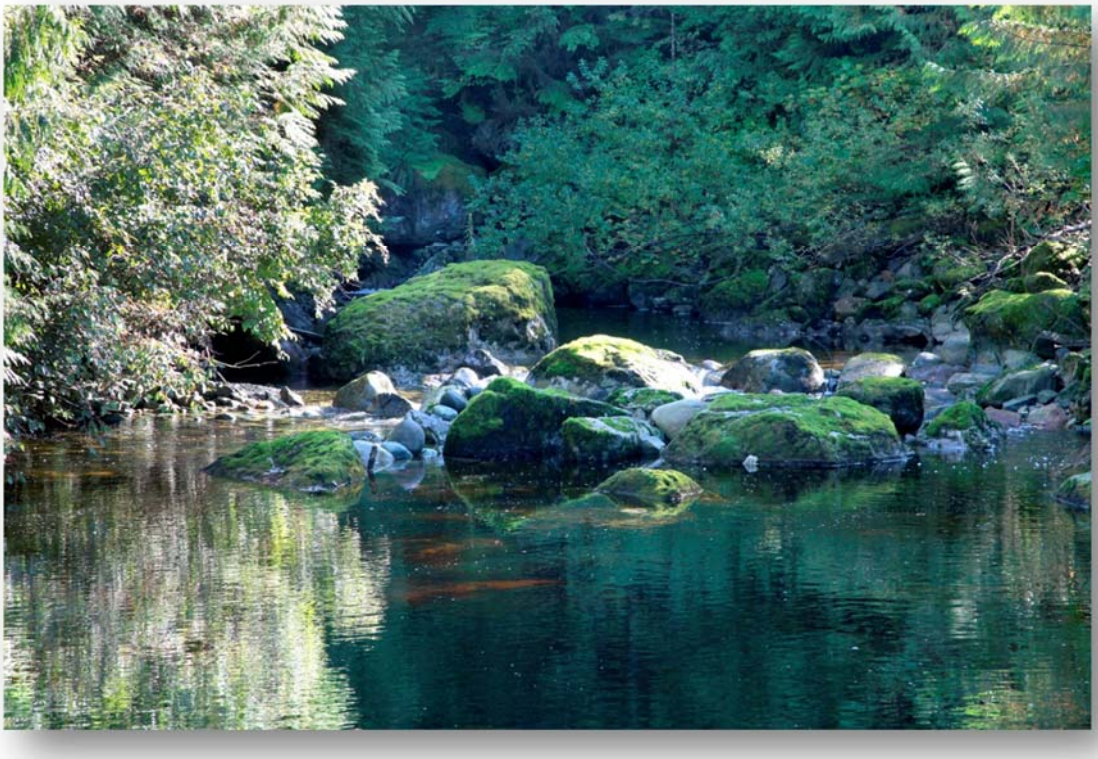
Youngs Creek Hydroelectric Project
FERC No. 10359



WILDLIFE HABITAT MITIGATION PLAN
License Article 403

2018 ANNUAL REPORT

Prepared By:

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Everett, WA

December 2018

Final – This document has been prepared for the District. It has been peer-reviewed by the District for accuracy and formatting based on information known at the time of its preparation and with that understanding is considered complete by the District. The document may be cited as:

Public Utility District No. 1 of Snohomish County (District). 2018. Wildlife Habitat Mitigation Plan (License Article 403) Annual Report for the Youngs Creek Hydroelectric Project (FERC No. 10359). December 2018.

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LIST OF ACRONYMS AND ABBREVIATIONS

CAPA	Critical Area Protection Area
FERC	Federal Energy Regulatory Commission
Project	Youngs Creek Hydroelectric Project, FERC No. 10359
ROW	right-of-way
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WHMP	Wildlife Habitat Mitigation Plan

1. INTRODUCTION

A license was issued by the Federal Energy Regulatory Commission (FERC) on May 5, 1992 for the Youngs Creek Hydroelectric Project (Project) located south of Sultan, Washington. As part of the Order Issuing License, Article 403 directed that a final wildlife habitat mitigation plan be prepared. In 2011, Public Utility District No. 1 of Snohomish County (the District), current owner and operator of the Project, filed for an amendment to the 1992 Wildlife Habitat Mitigation Plan (WHMP). The amendment was approved by the FERC on September 8, 2011.[1]

The WHMP identifies the elements of habitat protection, revegetation, and enhancement of Project lands and addresses ongoing monitoring and reporting. The District is to provide a written report to the FERC every five years,[2] and a written summary report to the Washington Department of Fish and Wildlife (WDFW) and the U.S. Fish and Wildlife Service (USFWS) annually. These agencies were provided a copy of the draft report on November 21, 2018, for a 30-day review and comment period (Appendix B). WDFW submitted comments on the draft report; the District's response is in Appendix C.

This WHMP Annual Report details activities that were conducted from December 2017 through November 2018.

[1] (136 FERC ¶ 62,206).
[2] The next 5-year report will be filed with FERC by December 31, 2022.

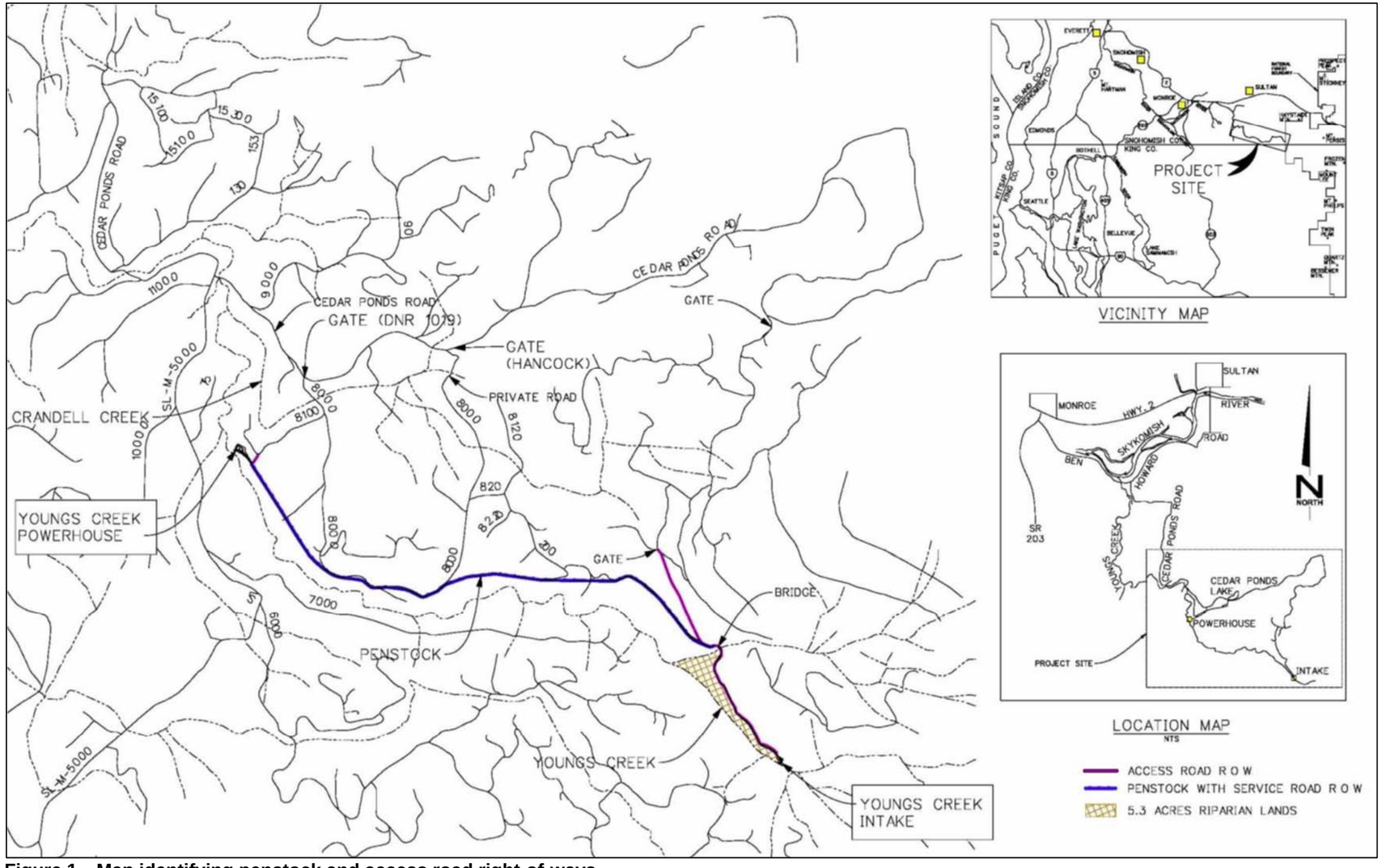

Figure 1. Map identifying penstock and access road right-of-ways.

2. VEGETATION MANAGEMENT AND MONITORING

As specified in the WHMP Section 3.0 (g) and (h), all mitigation areas were monitored during 2018 to ensure the objectives of the WHMP are being met. Monitoring of Project lands consisted of periodic checks on vegetative conditions and documentation or treatment of occurrences of noxious or invasive species. Revegetated and reseeded areas will continue to be monitored annually for the duration of the License. Coverage of shrubs and grasses will also be visually evaluated on an annual basis. If surveys indicate that coverage by bare ground is estimated to be more than 20 percent, reseeding will occur with the appropriate erosion control seed mix, as noted in the WHMP. Noxious weeds will be controlled during the growing season, as necessary. Monitoring of riparian and upland forest mitigation areas will consist of periodic checks of overstory vegetation.

2.1. Penstock Right-of-Way Revegetation

Following completion of Project construction activities, the penstock right-of-way (ROW) (Figure 1) was seeded in the fall of 2011 and reseeded, where necessary, in the spring of 2012. Vegetation continues to meet coverage requirements and no construction activities occurred during 2018 that precipitated the need to re-seed any portion of the ROW.

2.1.1 Line of Sight Reduction/Establishment of Hiding Cover

Growth of native vegetation will continue to be allowed along the penstock ROW to the extent practical without impeding visual monitoring of pipeline integrity. Trees will be allowed to grow in the outer 10 feet on either side of the ROW. To date, native shrubs have begun to re-establish in a few locations along the ROW margins. Efforts to break up the line of sight and increase hiding cover for wildlife utilizing the ROW will be performed in conjunction with other activities; i.e. when heavy equipment is brought to the site for other work, boulders and/or woody debris may be placed as needed to break up the line of sight.

2.1.2 Noxious Weed Management

Pursuant to WHMP Section 3.0(a), a Noxious Weed Management Plan was developed for the Project in 2013. Accordingly, noxious and invasive weed control was performed over twelve days during the 2018 growing season. Methods of control consisted of manual removal of Scotch broom and Butterfly bush, and use of a non-selective, post-emergent Organic Materials Review Institute (OMRI) listed herbicide for all other weeds. All treatments were made by a state-licensed contract herbicide applicator. The primary weeds controlled were Bull and Canada thistle, Oxeye Daisy, Scotch broom, Butterfly Bush, and Herb Robert.

Monitoring of weed populations on Project lands was conducted by District biologists with locations of weed infestations noted and treatment measures implemented. Spatial information was partitioned into three types of symbols: points (discrete locations along the ROW and spur roads), intermittent lines (weeds commonly intermixed with native ROW vegetation), and polygons (weeds intermixed with native vegetation confined to specific areas beyond the ROW boundary) (Figures 2 and 3). Road and penstock ROWs were patrolled multiple times during the growing season to identify areas where weed control was required.

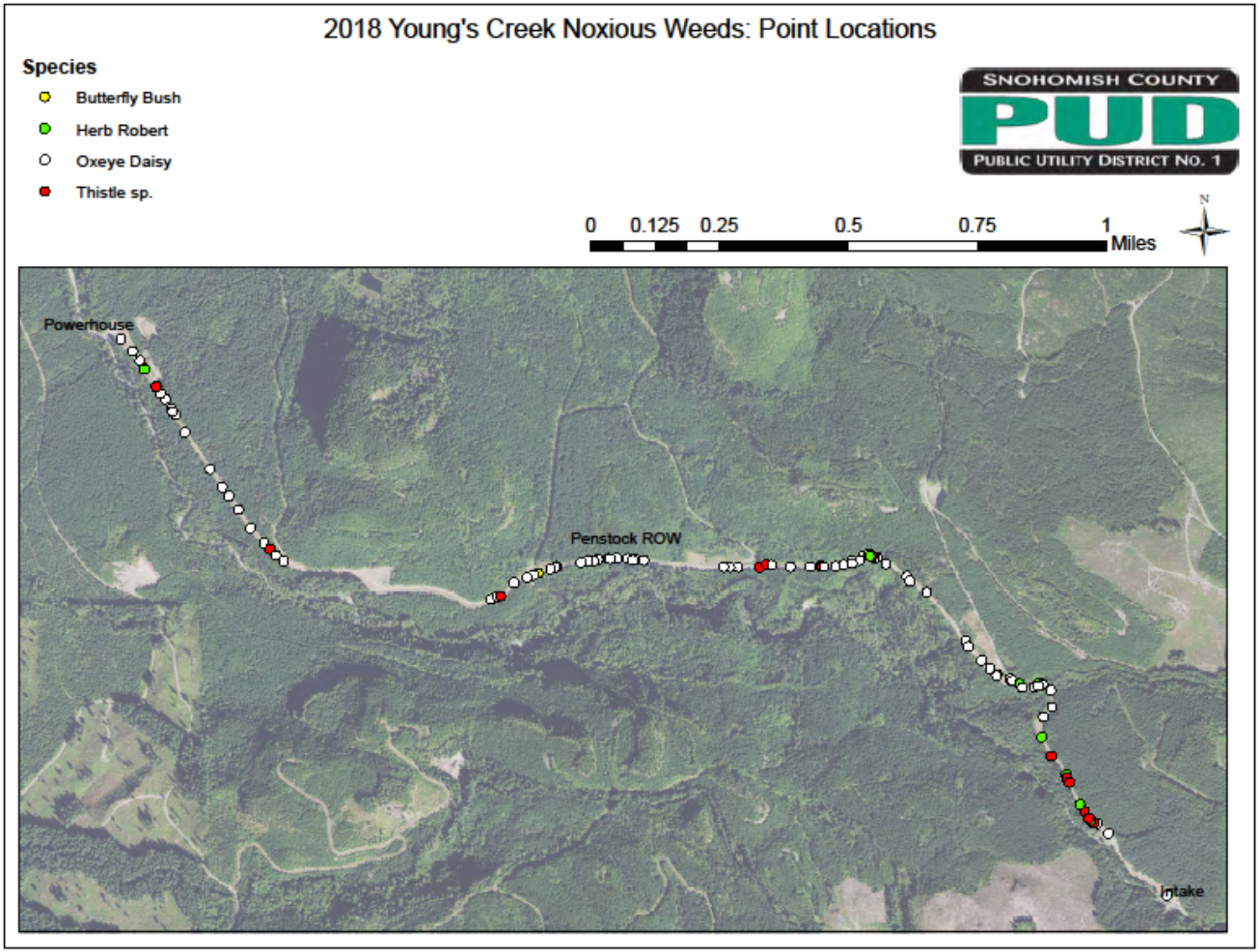

Figure 2. Map identifying discrete noxious weed locations.

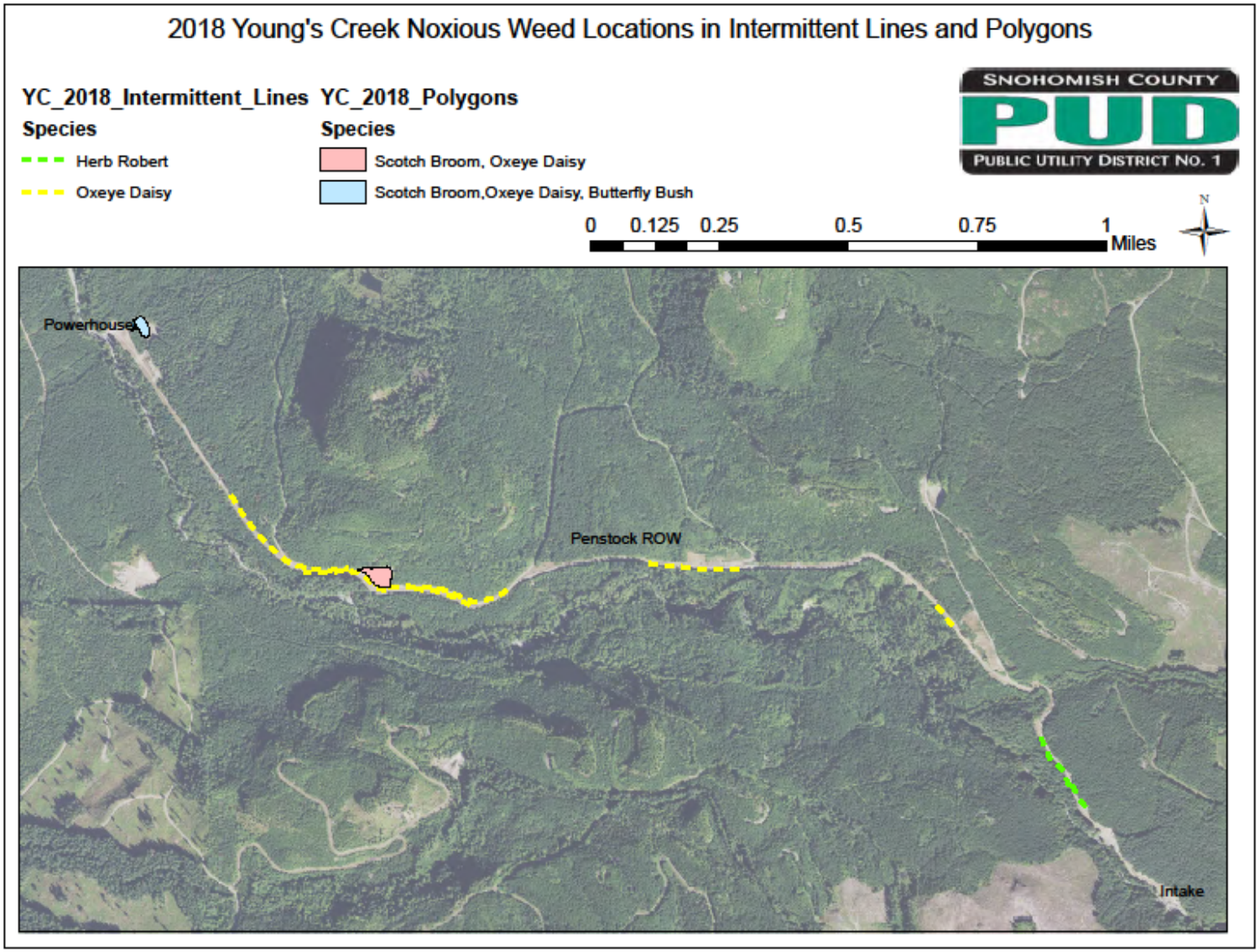

Figure 3. Map identifying noxious weed infestations in intermittent lines and polygons.

2.2. Access Road ROW Revegetation

The ROW along the Project access roads (Figure 1) have been revegetated with the grass/forb mix noted in the WHMP. The former laydown areas have been planted with Douglas-fir seedlings. In the 2017 field meeting between the District and WDFW, it was noted that trees planted in former laydown areas have been slow to grow.

3. GATES

As required under WHMP Section 3.0(c), gates restricting access to the powerhouse and intake areas have been installed (Figure 1). Access has been provided to the District and its contractors for normal Project maintenance and to surrounding landowners for forest management activities.

4. AVIAN NESTING AND PERCHING HABITAT

4.1. Nest Boxes

Prior to and following the nesting season, nest boxes were maintained by removing any debris and/or old nesting material from within the cavity of the boxes. Since the female gathers nesting materials in preparation for egg-laying, boxes are not provided with any supplemental nesting materials in advance of the nesting season. Nests were checked by the District biologist as required by the WHMP schedule (Appendix A). Tree swallows nested in three of the pole-mounted nest boxes, and began nest construction in two additional boxes. One box has received use six years in a row and seven boxes have been used two or more years overall (Figure 4). To avoid excessive disturbance, eggs and chicks discovered in the nests were not moved during the counting process; as a result, numbers of eggs or fledglings are only estimates. In 2018, nest box surveys yielded a fledgling estimate of 14 tree swallows from 3 boxes. Monitoring associated with other nest box programs suggests that the installation of additional boxes should not be considered until a threshold of 50 to 80 percent successful usage is attained (Bellrose & Holm, 1994). No additional box installations are planned at this point.

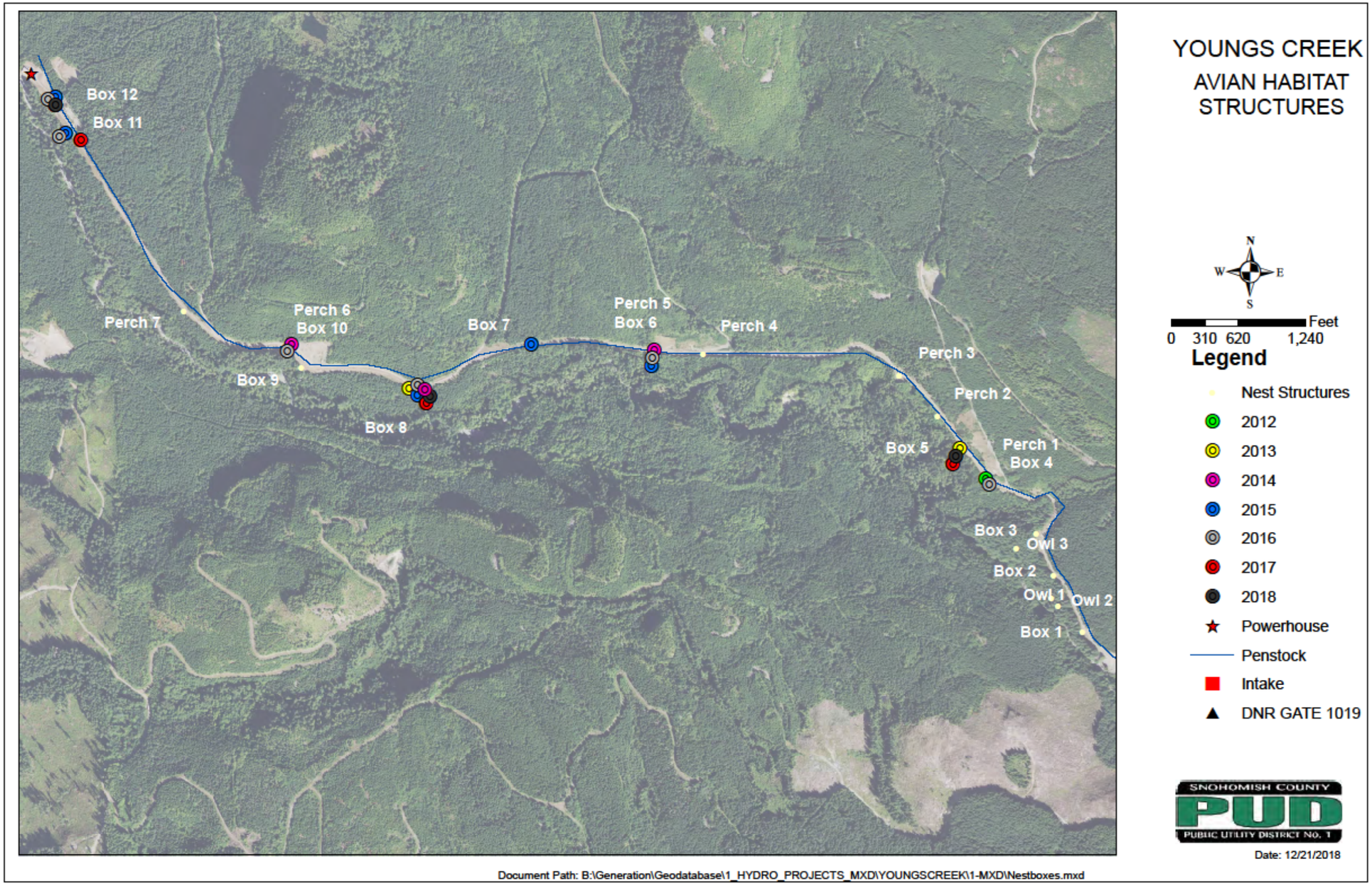

Figure 4. Map showing locations of nest boxes and perch poles.

4.2. Raptor Perch Poles

Seven raptor perch poles were erected on the penstock ROW in late 2011, based on field consultation between WDFW and District biologists. Perch poles were monitored concurrent with monitoring of nest boxes. During site visits in 2018, the immediate vicinity of each perch pole was inspected for signs of raptor use, including whitewash or owl pellets. No use of the perch poles was documented in 2018.

4.3. Owl Nest Boxes

Following field visits with WDFW staff reviewing management activities, three owl boxes were placed in the 5.3-acre forested mitigation parcel. Target species were Northern saw-whet (*Aegolius acadicus*) and western screech (*Megascops kennicottii*) owls. Each box was placed between 10 and 15 feet above the ground on dominant trees within the densest areas of the forest. Two of the boxes were used by squirrels, with cedar bark shavings and moss added to the wood chips provided at the beginning of the nesting season.

5. MITIGATION LANDS

As required under WHMP Section 3.0(e), 5.3 acres of mitigation lands were put into Critical Area Protection Area (CAPA) status in fall 2009 (Figure 1).[3] Visual observations of the overstory were conducted concurrent with nest box and raptor perch pole checks. The site consists of mature second growth forest, approximately 70 years old, on a steep hillside above Youngs Creek. Tree diameter ranges between approximately 13 inches and 25 inches. Snags and coarse woody debris are present within the site. Understory exists primarily as sword fern and local patches of Devil's club. At this point, habitat is of good quality with natural conditions allowing for development into mature forests.

6. LITERATURE CITED

Bellrose, F.C. and D.J. Holm (eds.) 1994. Ecology and Management of the Wood Duck. Stackpole Books, Mechanicsburg, PA. 588p.

[3] The 5.3 acres are recorded as CAPA under Snohomish County number 200910160192. The Snohomish County Assessor's property tax parcel/account number is 27083300100200 for this land.

APPENDIX A

Nest Box Monitoring Results

2018 Nest Box Details			
Box #	**Style**	**Location**	**2018 Monitoring Results**
Box 1	Audubon	Tree Mount in CAPA	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 2	Bluebird Trailbox	Tree Mount in CAPA	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 3	Audubon	Tree Mount in CAPA	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 4	Woodlink	Co-mounted on perch pole	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 5	Bluebird Trailbox	Solo mounted on pole	4/30/2018: No use 5/22/2018: Adult on nest 6/8/2018: 6 eggs amongst feathers. 8/9/2018: Nest with feathers (fledged) **Result: Successful tree swallow nest.**
Box 6	Bluebird Trailbox	Co-mounted on perch pole	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 7	Audubon	Solo mounted on pole	4/30/2018: No use 5/22/2018: Partial nest built 6/8/2018: Partial nest built 8/9/2018: Partial nest built **Result: Partial nest built.**
Box 8	Coveside Slant front	Solo mounted on pole	4/30/2018: No use 5/22/2018: Partial nest built 6/8/2018: Female on nest 8/9/2018: Feathers (fledged) **Result: Successful tree swallow nest.**

Box 9	Woodlink	Mounted on mature riparian tree	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 10	Woodlink	Co-mounted on perch pole	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: No use
Box 11	Coveside Slant front	Solo mounted on pole	4/30/2018: No use 5/22/2018: No use 6/8/2018: No use 8/9/2018: Partial nest built **Result: Partial nest built.**
Box 12	Coveside Slant front	Solo mounted on pole	4/30/2018: No use 5/22/2018: Adult on nest 6/8/2018: 6 eggs amongst feathers 8/9/2018: Feathers/droppings (fledged) **Result: Successful tree swallow nest.**
Owl Box 1	Coveside Slant front	Forested mitigation parcel	3/23/2018: Install 12/13/2018: Squirrel Nest. No use
Owl Box 2	Coveside Slant front	Forested mitigation parcel	3/23/2018: Install 12/13/2018: No use
Owl Box 3	Coveside Slant front	Forested mitigation parcel	3/23/2018: Install 12/13/2018: Squirrel nest. No use

APPENDIX B

Consultation Documentation Regarding Draft Report

Presler, Dawn

From: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>
Sent: Friday, December 21, 2018 2:26 PM
To: McDonnell, Andrew; 'Tim_Romanski@fws.gov'
Cc: Schutt, Mike; Binkley, Keith; Spahr, Jessica; Presler, Dawn; Milner, Ruth L (DFW)
Subject: RE: WDFW Comments for the Youngs Creek (FERC No. 10359) - WHMP Draft Annual Report

Hi Andrew, WDFW has reviewed the annual report and appreciates your creation of the draft annual report for the Wildlife Habitat Management Plan (WHMP). Snohomish County Public Utility District No. 1 (SnoPUD) has done a great job with their fledging of 14 tree swallows this last season and the addition of owl boxes to their nest box program. WDFW looks forward to a site visit to the new boxes that SnoPUD created for owls.

In the 2.2 Access Road ROW Revegetation Section, SnoPUD noted the slow growth of planted Douglas-fir in the laydown area during a 2017 site visit. WDFW requests an update on the planted Douglas-fir, by the addition of a stocking (trees/acre), average height, and average age of these trees in the annual report. Have the trees grown slowly due to soil conditions? We forgot to drive by this area last year during our site visit.

Thank you, WDFW does appreciate the wildlife habitat work you have accomplished at the Youngs Creek Hydroelectric Project.

Happy Holidays, Brock

Brock Applegate
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La Conner, WA 98257-9612

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(360) 789-0578 (cell)
(360) 466-0515 (fax)

From: McDonnell, Andrew <AWMcdonnell@SNOPUD.com>
Sent: Wednesday, November 21, 2018 12:31 PM
To: Applegate, Brock A (DFW) <Brock.Applegate@dfw.wa.gov>; 'Tim_Romanski@fws.gov' <Tim_Romanski@fws.gov>
Cc: Schutt, Mike <MSSchutt@snopud.com>; Binkley, Keith <KMBinkley@SNOPUD.com>; Spahr, Jessica <JLSpahr@SNOPUD.com>; Presler, Dawn <DJPresler@SNOPUD.com>
Subject: Youngs Creek (FERC No. 10359) - WHMP Draft Annual Report

Hi Brock and Tim,

Attached for your review is the Wildlife Habitat Mitigation Plan Draft Annual Report for the Youngs Creek Project. This report summarizes data collected during 2018. Please review and let us know if you have any comments by Friday, December 21, 2018. We will respond to any comments and finalize the report after that date.

Thank you,

Andrew

Andrew McDonnell
Sr. Environmental Coordinator
Generation – Natural Resources
Snohomish PUD #1
Everett, WA 98206

APPENDIX C

Response to Comments Regarding Draft Report

No.	Stakeholder Comments	District Response
B. Applegate, WDFW, email dated 12/21/2018		
1	WDFW has reviewed the annual report and appreciates your creation of the draft annual report for the Wildlife Habitat Management Plan (WHMP). Snohomish County Public Utility District No. 1 (SnoPUD) has done a great job with their fledging of 14 tree swallows this last season and the addition of owl boxes to their nest box program. WDFW looks forward to a site visit to the new boxes that SnoPUD created for owls.	Thank you. We will schedule a site visit with WDFW for 2019.
2	In the 2.2 Access Road ROW Revegetation Section, SnoPUD noted the slow growth of planted Douglas-fir in the laydown area during a 2017 site visit. WDFW requests an update on the planted Douglas-fir, by the addition of a stocking (trees/acre), average height, and average age of these trees in the annual report. Have the trees grown slowly due to soil conditions?	The District will estimate density, height, and age in the spring of 2019. While Douglas-fir trees tolerate a wide variety of soil conditions, they do best in deep, moist, sandy loams, while they do poorest on gravelly soils. Soils in the vicinity of the Project are of the Tokul series consisting of gravelly medial loam.