetation.
7. Control weeds using method(s) selected for the site.
8. Monitor all application sites to determine the effectiveness of the weed control.
9. Control sites denuded by herbicide treatment will be replanted with native plant species appropriate to the site.

*In 2017, Douglas PUD employees used appropriate weed control methods specific to the species of weed to be controlled and the location of the weeds in the landscape. The lowest concentration of herbicide was used that was effective at eradicating the target weeds. All weed control sites were revisited to determine the effectiveness of the herbicide application and herbicides were reapplied, if needed. Douglas PUD has been using biological control agent (insects) specific to the Class B noxious weeds purple loose strife (Lythrum salicaria) and Dalmatian toadflax (Linaria dalmatica) rather than applying herbicides to kill these weeds. Douglas PUD chose biological control for purple loose strife since it is a wetland plant and herbicides would harm other wetland plants. Biological control was picked for Dalmatian toadflax since it has a waxy leaf that is resistant to control with herbicides.*

*Douglas PUD developed a weed management plan in 2014 to inform employees and contractors performing weed control work on the Wells Project lands and the Wells 230 kV Transmission Line Corridor.*
3.5.8 Preventing Weed Infestations

Within one year of receipt of a new license, Douglas PUD will implement the following practices and protocols intended to minimize new weed infestations:

- Use certified weed free straw and mulch and seed for habitat restoration projects.
- Limit public vehicle traffic to designated roads on Project lands.
- Douglas PUD employees and contractors will be instructed to check their vehicle undercarriage for weeds before driving on undeveloped Project lands.
- Minimize earth disturbing activities by vehicles, machinery, and water runoff on undeveloped land.
- Manage healthy native vegetation and replant native vegetation disturbed by Douglas PUD’s management activities.

In 2017, District employees maintained adherence to the above practices and protocols toward minimizing new weed infestations on Project lands.

3.6 Consultation

Douglas PUD will meet with resource agencies and/or tribes when requested to discuss management of wildlife and botanical species on Project lands. All changes to the plan must be in writing and made by unanimous consent by all Parties. Any agreed-upon changes to the WBMP will be submitted to the FERC for review and approval.

Douglas PUD shall annually file, by May 31 of each year, a report that documents the result of the prior year’s measures and the upcoming year’s proposed work plan to implement the license required measures. Douglas PUD shall include with the report an updated list of sensitive species, based upon an annual review of the WNHP rare plant list.

Douglas PUD shall also include with the report documentation of consultation with the USFWS, WDFW, Ecology, the CCT, and BLM; copies of comments and recommendations on the completed report after it has been prepared and provided to the consulted entities; and specific descriptions of how the consulted entities’ comments are accommodated by the report. Douglas PUD shall allow a minimum of 30 days for the consulted entities to comment and make recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include Douglas PUD’s reasons based on project-specific information. The Commission reserves the right to require changes to project operations or facilities based on all available information and information included in the annual reports.

*The Wells Terrestrial Resource Working Group (TRWG) will meet in May 2018 to review the 2017 Annual Wildlife and Botanical Management Plan Report and 2018 Work Plan. A copy of the meeting minutes can be found in Appendix I. The meeting participants represent USFWS, BLM, WDFW and CCT.*
4.0 WELLS 230 KV TRANSMISSION LINE AVIAN PROTECTION PLAN

The APP was developed to reduce the potential for bird collisions with the Wells 230 kV transmission lines and structures. Douglas PUD is committed to maintaining the reliability of the transmission lines in a cost effective manner while meeting the regulatory requirements to conserve migratory species; rare, threatened and endangered species; and raptors. The APP considers both avian migrants interacting with the transmission lines crossing the Columbia River and nesting on the transmission line structures. Douglas PUD prepared the APP in consultation with the USFWS and WDFW.

4.1 Bird Flight Diverters

- Bird flight diverters (BD) will be installed on the Wells transmission line river crossing in the event that the transmission line is reconducted, or if the static wire or aviation markers are replaced. BDs will be spaced between the aerial marker balls to increase visibility of the shield wire. If available, light emitting BDs will be installed to improve low light visibility; Puget Sound Energy is working with Tyco Electronics to develop BDs that store solar energy and emit visible light during low light conditions.

The steep sag of the conductor cables at the Douglas County shoreline tower of the Wells transmission line river crossing prevents safe use of a lineman’s hand car to install bird flight diverters. Douglas PUD does not anticipate replacing the conductors or ground wires on the Wells 230 kV transmission line river crossing any time in the near future. Bird flight diverters are not required to be placed on the Wells transmission line river crossing until the conductor or ground wires are replaced.

4.2 Record Keeping

- Douglas PUD will maintain records of all avian mortalities detected on the Wells 230 kV transmission line right of way.

Douglas PUD has instructed all employees working on or near transmission and distribution lines to report all dead birds found to Douglas PUD’s Wildlife Biologist. The entire length of the transmission lines are inspected twice per year and structures near the north and south path of the line are inspected multiple times a year. During these inspections, Douglas PUD crews are actively looking for carcasses incidental to their normal transmission and distribution reliability inspections.

- Douglas PUD will report all avian mortalities caused by the Wells 230 kV transmission lines to USFWS through the online USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov).

No avian mortality, of any cause, was found along the Wells 230 kV transmission line right of way during 2017.
4.3 Nest Management

Power line structures in open habitat provide perch, roost and nest substrate for some avian species. This is especially true of raptors and ravens in open habitat where natural substrates are limited. Nests built on transmission line structures can cause outages and possibly fire when long sticks fall and cause phase to ground faults. A raptor incubating or brooding young will defecate over the side of the nest, potentially causing a streamer outage if the nest is above an energized phase.

- All nest management will be performed in compliance with federal and state laws.

_No nest management activities were required in 2017._

- Douglas PUD’s Wildlife Biologist will be consulted before any nest is removed and will secure permits from USFWS and WDFW, if necessary, before nest removal proceeds.

_No nest management actions were required in 2017._

- Active nests will not be removed from the Wells 230 kV transmission line between February 1 and August 31 without prior approval from USFWS and WDFW.

_No nests were removed from the Wells 230 kV transmission line during 2017._

4.4 Tree Removal

The transmission line corridor passes through 64 acres of Douglas fir (_Pseudotsuga menziesii_) and ponderosa pine (Parametrix, 2009). The conifer canopy closure varies from sparse open canopy to closed canopy. When vegetation grows in close proximity to transmission line conductors, the vegetation can provide a path for electricity to travel to ground. An electrical flash over to ground can disrupt the delivery of energy to both customers in Douglas County and to other utilities purchasing power. Douglas PUD must maintain North America Electric Reliability Corporation (NERC) standards of 25 feet separation between conductors and vegetation to insure the transmission lines’ reliability.

Removal of trees during the nesting season can have a negative impact on migratory bird species.

- To protect nesting birds, Douglas PUD will only perform tree clearing on the transmission line corridor between August 31 and January 31. Clearing of the conifer trees on the transmission line corridor is anticipated to happen once every ten years beginning in 2018.

_No tree removal was required on the Wells 230 kV transmission line during 2017._
4.5 Training

All appropriate utility personnel will be trained annually to understand avian issues on the Wells 230 kV transmission line. This training will include background information, protocols and procedures, by which employees are required to report an avian mortality, implement a nest removal action, disposal of carcasses, perform vegetation management and comply with applicable regulations and the consequences of non-compliance.

- Douglas PUD will train (as described above) all appropriate utility personnel to understand avian issues on the Wells 230 kV transmission lines.

*Training of utility personnel to understand avian issues on the Wells 230 kV transmission lines was conducted in March 2018. The training was conducted during a safety meeting attended by all available line crews and distribution engineering staff.*

4.6 Consultation

Douglas PUD will meet with resource agencies or tribes, when requested, to discuss management of wildlife and botanical species on the transmission line corridor. All changes to the APP must be agreed to by the WDFW, USFWS and Douglas PUD. Any agreed-upon changes to the APP will be reported to the FERC for review and approval.

*Douglas PUD discussed the Wells 230 kV Transmission Line APP when they met with resource personnel during the Terrestrial RWG on May 21, 2018 (Appendix I). Douglas PUD consulted with the Terrestrial RWG to see if any changes to the Wells 230 kV Transmission Line APP are needed. Any changes to the plan will be reported to the FERC for review and approval. See Appendix I.*

5.0 OFF-LICENSE SETTLEMENT AGREEMENT

On July 15, 1974, Douglas PUD entered into an agreement with the Washington Department of Game (WDG, now Washington Department of Fish and Wildlife) to address the Wells Project's construction and operation effects on wildlife. Douglas PUD transferred properties to the WDG to establish the WWA and provided funds for the operation of the wildlife area. The term of this agreement ended May 31, 2012 with Douglas PUD’s FERC license (P-2149).

On December 17, 2007, Douglas PUD entered into the OLSA Resident Fish Stocking and Wells Wildlife Area Funding with WDFW. The OLSA provides funds ($200,000 in 2007 dollars) for the operation and maintenance (O&M) of the WWA. WDFW received $230,911 (adjusted for inflation) from Douglas PUD during the September 1, 2016 through August 31, 2017 fiscal year.

WDFW will use the funds provided by Douglas PUD to create, protect and maintain habitat on the WWA. The WWA program includes the following tasks:
• Grow annual food crops on Bridgeport Bar and Washburn Island Units to benefit waterfowl and other wildlife;
• Grow annual food crops and maintain feeders and water catchments on all units for upland game birds and other wildlife species;
• Protect and maintain the riparian vegetation on all units to benefit riparian obligate species and maintain nesting habitat and cover for upland game birds, raptors and passerines;
• Protect and maintain the ponds and wetland habitats on all units as habitat for amphibians and other wetland obligate species;
• Protect and maintain riparian habitat on Indian Dan Canyon Unit used by bald eagles as a night roost to benefit wintering bald eagles;
• Protect and maintain shrub steppe habitat on all units for upland game species, shrub steppe obligate species including sharp-tailed grouse, greater sage grouse (*Centrocercus urophasianus*) and mule deer (*Odocoileus hemionus*);
• Provide wildlife related recreation opportunities including hunting and wildlife observation on the wildlife area;
• Control invasive weeds to protect and maintain habitat;
• Maintain all boundary fencing to prevent livestock trespass. Build and replace boundary fences as needed;
• WDFW will not lease any unit for livestock grazing or allow camping outside of parking areas on the wildlife area, in order to protect wildlife habitat; and
• Promote native vegetation where it is consistent with the goals of the program.

5.1 **Capital Equipment Replacement Fund**

The Off-License Settlement Agreement requires Douglas PUD to provide funds to replace capital equipment necessary for the maintenance of the WWA.

_The equipment to be replaced must have reached the end of its useful life. Douglas PUD provided WDFW with $20,000 during Fiscal Year 2017 to replace an irrigation pump._

5.2 **2017 Wells Wildlife Area Annual Report**

Dan Peterson, manager of the Wells Wildlife Area wrote the 2017 Wells Wildlife Area Annual Report that can be found in Appendix A.

5.3 **Habitat Restoration Fund**

On August 1, 2012, a human ignited wildland fire swept through the Central Ferry Canyon unit of the WWA. The fires started in an organic fruit orchard where weeds were being burned. Over 12,000 acres of land owned by the State of Washington and private owners was burned including ninety percent (1,709 acres) of the Central Ferry Canyon unit. Douglas PUD released the $50,000 Habitat Restoration Fund to WDFW on August 21, 2012. WDFW used $48,515 to purchase seed that was drilled and applied aerially over approximately 200 acres.
WDFW received funds from the State of Washington to fully cover the cost of the habitat restoration work in Central Ferry Canyon. WDFW refunded the $48,515 provided by Douglas PUD on August 20, 2013. In exchange, Douglas PUD will make available the Habitat Restoration Fund in the event of a new wildfire on one of the units of the WWA.

6.0 2018 WORK PLAN

Article 409 of the new FERC License for the Wells Project requires Douglas PUD to report on proposed measures to implement the WBMP in the coming year. All of the items in Section 6 will be part of the 2018 work plan that will be completed by December 2018 and reported by the May 31, 2019 Annual Wildlife and Botanical Report.

6.1 Protect RTE Terrestrial Species Habitat on Wells Project Lands

6.1.1 American White Pelican

- Beginning in year 2 of the new license, Douglas PUD will provide educational material (signs) at Douglas PUD boat launches and local visitor centers. Educational materials will advise boaters to avoid pelicans while boating, fishing and hunting. Signs will be inspected during other duties and repaired as soon as practicable after damage is discovered.

In 2018, Douglas PUD will inspect the pelican signs in the spring and replace any signs that are damaged or have been removed.

6.1.2 Sharp-tailed Grouse

- Beginning in year one of the new license, as an enhancement, Douglas PUD will continue to water irrigation-dependent riparian trees, shrubs and associated vegetation located below Project boundary within the confines of the Bridgeport Bar Unit of the WWA. Continued management of this habitat will benefit a wide range of wildlife species, including sharp-tailed grouse.

Douglas PUD will continue to rely on WDFW to water irrigation-dependent riparian trees, shrubs and associated vegetation located below Project boundary within the confines of the Bridgeport Bar Unit of the WWA. WDFW will continue to receive funding for the manpower to weekly maintain the irrigation lines and pump water through the OLSA.

6.1.3 Baseline Bat Inventory

- Protecting and enhancing rare threatened, and endangered (RTE) species on the Wells Project, and maintaining productive wildlife habitat, are goals of the Wells Wildlife and Botanical Management Plan (WBMP). The WBMP currently does not include bats, which is a potential vulnerability. All bats are categorized under Priority Habitat and Species (PHS) in Washington.
• The proposed study is intended to determine species presence and distribution on Wells Project lands. Data will be used to identify and protect bat habitat proactively in any areas of concentration.
• The objectives of the bat acoustic surveys are to determine the presence/absence of special-status bat species at the site, to the extent possible, and to also estimate seasonal and spatial activity rates for bats.

Douglas PUD will place acoustic bat detectors throughout the Project area from May through October to determine bat species and distribution and to determine seasonal usage.

6.2 Protect RTE Botanical Species from Land Disturbing Activities and Herbicide Sprays

6.2.1 Resurvey Thompson’s Clover and Little Bluestem Protected Sites

• Beginning in year five (2017) of the new license, and every 10 years thereafter, Douglas PUD will survey and revise site boundaries for populations of little bluestem and Thompson’s clover found within the Wells Project boundary.

No surveys are required for 2018.

6.2.2 Ground Disturbing Activities and Weed Control at RTE Plant Protection Sites

• Beginning in year one of the new license, for lands owned by Douglas PUD within the Wells Project boundary, no new ground disturbing activities will be allowed within a 500 foot buffer zone surrounding the RTE plant locations and no land use permits will be issued for these buffer areas. Any weed control needed within the buffer zone will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide. Details of the Weed Control Plan can be found in Section 4.6 of the WBMP.

The five hundred foot “No Ground Disturbance” buffer is established around all of the RTE plant sites in Douglas PUD’s GIS. Douglas PUD’s Land Services personnel have copies of the maps showing the location of the RTE plant sites with the buffer. Douglas PUD conducts twice monthly inspections of Wells Reservoir by boat to look for disturbances on Project land. They will conduct visual surveys of the RTE plant sites to determine any ground disturbance.

The District’s vegetation management employees have been informed of the RTE plant sites and have copies of the RTE plant maps. Any weed control needed within the buffer zone will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide during the spring through fall of 2018.
6.2.3 Weed Control at Thompson Clover Sites

- Beginning in year one of the new license, Douglas PUD will control weeds within a 500 foot buffer of Thompson’s clover occurrences within the transmission line ROW. Weed control work will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide.

Douglas PUD’s vegetation management employees have been informed of the Thompson’s clover site in the Wells 230 kV transmission line corridor. Any weed control needed within the buffer zone for Thompson’s clover will utilize the following methods in descending order of preference: biological control, hand pulling, and hand wiping of individual weeds with herbicide during the spring through fall of 2018.

6.2.4 Washington Natural Heritage Program Rare Plant List

- Douglas PUD is required by Article 409 of the license for the Wells Hydroelectric Project FERC No. 2149-152 to annually consult the WNHP to review their rare plant list and include an updated copy in the annual Terrestrial Report to FERC.

Douglas PUD will consult with the WNHP while compiling the 2018 Annual Wildlife and Botanical Report to develop a current RTE plant list for the annual Wildlife and Botanical Management Plan. The list will be compiled from WNHP’s rare plant lists for Chelan, Douglas and Okanogan counties. Douglas PUD will consult the WNHP web site to compile the list and consult with WNHP botanist to determine the reason for any changes to the list. An updated copy of the lists will be included with the 2018 Annual Wildlife and Botanical report.

6.3 Conserve Habitat for Species on Wells Project Lands Protected by the Federal Endangered Species Act, Bald and Golden Eagle Protection Act, and Migratory Bird Treaty Act

6.3.1 Bald Eagle

6.3.1.1 Bald Eagle Perches Pole Inspection

- Beginning in year one of the new license, Douglas PUD will inspect raptor perch poles annually and repair or replace perch poles as warranted. The perch poles near the Starr Boat Launch will be removed to reduce avian predation on downstream migrating salmonids.

In 2018, Douglas PUD will inventory raptor perch poles on Wells Project lands and replace any that have been damaged or lost due to fire.
6.3.1.2 Bald Eagle Surveys

- Beginning in year one of the new license, Douglas PUD will perform monthly boat surveys during the months of November through March to inventory wintering bald eagle numbers and to identify large perch trees regularly used by bald eagles. Douglas PUD will determine if the perch trees need immediate protection from beavers or if they are likely to fall down in the near future due to bank erosion.

*Douglas PUD will conduct bald eagle surveys on Wells Reservoir during the winter of 2018-2019. Surveys will be conducted once a month between November and March. Eagles will be counted from a boat. All perched and flying eagles will be identified as either immature or adult and recorded. The data will be provided in the 2018 Annual Wildlife and Botanical Report.*

6.3.1.3 Protect Trees from Beaver Damage

- Beginning in year two of the new license, Douglas PUD will begin, and then continue as necessary, protecting large living trees within the Project boundary that are used by eagles as perches and which are likely to be lost from beaver damage. Protection measures will be completed by year five of the new license for those trees identified within the first four years of the new license. To prevent beaver damage to eagle perch trees, each tree will be wrapped with galvanized welded wire. Wire wrapped trees will be inspected annually and the wire repaired or replaced, as needed.

*Douglas PUD will inventory the 191 trees on the reservoir that have been wrapped with wire to prevent beaver damage. GPS locations will be recorded for each individual tree or group of wrapped trees. Douglas PUD will evaluate how well the wire wraps protected the trees and if needed will increase the level of protection. Douglas PUD will also continue to implement the beaver depredation management program that includes the trapping of nuisance beaver along the shoreline of the Wells Project.*

6.3.1.4 Loss of Perch Trees due to Erosion

- At any time during the implementation of the new license, as site specific issues arise regarding potential losses of large eagle perches due to bank erosion, Douglas PUD will consult with the Terrestrial RWG to determine if any reasonable measures are available to address the issue.

*The WBMP, developed by the Terrestrial RWG, calls for protecting eagle perch trees from beaver damage and encouraging recruitment of trees on the reservoir, from both natural reproduction and planting trees in suitable habitat. The group decided against using shoreline armoring to protect areas threatened with erosion. Measures to control shoreline erosion, such as placing hardened surfaces, can be detrimental to habitat utilized by ESA-listed salmon, steelhead and bull trout, and are generally not supported by fish and wildlife management agencies. Fortunately, there are very few trees currently susceptible to erosion along the Wells Reservoir. Douglas PUD will continue to monitor these trees and consult with the Terrestrial RWG if any large perch trees are lost due to erosion.*
6.3.1.5 Protection of Small Trees

- Beginning in year one of the new license, Douglas PUD will ensure establishment and protection of sufficient smaller trees of appropriate age classes to ensure future abundance of potential perch trees is at least equal to the baseline abundance documented in year one of the new license.

*In 2018, Douglas PUD will continue to evaluate beaver activity on the Wells Reservoir and determine the best protection methods to protect groups of small trees from beaver activity. If beaver depredation on small trees can’t be controlled through trapping methods then wire wrapping or plantings may need to be increased in future years.*

6.3.2 Waterfowl

- Beginning in year one of the new license, Douglas PUD will plant at least 50 acres of annual grain crops within the Bridgeport Bar Unit of the WWA below Project boundary, to provide food for wintering Canada geese and dabbling ducks.

*Douglas PUD will rely on WDFW to plant and irrigate at least fifty acres of grain crops on both Bridgeport Bar and Washburn Island Units of the WWA below Project boundary. WDFW will receive funding for the manpower and material needed to plant and daily maintain the irrigation throughout the growing season through the OLSA.*

6.4 Protect Wildlife Habitat on Wells Project Lands

- Beginning in year one of the new license, Douglas PUD will continue twice a month boat monitoring of Project lands for unauthorized encroachment and damage caused by recreational activities and adjacent land owners. Wildlife habitat damage caused by unauthorized encroachment activities will be repaired or replaced with in-kind habitat within 12 months of identifying unauthorized activity.

*Douglas PUD will conduct twice monthly boat surveys of the Wells Reservoir in 2018 to identify unauthorized encroachment and damage caused by recreational activities and adjacent land owners. During the winter when ice prevents boat travel on the Methow or Okanogan rivers, Douglas PUD will conduct surveys of the shoreline of the two rivers by car and foot.*

6.5 Maintain Productive Wildlife Habitat on the Cassimer Bar Wildlife Management Area

6.5.1 Weed Control

- Beginning in year one of the new license, Douglas PUD will implement weed management annually to control new occurrences of noxious weeds and to reduce existing weed occurrences.
Douglas PUD annually controls all State Classified A and B weeds known to occur on Project lands. The CBWMA will be inspected for Class A and B weeds and the Douglas PUD weed management staff will be informed if any weeds need controlling during the summer of 2018.

6.5.2 Access Management and Habitat Replacement

- Beginning in year one of the new license, Douglas PUD will manage access and replace damaged habitat to reduce adverse effects of recreation on wildlife habitat.

Douglas PUD will inspect the CBWMA during the fall of 2018 for habitat damage caused by recreation. Any habitat damage will be repaired during the spring 2018. Native trees, shrubs and grasses will be used to repair any damaged habitat.

6.5.3 Fencing

- Beginning in year one of the new license, Douglas PUD will install and maintain perimeter fencing to protect Cassimer Bar wildlife habitat from livestock.

The CBWMA is protected by a fence that runs along the east boundary of the area. The fence prevents livestock from gaining access to the area. The fence is inspected annually and repaired when damage is found. The CBWMA is observed by Douglas PUD staff as they travel past the area on other assignments. If livestock are observed in the CBWMA during the summer of 2018, they will be removed and the fence will be inspected and repaired.

6.5.4 Cassimer Bar Dikes

- Beginning in year one of the new license, Douglas PUD will evaluate the dikes on Cassimer Bar and determine an appropriate method to fix the dikes. In year two, Douglas PUD will apply for permits from appropriate agencies. Contingent on receiving the necessary permits, Douglas PUD will repair the dikes to enhance waterfowl and other aquatic habitats on Cassimer Bar. In year four and every year thereafter, the dikes will be inspected and repaired as soon as the design work and permitting allow.

Construction plans have been finalized and the project was advertised for bid in early 2018. Project construction is anticipated for September 2018.

6.6 Control Noxious Weeds on Project Lands

6.6.1 Weed Map

- Beginning in year one of the new license, Douglas PUD will annually control identified Class A and B designated weed occurrences on Wells Project lands.

Douglas PUD has two employees that will control Class A and Class B weeds during spring, summer and fall of 2018 on the Wells Project lands and the Wells 230 kV Transmission Line Corridor. Douglas PUD also hires a weed control firm to control weeds around the Wells Dam
facilities. Douglas PUD will work with the Okanogan County Weed Control Board to identify any new infestation of weeds on Wells Project lands within Okanogan County.

- Beginning in year five of the new license, Douglas PUD will survey Wells Project lands for new terrestrial weed infestations every five years throughout the term of the new license. Douglas PUD will use weed maps to identify problem areas and will update the maps as new weed populations are discovered.

**Not required until 2022.**

### 6.6.2 Weed Management Plan

- Within one year of receipt of a new license, Douglas PUD will implement the following steps to control weeds on Project lands:

1. Consider the species of noxious weeds, density and size of the sites and surrounding vegetation when determining control measures.
2. Consider the land use of the site.
3. Acquire all environmental permits required (e.g., wetlands).
4. Consult the Washington State Department of Agriculture, pesticide-sensitive individuals list for properties adjacent to the control site.
5. Determine the effectiveness of various control options: burning, tilling, digging, herbicide application by wicking, spot spraying or broadcast spraying, or biological control agent.
6. Determine the most effective physiological growth stages of the target weed to obtain maximum control with least impact to surrounding vegetation.
7. Control weeds using method(s) selected for the site.
8. Monitor all application sites to determine the effectiveness of the weed control.
9. Control sites denuded by herbicide treatment will be replanted with native plant species appropriate to the site.

*In 2018, Douglas PUD employees will use appropriate weed control methods specific to the species of weed to be controlled and the location of the weeds in the landscape. The concentration of herbicide used will comply with the label instructions for effective eradicating of the target weeds. All weed control sites will be revisited to determine the effectiveness of the herbicide application and herbicides will be reapplied, if needed. Douglas PUD has been using biological control agents (insects) specific to the Class B noxious weeds purple loose strife and Dalmatian toadflax rather than applying herbicides to kill these weeds and will do so in 2018. Douglas PUD chose biological control for purple loose strife since it is a wetland plant and herbicides would harm sensitive wetland plants. Biological control was picked for Dalmatian toadflax since it has a waxy leaf that is resistant to control with herbicides. Douglas PUD will use other biological control organisms as they become available from the U.S. Department of Agriculture.*
6.6.3 Preventing Weed Infestations

- Within one year of receipt of a new license, Douglas PUD will implement the following practices and protocols intended to minimize new weed infestations:
  - Use certified weed free straw and mulch and seed for habitat restoration projects.
  - Limit public vehicle traffic to designated roads on Project lands.
  - Douglas PUD employees and contractors will be instructed to check their vehicle undercarriage for weeds before driving on undeveloped Project lands.
  - Minimize earth disturbing activities by vehicles, machinery, and water runoff on undeveloped land.
  - Manage healthy native vegetation and replant native vegetation disturbed by Douglas PUD’s management activities.

In 2018, Douglas PUD will require all employees and contractors to follow the weed prevention guidelines when working on Project lands. Contractor activities on Project land will require vehicles and equipment be cleaned before coming on the job site. Any vehicle used at more than one construction site should be checked regularly for weeds on the undercarriage.

Douglas PUD will also utilize certified weed free straw, mulch and seed when restoring habitat disturbed by Douglas PUD’s activities, by public over use and runoff caused by adjacent properties.

6.7 Consultation

Douglas PUD will meet with resource agencies and/or tribes when requested to discuss management of wildlife and botanical species on Project lands. All changes to the plan must be in writing and made by unanimous consent by all Parties. Any agreed-upon changes to the WBMP will be submitted to the FERC for review and approval.

Douglas PUD shall annually file, by May 31 of each year, a report that documents the result of the prior year’s measures and the upcoming year’s proposed measures to implement the plan. Douglas PUD shall include with the report an updated list of sensitive species, based upon an annual review of the WNHP rare plant list.

Douglas PUD shall also include with the report documentation of consultation with the USFWS, WDFW, Ecology, the CCT, and BLM; copies of comments and recommendations on the completed report after it has been prepared and provided to the consulted entities; and specific descriptions of how the consulted entities’ comments are accommodated by the report. Douglas PUD shall allow a minimum of 30 days for the consulted entities to comment and make recommendations before filing the report with the Commission. If the licensee does not adopt a recommendation, the filing shall include Douglas PUD’s reasons based on project-specific information. The Commission reserves the right to require changes to project operations or facilities based on all available information and information included in the annual reports.
Douglas PUD will continue to meet with the Terrestrial RWG to discuss the annual Wildlife and Botanical Report. Douglas PUD will consult with the resource agencies and CCT during the writing of the 2018 WBMP Report and 2019 Work Plan and include comments from the resource agencies and CCT in the report. Douglas PUD will continue to consult with the resource agencies and CCT to address any other wildlife or botanical issues that may arise on Project lands.
7.0 REFERENCES


Appendix A

Wells Wildlife Area Annual Report for 2017

2017 ANNUAL REPORT
Wells Wildlife Mitigation Program

Submitted by:

Dan Peterson
Manager, Wells Wildlife Area
Washington State Department of Fish and Wildlife
Executive Summary

The Public Utility District No. 1 of Douglas County (DPUD) provides annual operation and maintenance funding for the Wells Wildlife Area as agreed to in the Off-License Settlement Agreement between DPUD and Washington Department of Fish and Wildlife (WDFW). Per the Agreement, DPUD provides WDFW with $200,000 in 2007 dollars that is adjusted for annual inflation on January 1 of each year. Using this formula, the 2015 operation and maintenance funding for the wildlife area was $223,300. Table 1 displays the wildlife area budget for 2017.

The Wells Wildlife Area is located in Douglas and Okanogan counties of Washington State and consists of six units -- three shoreline riparian units and three upland units. Bridgeport Bar (502 acres), Okanogan (100 acres) and Washburn Island (261 acres) are located along the shoreline of the Wells Reservoir and a portion of each unit lies within the Project Boundary. West Foster Creek (1,025 acres), Central Ferry (1,602 acres) and Indian Dan Canyon (4,716 acres) are upland units and are entirely outside the Wells Project Boundary. WDFW leases 1,550 acres of land from the Washington Department of Natural Resources and 180 acres from the Bureau of Land Management located within the Indian Dan Unit boundary.

The original management goal for the Wells Wildlife Area was to enhance and manage upland game habitat and release upland birds for public hunting. The goal of the program was broadened, after the pheasant release program ended, to include the development of winter and migratory waterfowl food plots and to further enhance upland bird habitat. The goal of the program has expanded to include the enhancement of native riparian, wetland and shrub steppe habitat to support native wildlife species diversity on Wells Wildlife Area lands both within and adjacent to the Wells Project.

This annual report presents the management accomplishments and challenges as well as the enumeration of certain wildlife and recreational uses on the Wells Wildlife Area in 2017.
A. Expenditures

**TABLE 1. Wells Wildlife Area Budget for 2017**

**FISCAL YEAR 2017**

**OPERATIONS AND MAINTENANCE BUDGET**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MANAGER - WAGES (5.5 months)</td>
<td>$28,500</td>
</tr>
<tr>
<td>2. MANAGER - BENEFITS (5.5 months)</td>
<td>$11,965</td>
</tr>
<tr>
<td>3. ASSISTANT MANAGER - WAGES (4.5 months)</td>
<td>$18,648</td>
</tr>
<tr>
<td>4. ASSISTANT MANAGER - BENEFITS (4.5 months)</td>
<td>$7,832</td>
</tr>
<tr>
<td>5. MAINTENANCE MECHANIC - WAGES (5 months)</td>
<td>$21,786</td>
</tr>
<tr>
<td>6. MAINTENANCE MECHANIC - BENEFITS (5 months)</td>
<td>$9,438</td>
</tr>
<tr>
<td>7. SEASONAL EMPLOYEES - WAGES (10.75 months)</td>
<td>$29,885</td>
</tr>
<tr>
<td>8. SEASONAL EMPLOYEES - BENEFITS (10.75 months)</td>
<td>$14,965</td>
</tr>
<tr>
<td>9. LAND LEASES (DNR-INDIAN DAN)</td>
<td>$1,700</td>
</tr>
<tr>
<td>10. LAND TAXES (OKANOGAN CO.)</td>
<td>$5,100</td>
</tr>
<tr>
<td>11. FOOD PLOTS (MATERIAL)</td>
<td></td>
</tr>
<tr>
<td>A) Corn</td>
<td>$1,270</td>
</tr>
<tr>
<td>B) Wheat</td>
<td>$1,210</td>
</tr>
<tr>
<td>C) Barley</td>
<td>$600</td>
</tr>
<tr>
<td>D) Buckwheat</td>
<td>$200</td>
</tr>
<tr>
<td>E) Millet</td>
<td>$1,130</td>
</tr>
<tr>
<td>E) Fertilizer</td>
<td>$3,250</td>
</tr>
<tr>
<td>12. SHRUB PLANTING</td>
<td>$0</td>
</tr>
<tr>
<td>13. REPLACEMENT WATER METERS</td>
<td>$1,000</td>
</tr>
<tr>
<td>14. DIVER SERVICES TO CLEAN INTAKE SCREENS</td>
<td>$2,100</td>
</tr>
<tr>
<td>15. WHEAT FOR UPLAND BIRD FEEDERS</td>
<td>$1,500</td>
</tr>
<tr>
<td>16. MISC. SUPPLIES &amp; MATERIAL (TOOLS, SIGNS, FORMS, SHOP AND OFFICE SUPPLIES)</td>
<td>$5,796</td>
</tr>
<tr>
<td>17. MISC. SERVICES (PHONE, UTILITIES, TRAVEL, FREIGHT)</td>
<td>$8,100</td>
</tr>
<tr>
<td>18. WEED CONTROL (HERBICIDES)</td>
<td>$4,945</td>
</tr>
<tr>
<td>19. REPAIRS/OPERATION - FARM AND OTHER EQUIPMENT</td>
<td>$7,884</td>
</tr>
<tr>
<td>20. REPAIRS - BUILDINGS AND STRUCTURES (SIGNS, FENCES, PUMPS, FEEDERS, IRRIGATION SYSTEM, ETC.)</td>
<td>$5,000</td>
</tr>
<tr>
<td>21. VEHICLES OPERATION</td>
<td>$8,750</td>
</tr>
<tr>
<td>22. FIRE PROTECTION CONTRACT</td>
<td>$2,700</td>
</tr>
</tbody>
</table>

**SUBTOTAL** $205,254

**ADMINISTRATIVE OVERHEAD (12.5%)** $25,657

**TOTAL OPERATIONS, MAINTENANCE AND OVERHEAD** $230,911
B. Wildlife Habitat Management and Related Activities

- **Grain Food Plot and Waterfowl Habitat Development**

  In 2016 the Wells Wildlife Area produced 150 acres of irrigated grain crops on the Bridgeport Bar and Washburn Island units. Species planted included spring wheat (62 acres), winter wheat (38 acres), corn (29 acres), buckwheat (5 acres), canola (3.5 acres) and millet (3.4 acres). Total crop acreage on DCPUD project lands this year was 101. The food plots on Washburn Island account for 74% of the crop acreage on DCPUD project lands and 50% of the total that we annually create and maintain. The wildlife area’s base funding is not sufficient to support crop production on both units. Consequently, the wildlife area seeks funding for all work at the Washburn Island unit through the Migratory Bird Stamp Program. Funding provided by this program for the 2015-2017 budget cycle was $33,950. Without these funds we would not be able to create and maintain the unit’s food plots nor the riparian habitat described below.

  The field work to establish the above acreage was performed with equipment originally purchased with DCPUD funds as well as equipment with no ties whatsoever to DCPUD funds. DCPUD equipment included a 150hp John Deere 7810 tractor, a Kubota 6030 tractor (70hp), a John Deere BD-1110 grain drill, a Yetter 4-row corn planter, a 3-point mounted fertilizer spreader, and a 3-point mounted sprayer.

  Non-DCPUD funded equipment used included a 150hp John Deere 7730 tractor, a Schulte S-150 mower and a Woods rotary mower, all of which are owned by the Sagebrush Flat Wildlife Area (SBF), and a 22-foot wide Krause disk purchased by the Chelan Wildlife Area. Use of the above equipment improves our efficiency and reduces to staff time needed to establish and maintain these food plots.

- **Maintenance of Riparian Habitat**

  We maintained 90 acres of irrigated riparian plantings on the Bridgeport Bar and Washburn Island units. About 50 acres of this total are located on DPUD project lands: 14 acres on Washburn Island and 36 acres on Bridgeport Bar. These plantings are distributed across 50 individual sites and irrigated via 6 miles of sprinkler lines. Each site is irrigated at least once per week during the April – October irrigation season. Annual maintenance of these sites includes: replacing worn/damaged sprinklers and gaskets, repairing broken risers, clearing brush from sprinkler lanes, and within younger shrub plantings, periodic mowing between rows. The riparian habitat on Washburn Island is irrigated via an antiquated center pivot system that is now 42-years old. In the last few years it has become increasingly unreliable and experiences mechanical and electrical breakdowns weekly. Its condition jeopardizes the viability of the riparian habitat as well as the food plots WDFW has created on this unit. The wildlife area manager has requested state capitol funds in the each of
the last three state budget cycles to purchase a new system. The current request will be considered in the 2018 legislative session.

- Carlton Complex Fire – Recovery Efforts at Indian Dan Canyon Unit

**FEMA funded projects**
- Construction of new boundary fence (17.6 miles) resumed in April following the winter break and was completed in June, 2016. Approximately 200 WDFW signs were mounted on the fence by wildlife area staff.
- Staff installed new stop logs in two water control structures; built new deer fences around two shrub plots, and built and placed across the area 60 nesting boxes for bluebirds and kestrels.

**BLM funded restoration projects**
- In April, staff treated a 14-acre grass field with herbicide to control annual broadleaf weeds.
- In November, staff planted approximately 11 abandoned spring wheat fields totaling 40 acres with native grasses. Work was done with the area’s John Deere 7810 tractor and a Truax grass drill on loan from the Sagebrush Flat Wildlife Area.
- A late summer thunder storm resulted in a flash flood that damaged approximately 3.3 miles of interior roads on the area. Staff repaired the damage with the area’s Caterpillar D-4 bulldozer, a dump truck on loan from the Methow Wildlife Area, a 150hp John Deere tractor and loader on loan from the Sagebrush Flat Wildlife Area, plus a semi-tractor and lowboy trailer also from the Sagebrush Flat Wildlife Area. Gravel for the project was purchased from a privately owned pit nearby.
- Also damaged by the flood event were several hillsides that suffered extensive rill and gully erosion. In late November, staff with the help of a Washington Conservation Corps crew, hand seeded grass in and across the impacted areas. The seed mix included Basin wildrye, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, and mountain brome.
• **Ponds**
  
  o Intake flow rates and water levels of five ponds on the West Foster Creek Unit were regulated to ensure adequate water distribution between ponds, to maintain aquatic habitat and adjacent riparian plantings and to prevent flooding.

  o Maintained water control structures on the West Foster Creek Unit as needed.

  o Thanks to significant snowfall, the lakes at the Indian Dan Canyon were, once again, full, the creek flowed all year, and catch basins in the ‘upper meadow’ and Bell Canyon held water until early summer. As would be expected, waterfowl used the lakes from spring till winter freeze-up. This was a great contrast to 2014 when the lower lake was dry, and 2015 when both lakes were dry.

• **Wildlife Feeding and Watering**
  
  o Filled and maintained 20 upland game bird feeders.

• **Artificial Nesting Structures**
  
  o Volunteer Richard Hendrick inspected, maintained, repaired and, replaced missing wood duck (*Aix sponsa*), American kestrel (*Falco sparverius*) and blue bird (*Sialia spp.* ) nest boxes. The wildlife area has approximately 60 wood duck boxes, 20 kestrel boxes and more than 40 blue bird boxes. Mr. Hendrick visits each box at least once during the year. The boxes are located on the Indian Dan Canyon, Central Ferry Canyon, Bridgeport Bar, Washburn Island and the Okanogan River units.

• **Fences**
  
  o Staff repaired fencing on the Okanogan Unit that had been damaged when a vehicle drove off the county road and through the fence. This activity is an annual event.

• **Vegetation Control**
  
  o In 2017 staff treated approximately 500 acres for a variety of annual and perennial noxious weeds. Treatment methods followed the principles of Integrated Pest Management and weed species, timing, location, and size of infestation. Treatments included chemical, biological, mechanical and cultural techniques. Treatments and locations of primary efforts include:
Performed mechanical weed control (disking) on 152 acres of food plot sites. The fields were seeded with winter wheat which required multiple treatments.

Performed chemical control on all the food plot sites. To control the grasses long-spine sandbur (*Cenchrus longispinus*) and crabgrass (*Digitaria spp.*), staff treated 38 acres of spring wheat. To achieve control of these annuals we treated the fields with glyphosate after the standing grain crop had matured and the annuals had yet to produce seed. We’ve been using this method and timing for the past 4 years and it has produced excellent results.

Treated a variety of weeds with herbicide including: crabgrass 80 acres, Dalmatian toadflax (*Linaria dalmatica*) 25 acres, Longspine sandbur 60 acres, Cereal rye (*Secale cereal*) 53 acres, Canada thistle (*Cirsium arvense*) 3 acres, tumble mustard (*Sisymbrium altissimum*) 45 acres, and cheatgrass (*Bromus tectorum*) 4.5 acres.

Treated in June, July and October approximately 37 acres of Russian knapweed with herbicide at Indian Dan Canyon.

Mowed approximately 36 miles of wildlife area roads.

Released approximately 36 miles of wildlife area roads.

Released 2,000 of the bio-control insect *Mecinus janthinus* to treat Dalmatian toadflax where the use of herbicides was not a practical alternative. Release sites were on the Indian Dan Canyon units.

**Firebreaks and Fire Control**

- Maintained one mile of firebreak on the West Foster Creek Unit and two miles on the Bridgeport Bar Unit.

**Buildings, Public Use Facilities and Equipment**

- Maintained buildings and parking areas. Cleared snow from roads, parking areas and headquarters area and replaced signs as needed.

**Other**

- Created a grant application and received the grant through the Migratory Bird Stamp and Art Print Program to fund our production of grain crops on the Washburn Island unit.
C. Hunting

- **Upland Game Bird**

  - WDFW recorded 616 upland bird hunters registering (hunter days) on the wildlife area with a harvest of 521 birds during the 2016 (includes data from January 2016) season (see Appendix A). This represents a harvest of 0.85 birds per hunter day. Compared with 2015, the number of hunters in the field this year increased by 2% and was 26% below the 33 year average. The overall harvest, however, decreased by 19% compared to the 2015 season. As in every year since 1983, California quail (*Callipepla californica*) was the most heavily harvested bird in the area representing 96% of the total.

  Table 2 summarizes California quail and total upland game harvest information collected on the wildlife area between 1983 and 2016.

<table>
<thead>
<tr>
<th>Year</th>
<th>Hunters</th>
<th>Quail</th>
<th>Quail/Hunter</th>
<th>All Upland Birds</th>
<th>Upland Birds/Hunter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>833</td>
<td>724</td>
<td>0.85</td>
<td>812</td>
<td>0.95</td>
</tr>
<tr>
<td>Minimum</td>
<td>496</td>
<td>320</td>
<td>0.44</td>
<td>397</td>
<td>0.55</td>
</tr>
<tr>
<td>Maximum</td>
<td>1,284</td>
<td>1,659</td>
<td>1.65</td>
<td>1,721</td>
<td>1.71</td>
</tr>
<tr>
<td>2015</td>
<td>606</td>
<td>622</td>
<td>1.03</td>
<td>645</td>
<td>1.06</td>
</tr>
<tr>
<td>2016</td>
<td>616</td>
<td>502</td>
<td>0.81</td>
<td>521</td>
<td>0.85</td>
</tr>
</tbody>
</table>

- **Waterfowl:**

  - Wildlife Area staff, along with DPUD Wildlife Biologist, surveyed Canada goose (*Branta Canadensis*) nesting on the Wells Pool on April 20 and May 21. A total of 68 nests were located: 12 in goose tubs, and 56 were ground nests located on the Kirk Islands and Pateros Islands. As in past years, Pateros Island had the greatest concentration of nests, 28 or half of all ground nests located. Results are summarized in Appendix B.

  - Waterfowl hunters reported hunting 693 days on the Bridgeport Bar Islands, and the Bridgeport Bar and Washburn Island units. This year’s season set a record for the total number of waterfowl taken, 1,887, and the greatest number of ducks taken, 1,710 (Appendix A). The previous high counts from 2012, were 1,587 and 1,516 respectively. When compared to the previous hunting season, hunter participation increased by 5% and the success rate increased by 36%. Waterfowl hunting data for Bridgeport Bar (1981 – 2016) and for Washburn Island (1981 to 2016), the primary waterfowl hunting units, are summarized in Tables 3 and 4.
### Table 3.

<table>
<thead>
<tr>
<th>Bridgeport Bar (1981 – 2016)</th>
<th>Hunters</th>
<th>Ducks</th>
<th>Ducks \Hunter</th>
<th>Geese</th>
<th>Geese \Hunter</th>
<th>Total</th>
<th>Total Waterfowl \Hunter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>455</td>
<td>801</td>
<td>1.74</td>
<td>61</td>
<td>0.14</td>
<td>862</td>
<td>1.88</td>
</tr>
<tr>
<td>Minimum</td>
<td>227</td>
<td>196</td>
<td>0.67</td>
<td>15</td>
<td>0.04</td>
<td>211</td>
<td>0.72</td>
</tr>
<tr>
<td>Maximum</td>
<td>747</td>
<td>1612</td>
<td>3.02</td>
<td>183</td>
<td>0.40</td>
<td>1684</td>
<td>3.09</td>
</tr>
<tr>
<td>2015</td>
<td>592</td>
<td>1164</td>
<td>1.97</td>
<td>94</td>
<td>0.16</td>
<td>1258</td>
<td>2.13</td>
</tr>
<tr>
<td>2016</td>
<td>581</td>
<td>1642</td>
<td>2.77</td>
<td>72</td>
<td>0.12</td>
<td>1684</td>
<td>2.90</td>
</tr>
</tbody>
</table>

### Table 4.

<table>
<thead>
<tr>
<th>Washburn Island (1981 - 2016)</th>
<th>Hunters</th>
<th>Ducks</th>
<th>Ducks \Hunter</th>
<th>Geese</th>
<th>Geese \Hunter</th>
<th>Total</th>
<th>Total Waterfowl \Hunter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>81</td>
<td>71</td>
<td>0.75</td>
<td>36</td>
<td>0.56</td>
<td>107</td>
<td>1.32</td>
</tr>
<tr>
<td>Minimum</td>
<td>5</td>
<td>0</td>
<td>0.00</td>
<td>11</td>
<td>0.08</td>
<td>15</td>
<td>0.54</td>
</tr>
<tr>
<td>Maximum</td>
<td>207</td>
<td>242</td>
<td>1.99</td>
<td>94</td>
<td>3.00</td>
<td>258</td>
<td>3.00</td>
</tr>
<tr>
<td>2015</td>
<td>83</td>
<td>73</td>
<td>0.88</td>
<td>32</td>
<td>0.39</td>
<td>105</td>
<td>1.27</td>
</tr>
<tr>
<td>2016</td>
<td>67</td>
<td>22</td>
<td>0.33</td>
<td>34</td>
<td>0.51</td>
<td>56</td>
<td>0.84</td>
</tr>
</tbody>
</table>

- **Miscellaneous Game Species**
  - The two month mourning dove season resulted in 126 birds being taken and a total of 98 hunters registering. Compared to the 2015 season, take and numbers of hunters increased 133% and 55% respectively.
  - Unlike last year, no Eurasian collared-doves (*Streptopelia decaocto*) were recorded as being killed during the hunting season. It can be hunted year-round provided one has a valid hunting license.
  - Eastern fox squirrels (*Sciurus niger*), another non-native species, are ubiquitous on the Bridgeport Bar unit. As with the Eurasian collar-dove, this squirrel can be taken year-round with a valid hunting license. 2016 was the second year that hunters have recorded shooting this species. A total of 12 were killed, all by one hunter.

- **Non-Game**
  - Surveyed the Central Ferry Unit for Columbian sharp-tailed grouse (*Tympanuchus phasianellus*) leks. No birds were observed at the traditional lek sites or elsewhere on the unit. Sharp-tailed grouse have not been found using the historic lek sites or winter habitat on this unit for several years.
<table>
<thead>
<tr>
<th></th>
<th>Bridgeport Bar</th>
<th>Washburn Island</th>
<th>West Foster</th>
<th>Central Ferry</th>
<th>Indian Dan</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UPLAND GAME BIRDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunters</td>
<td>349</td>
<td>34</td>
<td>105</td>
<td>34</td>
<td>94</td>
<td>616</td>
</tr>
<tr>
<td>Pheasant</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>California Quail</td>
<td>300</td>
<td>16</td>
<td>55</td>
<td>15</td>
<td>116</td>
<td>502</td>
</tr>
<tr>
<td>Gray Partridge</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Chukar</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total upland game</td>
<td>305</td>
<td>18</td>
<td>64</td>
<td>18</td>
<td>116</td>
<td>521</td>
</tr>
<tr>
<td>Upland game per hunter</td>
<td>0.87</td>
<td>0.53</td>
<td>0.61</td>
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<td>TOTAL NESTS VISITED</td>
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Appendix B

Rare, Threatened, and Endangered Plants Observed on the Wells Reservoir in 2017
Appendix C

Rare, Threatened, and Endangered Plants Observed on the Wells Transmission Line
### Appendix D

#### List of Known Occurrences of Rare Plants in Chelan, Douglas and Okanogan Counties

April 2017

## Chelan County

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<th>Scientific Name</th>
<th>Common Name</th>
<th>State Status</th>
<th>Federal Status</th>
<th>Historical Record</th>
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<td>Agoseris elata</td>
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<td>Alectoria nigricans</td>
<td>witch's hair lichen</td>
<td>T</td>
<td></td>
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<tr>
<td>Anemone patens var. multifida</td>
<td>pasqueflower</td>
<td>T</td>
<td></td>
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<tr>
<td>Astragalus arrectus</td>
<td>Palouse milk-vetch</td>
<td>T</td>
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<td>Astragalus sinuatus</td>
<td>Whited's milk-vetch</td>
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<td>Botrychium hesperium</td>
<td>western moonwort</td>
<td>T</td>
<td></td>
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<tr>
<td>Botrychium paradoxum</td>
<td>two-spiked moonwort</td>
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<td>Carex comosa</td>
<td>bristly sedge</td>
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<tr>
<td>Carex magellanica ssp. irrigua</td>
<td>poor sedge</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carex proposita</td>
<td>Smoky Mountain sedge</td>
<td>T</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chaenactis thompsonii</td>
<td>Thompson's chaenactis</td>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cicuta bulbifera</td>
<td>bulb-bearing water-hemlock</td>
<td>S</td>
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<td></td>
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<tr>
<td>Cryptantha spiculifera</td>
<td>Snake River cryptantha</td>
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<tr>
<td>Cryptogramma stelleri</td>
<td>Steller's rockbrake</td>
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<td></td>
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<tr>
<td>Delphinium viridescens</td>
<td>Wenatchee larkspur</td>
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<td>Dermatocarpum melilophyllum</td>
<td>silverskin lichen</td>
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<td>Diplocus cusickii</td>
<td>Cusick's monkeyflower</td>
<td>T</td>
<td>H</td>
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<tr>
<td>Eremothera pygmaea</td>
<td>dwarf evening-primrose</td>
<td>S</td>
<td>H</td>
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<tr>
<td>Erigeron salishii</td>
<td>Salish fleabane</td>
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<tr>
<td>Eritrichium nanum var. elongatum</td>
<td>pale alpine forget-me-not</td>
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<tr>
<td>Erythranthe suksdorfii</td>
<td>Suksdorf's monkeyflower</td>
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<tr>
<td>Geum rossii var. depressum</td>
<td>Ross' avens</td>
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<td>Githopsis specularioides</td>
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<td>Hackelia cinerea</td>
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<td>S</td>
<td>H</td>
<td></td>
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<tr>
<td>Hackelia hispida var. disjuncta</td>
<td>sagebrush stickseed</td>
<td>S</td>
<td>H</td>
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<tr>
<td>Hackelia taylorii</td>
<td>Taylor's Stickseed</td>
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<td></td>
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</tr>
<tr>
<td>Hackelia venusta</td>
<td>showy stickseed</td>
<td>E</td>
<td>LE</td>
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<tr>
<td>Iliamna longisepala</td>
<td>longsepal globemallow</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Juncus howelli</td>
<td>Howell's rush</td>
<td>T</td>
<td></td>
<td></td>
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<tr>
<td>Kalmia procumbens</td>
<td>alpine azalea</td>
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<td>H</td>
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</table>
Nicotiana attenuata       coyote tobacco       S       H
Ophioglossum pusillum      Adder's-tongue       T
Packera bolanderi var. harfordii Harford's ragwort S       H
Pellaea brachyptera       Sierra cliffbrake     S
Pellaea breweri           Brewer's cliffbrake   S
Peltigera hydrothryia     hydrothryia lichen    S
Petrophytum cinerascens   Chelan rockmat        E
Potentilla glauophylla var. perdissecta diverse-leaved cinquefoil S       H
Rotala ramosior           lowland toothcup       T
Salix pseudomonticola    false mountain willow  S
Salix tweedyi             Tweedy's willow        S
Salix vestita             rock willow            S       H
Saxifraga hyperborea     pygmy saxifrage        S
Saxifragopsis fragarioides strawberry saxifrage T
Schizachyrium scoparium   little bluestem       T
Scouleria marginata      marginate splashzone moss T       H
Sidalcea oregana var. calva  Wenatchee Mountain checker-mallow E       LE
Silene scouleri ssp. scouleri  Scouler's catchfly    S       H
Silene seelyi             Seely's silene        S
Spiranthes diluvialis    Ute ladies' tresses      E       LT
Spiranthes porrifolia    western ladies' tresses  S
Swertia perennis         swertia                     S
Tholurna dissimilis      urn lichen                 S
Trifolium thompsonii     Thompson's clover        T
Umbilicaria phae var. coccinea navel lichen            E

Douglas County

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<td>Erigeron piperianus</td>
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<td>Suksdorf's monkeyflower</td>
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Hackelia cinerea  gray stickseed  S  H
Hackelia hispida var. disjuncta  sagebrush stickseed  S
Iliaamna longisepala  longsepal globemallow  S
Juncus tiehmii  Tiehm's dwarf rush  T
Juncus uncialis  inch-high rush  S
Lathrocasis tenerima  delicate gilia  S
Micromonolepis pusilla  red poverty-weed  T
Nicotiana attenuata  coyote tobacco  S
Ophioglossum pusillum  Adder's-tongue  T
Pediocactus nigrispinus  snowball cactus  S
Petrophytum cinerascens  Chelan rockmat  E
Phacelia lenta  sticky phacelia  T
Phacelia tetramera  dwarf phacelia  S
Sandbergia perplexa  puzzling rockcress  T
Schizachyrium scoparium var. scoparium  little bluestem  T
Silene scouleri ssp. scouleri  Scouler's catchfly  S  H
Sisyrinchium montanum var. montanum  strict blue-eyed-grass  T
Thelypodium sagittatum ssp. sagittatum  arrow thelypody  S  H
Trifolium thompsonii  Thompson's clover  T
Umbilicaria phaea var. coccinea  navel lichen  E

Okanogan County

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<td>Carex media</td>
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Carex proposita                                      Smoky Mountain sedge                                      T
Carex scirpoidea ssp. scirpoidea                   Canadian single-spike sedge                                 S
Carex sychnocephala                                 many-headed sedge                                           S
Carex tenera var. tenera                           quill sedge                                                  T
Carex tenuiflora                                    sparse-flowered sedge                                       T
Carex vallicola                                     valley sedge                                                S
Chaenotheca subroscida                              needle lichen                                               S
Chrysosplenium tetrandrum                           northern golden-carpet                                      S
Coeloglossum viride var. virescens                   long-bract frog orchid                                      T
Comastoma tenellum                                  slender gentian                                              S
Cryptantha spiculifera                               Snake River cryptantha                                      S
Cryptogramma stelleri                               Steller's rockbrake                                         S
Cyripedium parviflorum                              yellow lady's-slipper                                       T
Dactylina arctica                                   arctic dactylina lichen                                     E
Dactylina ramulosa                                  dactylina lichen                                            E
Draba aurea                                         golden draba                                               S
Draba cana                                          lance-leaved draba                                          S
Eleocharis rostellata                               beaked spike-rush                                           S
Erigeron elatus                                     tall bitter fleabane                                       E
Erigeron piperianus                                  Piper's daisy                                               S
Erigeron salishii                                   Salish fleabane                                             S
Eriophorum viridicarinatum                          green-keeled cotton-grass                                   S
Eririchium nanum var. elongatum                     pale alpine forget-me-not                                  S
Erythranthe patula                                  stalk-leaved monkeyflower                                  T
Erythranthe pulsiferae                              Pulsifer's monkeyflower                                     S
Erythranthe suksdorfi                               Suksdorfi's monkeyflower                                   S
Erythranthe washingtonensis                         Washington monkeyflower                                     X
Eurybia merita                                      Arctic aster                                                T
Gentiana glauca                                     glaucous gentian                                            S
Geum rivale                                         water avens                                                S
Githopsis specularioides                            common bluecup                                              S
Lathrocasis tenerrima                                delicate gilia                                              S
Lomatium sandbergii                                 Sandberg's desert-parsley                                   T
Luzula arcuata ssp. unalaschensis                   curved woodrush                                             S
Monolepis spathulata                                 prostrate poverty-weed                                      S
Oxytropis campestris var. columbiana                 Columbia crazyweed                                         E
Oxytropis campestris var. gracilis                  slender crazyweed                                           S
Packera bolanderi var. harfordii                    Harford's ragwort                                            S
Packera porteri                                     Porter's butterweed                                         S
Parnassia kotzebuei                                 Kotzebuei's grass-of-parnassus                              T
Penstemon wilcoxi                                    Wilcox's penstemon                                          S
Platanthera obtusata ssp. obtusata                   small northern bog-orchid                                   S
Polemonium viscosum                                 skunk polemonium                                            S
Potamogeton obtusifolius  blunt-leaf pondweed  S
Potentilla glaucophylla var. perdissecta  diverse-leaved cinquefoil  S
Potentilla nivea  snow cinquefoil  S
Rubus arcticus ssp. acaulis  nagoonberry  T
Salix glauca var. villosa  glaucous willow  S
Salix maccalliana  Maccall's willow  S
Salix tweedyi  Tweedy's willow  S
Sanicula marilandica  black snake-root  S
Saxifraga cernua  nodding saxifrage  S
Saxifraga hyperborea  pygmy saxifrage  S
Silene scouleri ssp. scouleri  Scouler's catchfly  S  H
Sisyrinchium septentrionale  northern blue-eyed grass  S
Spiranthes diluvialis  Ute ladies' tresses  E  LT
Spiranthes porrifolia  western ladies' tresses  S
Thelypodium sagittatum ssp. sagittatum  arrow thelypody  S  H
Tholurna dissimilis  urn lichen  S
Vaccinium myrtilloides  velvet-leaved blueberry  S

**Description of Codes**

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

**State Status**
State Status of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness. Values include:
E = Endangered. In danger of becoming extinct or extirpated from Washington.
T = Threatened. Likely to become Endangered in Washington.
S = Sensitive. Vulnerable or declining and could become Endangered or Threatened in the state. X = Possibly extinct or Extirpated from Washington.
R1 = Review group 1. Of potential concern but needs more field work to assign another rank.
R2 = Review group 2. Of potential concern but with unresolved taxonomic questions.

**Federal Status**
Federal Status under the U.S. Endangered Species Act (USESA) as published in the Federal Register:
LE = Listed Endangered. In danger of extinction.
LT = Listed Threatened. Likely to become endangered.
PE = Proposed Endangered.
PT = Proposed Threatened.
C = Candidate species. Sufficient information exists to support listing as Endangered or Threatened.
SC = Species of Concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.
Appendix E

2017 Wells Reservoir Raptor Perch Pole Inspection Map
Appendix F

2017 Wells Reservoir Trees Protected From Beaver Damage Map
Appendix G. Memo from John Brown

MEMORANDUM

TO: Jason Schilling
C: Ken Pflueger
    Shane Bickford
FROM: John Brown
DATE: October 4, 2017
SUBJECT: Wells Project; Land Services Department; License Compliance; Sections 4.2, 4.4, 4.5 and 4.6; Wells Wildlife and Botanical Management Plan

Upon your request, the Land Services Department has reviewed the Wells Wildlife and Botanical Management Plan (Plan) and more specifically Sections 4.2, 4.4, 4.5 and 4.6 of the Plan to confirm what responsibilities the Land Services Department has within those sections and continued adherence to these sections of the Plan.

Upon review of the Plan and in discussing the Plan with Department personnel, I find that adherence to applicable activities in these sections of the plan have occurred in 2017 and will continue to occur. To that end, the Land Services Department has undertaken the following activities:

1. No class A weeds are present on the project and all class B weeds on project lands were either sprayed or had biological controls in place and/or released for their management.
2. Bi-monthly reservoir inspections by watercraft.
3. Existing fencing around the Cassimere Bar Wildlife Area has been maintained and repaired to inhibit livestock incursions.
4. All RTE buffer areas were inspected for classified weeds and none were found.
Appendix H

Class B Noxious Weeds Found on the Wells Reservoir in 2017
Appendix I

Consultation with Agencies and Colville Confederated Tribes
Terrestrial Resource Work Group Meeting Minutes

May 21, 2018
Updates for 2018

Sharp-tailed Grouse: BLM has granted WDFW money to restore shrub-step habitat in Indian Dan Canyon.

Dan and I have discussed this previously. The Off-License Settlement Agreement encourages the District to apply for grants to this end. Erik Ellis is funneling money to WDFW for restoration related to the Carlton Complex Fire. Dan requested help from the District with planting plugs and spreading seed in the fall of 2018.

Dan mentioned the possibility of applying for RCO money, but wasn’t sure if the District could apply for it or not.

Cassimer Bar Dikes: Permits have been procured (finally). Dikes will be replaced and tide gates will be removed in the Fall of 2018.

They were curious about how we were able to get BPA to act so fast for permits.

Baseline Bat Inventory: Dan asked why the District did not survey for bats in 2017, despite the Wildlife and Botanical Management Plan indicating that the District would do so.

Starting this summer the District will determine species presence and distribution on Wells Project lands.
# Wells Hydroelectric Project
## Terrestrial Resource Work Group

**DATE:** 21 May 2018  
**LOCATION:** Wells Headquarters Building, East Wenatchee, WA  

<table>
<thead>
<tr>
<th>NAME</th>
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</tbody>
</table>
Email to U.S. Fish and Wildlife Service and Bureau of Land Management Regarding Comments on the 2017 Annual Wildlife and Botanical Report and 2018 Work Plan
Hi Erik and Stephen,

I wanted to check in and see if you had any comments or questions about this year’s annual report and 2018 work plan before I submit it to FERC.

Have a good weekend.

Jason Schilling  
Natural Resources Biologist  
Public Utility District No. 1 of Douglas County  
1151 Valley Mall Parkway  
East Wenatchee, WA, 98802-4497  
Main  509-884-7191  
Direct 509-881-2248  
Cell  509-670-9004  
www.douglaspud.org
No Comments from U.S. Fish and Wildlife Service on the 2017 Annual Wildlife and Botanical Report and 2018 Work Plan
No significant comments at this time.

S-

On Fri, May 25, 2018 at 8:37 AM, Jason Schilling <jason.schilling@dcpud.org> wrote:

Hi Erik and Stephen,

I wanted to check in and see if you had any comments or questions about this year’s annual report and 2018 work plan before I submit it to FERC.

Have a good weekend.

Jason Schilling

Natural Resources Biologist

Public Utility District No. 1 of Douglas County

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