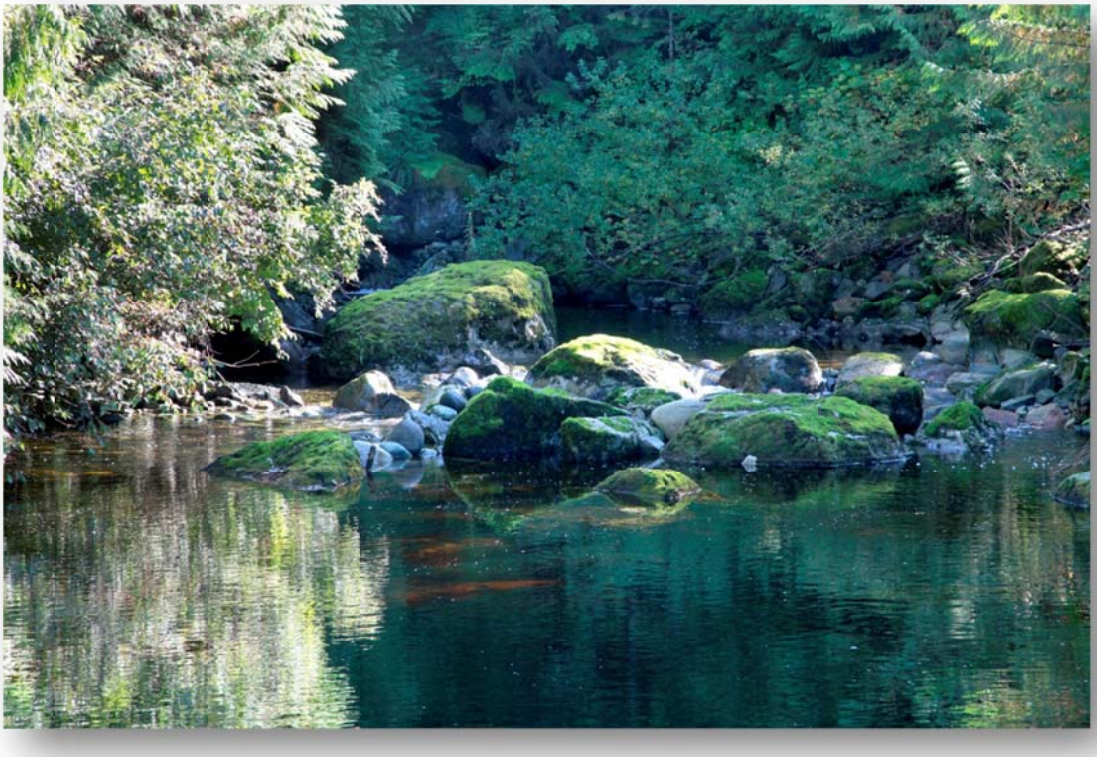
Youngs Creek Hydroelectric Project
FERC No. P-10359



WILDLIFE HABITAT MITIGATION PLAN
License Article 403

ANNUAL REPORT 2012

Prepared By:

SNOHOMISH COUNTY PUD
PUBLIC UTILITY DISTRICT NO. 1

Everett, WA

January 2013

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1.0. INTRODUCTION

A license was issued by the Federal Energy Regulatory Commission (FERC) on 5 May 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, the Public Utility District No. 1 of Snohomish County (District), current owner of the Project, filed for an amendment to the 1992 Wildlife Habitat Mitigation Plan (WHMP or Plan). The amendment was approved by the FERC on 8 September 2011.[1]

The WHMP identifies the elements of habitat protection, revegetation, and enhancements of Project lands (see Figure 1). Also included in the WHMP is ongoing monitoring and reporting. The District is to provide a written report to the FERC every five years and a written summary report to the Washington Department of Fish and Wildlife (WDFW) and the U.S. Fish and Wildlife Service (USFWS) annually. This WHMP Annual Report details activities that were conducted from October 2011 (start of Project operation) through November 2012. Consultation with the agencies on the draft report is included in Appendix 1.

[1] (136 FERC ¶ 62,206).

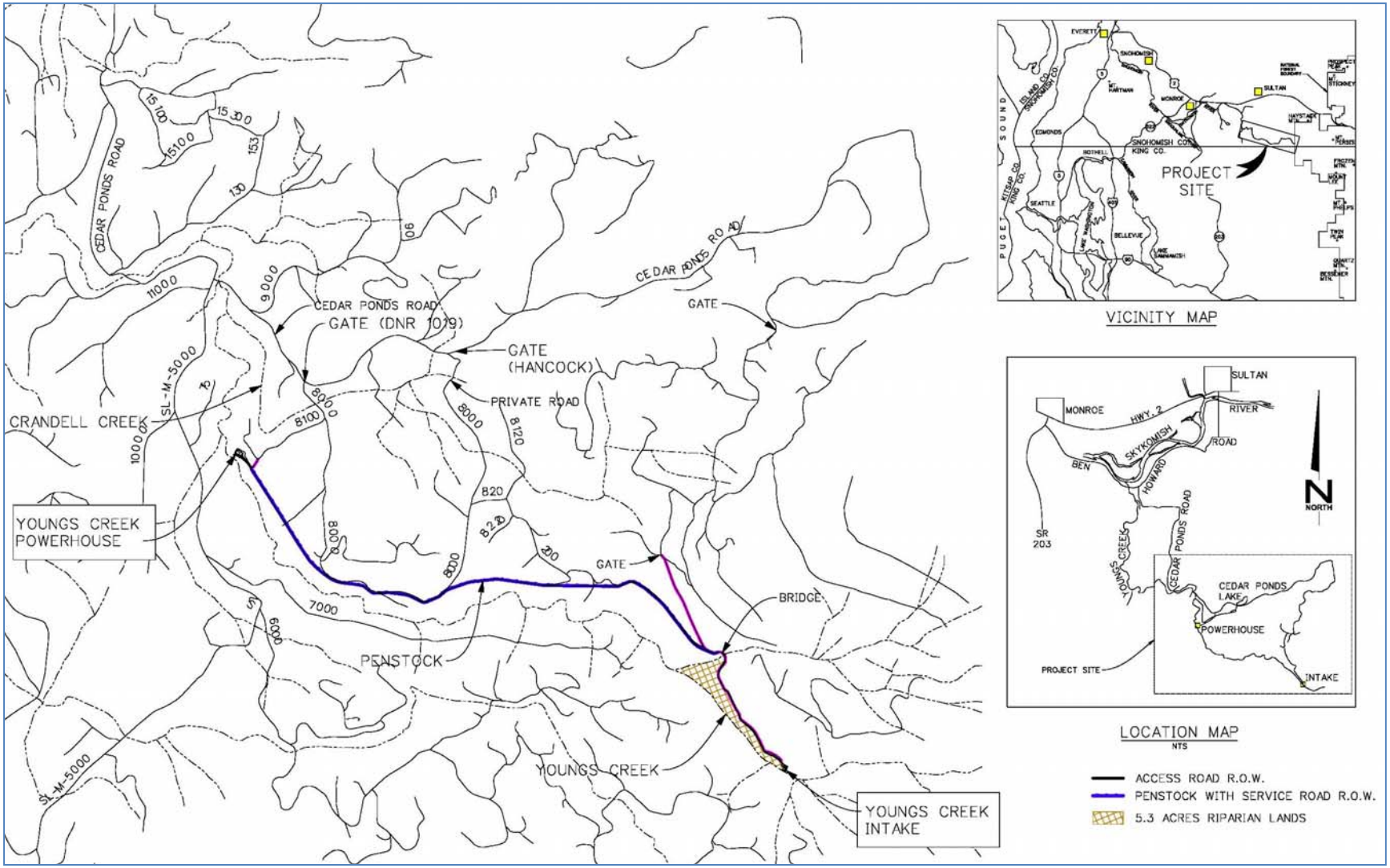

Figure 1. Map identifying penstock and access road right-of-ways.

2.0. MITIGATION LANDS

The area purchased for riparian and upland forest mitigation consists of 5.3 acres bounded by the penstock, Youngs Creek, the intake structure and a side tributary entering Youngs Creek from the north (see Figure 2). These acres are adjacent to, but outside of, the existing riparian management zone along Youngs Creek. The 5.3 acres were put into Critical Area Protection Area (CAPA) status in fall 2009.[2] No intervention is deemed necessary at this time.

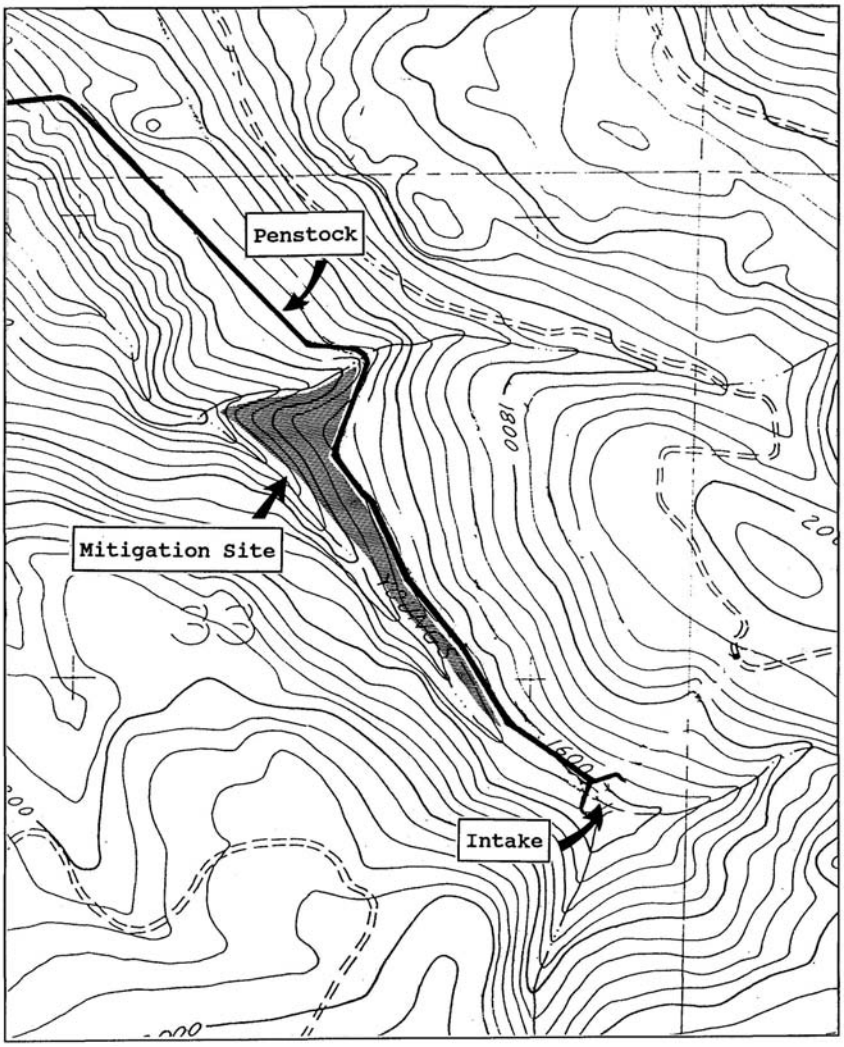

Figure 2. Location of lands wildlife mitigation lands purchased.

[2] 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.

3.0. GATES

As required by the WHMP, gates restricting access to the powerhouse and intake areas have been installed as planned. Access has been provided only to the District and surrounding landowners for normal Project maintenance and forest management activities.

4.0. REVEGETATION

Reseeding of areas disturbed during construction was completed during early fall 2011, following completion of Project construction. All mitigation areas were monitored to ensure the objectives of the WHMP are being met. Monitoring consists of periodic checks on vegetative conditions and occurrence of noxious or invasive species. Revegetated and reseeded areas will be checked annually for the duration of the License. Coverage of shrubs and grasses will be visually evaluated. If the estimation of coverage by bare ground is more than 20 percent, reseeding will occur with the appropriate erosion control seed mix from Tables 1 or 2. Noxious weeds will be controlled during the growing season, as needed.

4.1. Penstock Right-Of-Way Revegetation

All portions of the penstock right-of-way (ROW) outside of the access road ROW (11.6 acres) were reseeded in fall 2011, following completion of construction (see Figure 3). The seed mixes shown in Tables 1 and 2 were applied, as appropriate. The entire penstock alignment was over-seeded again in fall 2012 as an added measure to ensure adequate coverage of desirable grasses and forbs and to out-compete noxious weed seeds.

The seed mix listed in Table 1 utilizes lower-growing grasses and forbs in an effort to produce adequate ground cover for erosion control while providing habitat for small mammals and reducing maintenance costs by out-competing native trees and deep-rooted vegetation that would have to be mowed or otherwise controlled, on a regular basis. This table may be updated by the District based on changes in recommended management techniques for the given area and habitat; recommendations by WDFW, USFWS, Snohomish County, or other agencies with jurisdiction, or based on research.

Table 2 lists a seed mix that was developed by the U.S. Forest Service to use in revegetating abandoned roads, and is required for use by Snohomish County per the Project's Critical Area Study. This mix is intended to be more short-lived, thus providing forage and protection from erosion while allowing native vegetation to seed in. This seed mix was used in areas where native vegetation, including trees, will be allowed to grow, primarily within the outer 10 feet along either side of the ROW and in critical areas identified in the Critical Area Study. This table may be updated based on changes in recommended management techniques for the given area and habitat; recommendations by WDFW, USFWS, Snohomish County, or other agencies with jurisdiction, or based on research.

Table 1. Erosion Control Seed Mix – long term maintenance areas/no deep rooted vegetation allowed.

Seed variety	% by weight
Annual Ryegrass	25%
Perennial Ryegrass	25%
Creeping Red Fescue	20%
White Clover	15%
Chewings Fescue	15%
TOTAL	100%
*Apply at a rate of 100 lbs/acre	*Must be certified as "free of noxious weeds"

Table 2. Erosion Control Seed Mix – natural revegetation/deep-rooted vegetation allowed.

Seed variety	% by weight
Soft white winter wheat	53%
Slender wheatgrass	21%
Annual Ryegrass	21%
Austrian winter peas	5%
TOTAL	100%
*Apply at a rate of 95 lbs/acre	*Must be certified as "free of noxious weeds"

Shallow-rooted native or locally adapted (non-invasive) shrubs and forbs will be allowed to naturally repopulate the penstock ROW, except within the approximately 12-foot wide area maintained as service road. The outer 10 feet on either side of the 50-foot permanent ROW are being allowed to revegetate with native trees and shrubs, except where the location of the service road precludes vegetative growth (see Figure 3).

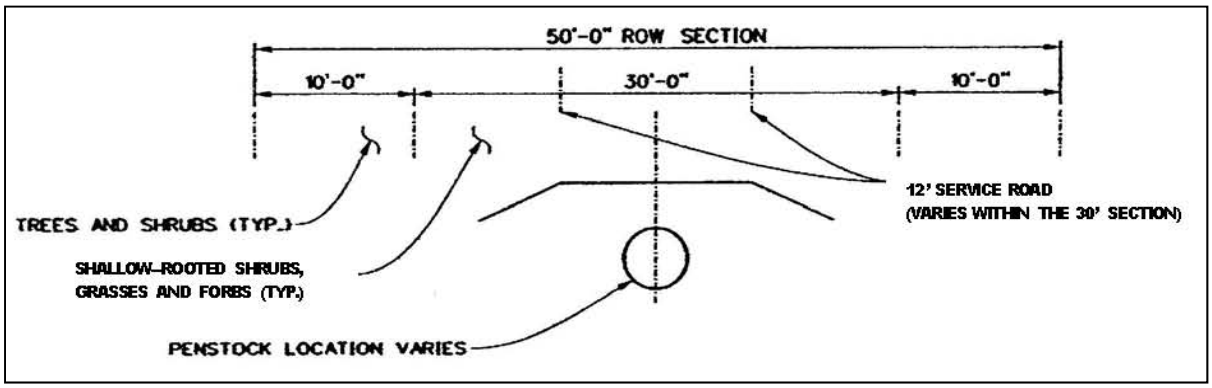

Figure 3. Typical cross section of penstock ROW with service road, per FERC-approved construction drawing YCH-1116.

Along the penstock ROW, piles of woody debris and/or rocks will be placed, or clumps of shrubs will be planted or allowed to grow with a maximum distance of 500 feet between these visual barriers. These will help to break up the line-of-sight and will be placed along the entire penstock ROW, unless topography prevents such installations or makes them unnecessary to break up the line-of-sight.

Noxious and invasive weed control was performed twice during the 2012 growing season to comply with applicable noxious weed regulations. The primary weeds controlled were Canada thistle and Scotch broom. A state-licensed contract herbicide applicator applied a broadleaf herbicide, as directed by District Biologists.

4.2. Access Road Revegetation

The narrow margins of the project access road ROW were hydro-seeded in the fall of 2011, after completion of road construction. The seed mix shown in either Table 1 or Table 2 was used, as appropriate. Disturbance of the forest along the right-of-way (beyond the graded road surface and the penstock alignment) was kept to a minimum and forest understory shrubs and forbs are expected to re-invade from seed and vegetative reproduction within the first few years after construction.

5.0 AVIAN NESTING AND PERCHING HABITAT

Up to 20 nest boxes targeting small native cavity nesting birds and mammals will be placed along the access roads and penstock ROW, in consultation with WDFW, over the term of the license. Additional nest boxes will be installed annually, if warranted. To provide perching habitat, the District also erected and will maintain raptor perch poles along the penstock ROW at a rate of 2 per linear mile. Perch poles will be maintained until the surrounding trees are tall enough to provide natural perches. Periodic monitoring will occur per the WHMP.

5.1. Nest Boxes

Nest boxes and raptor perch poles were installed at the end of 2011, based on a site visit with Brock Applegate (WDFW biologist) and Mike Schutt (District wildlife biologist). It was determined that installing approximately half of the 20 boxes that were committed to in the WHMP would allow assessment of the usage patterns and any apparent preferences for the different styles of boxes. Four different nest box designs were utilized, for a total of 12 nest boxes installed along the ROW (see Photos 1-5 and Figure 4). Three were mounted on existing trees along the edge of the ROW within the 5.3 acre mature forest mitigation parcel, targeting forest nesting birds such as chickadees and nuthatches. A fourth forest nesting box was mounted on a mature tree in the riparian corridor adjacent to the open ROW approximately half-way between the intake and powerhouse. The remainder were mounted on poles that were installed along the ROW targeting open-habitat nesting birds including violet-green and tree-swallows. To date, no particular box style seems to be favored over any other style.

Several boxes contained small yellow jacket nests when initially checked in early May. These were removed when encountered, but in one case the nest was rebuilt, and subsequently removed when checked in late May. The presence of yellow jacket nests could discourage nesting by birds or small mammals, and they will continue to be removed when found. All boxes were mounted with the entrance hole facing east, to maximize morning sun exposure, and all open to allow easy cleaning after the nesting season.

To avoid excessive disturbance, eggs and chicks are not moved to be counted when discovered in the nests, so counts of eggs or fledglings are not available. Tree swallows nested in two of

the pole-mounted nest boxes (see Photo 6 and Table 3), with only one nest successfully fledging young. When checked at the end of the nesting season, the second nest had one dead egg and one dead chick. Most nest box programs and their monitoring results do not support adding boxes until a threshold of 50 to 80 percent usage is reached, so no additional boxes are planned at this point.

A third nest box had a single egg, with no nesting material, except for a few small dark gray feathers when first checked on May 1. The egg was no longer present when checked at the end of the month, and no additional nesting material had been added. Based on the size, color and shape of the egg, and the fact that the entrance hole had been enlarged by a woodpecker, this is believed to have been a failed nesting attempt by a Northern Flicker. Flickers were occasionally observed enlarging entrance holes on several other nest boxes, but made no other nesting attempts (see Table 3 and Photo 7). Prior to the 2013 nesting season, a wooden plate will be installed over these holes to restrict the entrance size to target species, although there is no evidence of attempted use by starlings or other non-native species to date.

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

Table 3. Nest Box Monitoring Results

Nest Box Details:			
Box #	Style	Location	2012 Monitoring Results
Box1	Audubon	CAPA - tree mount	4/4 – no use noted 5/1 - no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box2	Bluebird Trailbox	CAPA - tree mount	4/4 – no use noted 5/1 - no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box3	Audubon	CAPA - tree mount	4/4 – no use noted 5/1 - no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box4	Woodlink	Co -mounted on perch pole	4/4 – enlarged entrance hole 5/1 - no use noted 5/28 – no use noted. Multiple swallows flying nearby 7/3 – swallow flying nearby, one hung on front of box several times, possibly feeding nestling(s). Observed from road, did not approach or open box. 8/28 – Nest with grass and feathers, RESULT: Successful tree swallow nest
Box5	Bluebird Trailbox		4/4 – enlarged entrance hole 5/1 – more entrance hole enlarging 5/28 – wood chips from entrance hole enlarging appear dished 7/3 – more wood chips from entrance hole enlarging; no nesting use noted 8/28 –no use noted
Box6	Bluebird Trailbox	Co -mounted on perch pole	4/4 – no use noted. 5/1 – single white egg (20.5 x 26mm); no nest material except chips from entrance hole enlarging; a few dark gray feathers. 5/28 – egg missing, no additional nesting material. 7/3 – more wood chips from entrance hole enlarging 8/28 – no use noted RESULT: failed flicker nesting attempt
Box7	Audubon		4/4 – no use noted 5/1 - no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted

Box8	Coveside Slant front		4/4 – no use noted. 5/1 - yellow jacket nest removed 5/28 – no use noted 7/3 – adult incubating 1+ nestling RESULT: Failed tree swallow nest. 1 dead egg, 1 dead chick, no shell fragments.
Box9	Woodlink	Mounted on mature riparian tree	4/4 – no use noted. 5/1 - yellow jacket nest removed 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box10	Woodlink	Co -mounted on perch pole	4/4 – no use noted. 5/1 - yellow jacket nest removed 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box11	Coveside Slant front		4/4 – no use noted. 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
Box12	Coveside Slant front		4/4 – no use noted. 5/1 – yellow jacket nest removed 5/28 – yellow jacket nest removed 7/3 – no use noted 8/28 – no use noted

Photo 1. Audubon Box

Photo 2. Coveside Slant Front Box

Photo 3. Bluebird Trailbox

Photo 4. WoodLink Bluebird Box

Photo 5. Typical nest box mounted on pole.

Photo 6. Tree swallow with 2 nestlings.

Photo 7. Enlarged entrance hole.

Photo 8. Raptor perch pole.

5.2. Raptor Perch Poles

Seven raptor perch poles were installed at locations identified during the previously mentioned site visit to maximize line-of-sight hunting opportunities by raptors (see Figure 4 and Photo 8). These are typically 30-foot tall fiberglass light poles with two aluminum arms extending out over the ROW. Literature suggests that the upper arm may reduce harassment of raptors by small flocking birds while utilizing the perch. Perch poles are monitored concurrently with nest boxes. During site visits, the immediate vicinity of the perch poles was inspected for signs of raptor use, including whitewash or owl pellets, but none was noted (see Table 4).

Table 4. Perch Pole Monitoring Results

Pole #	2012 Results
RP1	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP2	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP3	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP4	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP5	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP6	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted
RP7	4/4 – no use noted 5/1 – no use noted 5/28 – no use noted 7/3 – no use noted 8/28 – no use noted

5.3. Avian Nesting and Perching Habitat Modification Recommendations

Nest boxes which have been damaged by woodpeckers will have a new faceplate installed to restrict the diameter of the opening to the original size. This work will be completed prior to the beginning of the 2013 nesting season.

6.0. LITERATURE CITED

Guenther, K. and T.E. Kucera. 1978. Wildlife of the Pacific Northwest. Occurrence and distribution by habitat, BLM District and National Forest. USDA Forest Serv., Portland, OR 96p.

Hall, F.C., L W.Brewer, J.F. Franklin and RL Werner. 1985. Plant communities and stand conditions. ' In: Brown, E.R (ed.) Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington. U.S.D.A Forest Service, Pac. N.W. Region, Portland, OR.

Neitro, W.A, V.W. Brinkley, S.P. Cline, RW. Mannan, B.G. Marcot, D. Taylor, and F.F. Wagner. 1985. Snags (Wildlife Trees). In: Brown, E.R (ed.) Management of Wildlife and Fish Habitats in Forests of Western Oregon and Washington. U.S.D.A Forest Service, Pac. N.W. Region, Portland, OR.

APPENDIX A

Report Consultation Documentation

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Thursday, January 10, 2013 9:12 PM
To: Schutt, Mike; 'Tim_Romanski@fws.gov'
Cc: Bedrossian, Karen; Binkley, Keith; Milner, Ruth L (DFW); Bails, Jamie L (DFW); Presler, Dawn
Subject: RE: Comment Letter Youngs Creek Hydro (P10359) - WHMP 2012 Annual Report

Thanks Mike for the clarification, Could you add the paragraph below to the report? Your paragraph explains what you are doing and your thought process very well. I also appreciate your additional monitoring table to the report.

We have reviewed and everything looks good.

Sincerely, Brock

Brock Applegate

Major Projects Mitigation Biologist

Washington Department of Fish and Wildlife

16018 Mill Creek Boulevard
Mill Creek, WA 98012-1541

(425) 775-1311 x310

(360) 789-0578 (cell)

(425) 338-1066 (fax)

From: Schutt, Mike [mailto:MSSchutt@snopud.com]
Sent: Tuesday, January 08, 2013 3:15 PM
To: Applegate, Brock A (DFW); 'Tim_Romanski@fws.gov'
Cc: Bedrossian, Karen; Binkley, Keith; Milner, Ruth L (DFW); Everitt, Bob (DFW); Nelson, Travis W (DFW); Link, Russell E (DFW); Bails, Jamie L (DFW); Presler, Dawn
Subject: RE: Comment Letter Youngs Creek Hydro (P10359) - WHMP 2012 Annual Report

Brock,

Thanks for your comments on the Youngs Creek Annual Report.

When we visited the site in Fall of 2011 and also in correspondence around that same time, we discussed installing approximately half of the 20 boxes that we had committed to in the Wildlife Habitat Management Plan. This was primarily to allow us to assess the usage patterns and

note any apparent preferences for the different styles of boxes. Currently, we have 12 boxes of four different styles installed along the entire ROW, from the intake to the powerhouse, and in the first year, 2 of those boxes were used by target species. Most nest box programs and their monitoring results do not support adding boxes until a threshold of 50 to 80 percent usage is reached. At this point, given that only 2 of the 12 installed boxes were utilized in the first year of the program, I'm not sure the timing is right for adding boxes. My primary concern would be that we add boxes simply based on spacing (given that the usage results don't indicate a pattern of nesting habitat selectivity, at this point) and later find other areas are preferred nesting locations.

With regard to the specific data on nest box usage and monitoring, I have amended Table 3 to include all monitoring data, see attached.

Please let me know if you agree or would like to discuss further.

Mike Schutt
Snohomish County PUD
Sr. Environmental Coordinator - Wildlife
Office (425) 783-1712

Cell (425) 210-5816

From: Applegate, Brock A (DFW) [mailto:Brock.Applegate@dfw.wa.gov]
Sent: Friday, January 04, 2013 5:53 PM
To: Presler, Dawn; 'Tim_Romanski@fws.gov'
Cc: Schutt, Mike; Bedrossian, Karen; Binkley, Keith; Milner, Ruth L (DFW); Everitt, Bob (DFW); Nelson, Travis W (DFW); Link, Russell E (DFW); Bails, Jamie L (DFW)
Subject: RE: Comment Letter Youngs Creek Hydro (P10359) - WHMP 2012 Annual Report

Dear Dawn and Mike, Thanks for sending the Annual Report for our review. We encourage you to do more of what you are already doing. Please see attached comment letter.

Sincerely, Brock

Brock Applegate

Major Projects Mitigation Biologist

Washington Department of Fish and Wildlife

16018 Mill Creek Boulevard
Mill Creek, WA 98012-1541

(425) 775-1311 x310

(360) 789-0578 (cell)

(425) 338-1066 (fax)

From: Presler, Dawn [mailto:DJPresler@SNOPUD.com]
Sent: Wednesday, December 05, 2012 7:38 AM
To: 'Tim_Romanski@fws.gov'; Applegate, Brock A (DFW)
Cc: Schutt, Mike; Bedrossian, Karen; Binkley, Keith
Subject: Youngs Creek (P10359) - WHMP 2012 Annual Report

Dear Tim and Brock,

Attached is a link to the Wildlife Habitat Mitigation Plan 2012 Annual Report for the Youngs Creek Project. (If you prefer a paper copy be sent to you, let me know.) http://www.snopud.com/Site/Content/Documents/YoungsCreek/YC_WHMPRpt2012.pdf

Per the WHMP, we are required to provide an annual summary to the WDFW and USFWS by December 31 of each year. Please let Mike know (cc: me) by January 5 if you have any comments on the report. And as always, feel free to contact Mike or Karen at any time if you would like a tour of the site or what to discuss the WHMP in more detail.

Happy Holidays!

Dawn Presler

Sr. Environmental Coordinator

Generation Resources

(425) 783-1709

****

PUD No. 1 of Snohomish County

PO Box 1107

Everett, WA 98206-1107