

Commissioners:  
T. JAMES DAVIS  
LYNN M. HEMINGER  
RONALD E. SKAGEN

General Manager:  
WILLIAM C. DOBBINS



# Public Utility District No. 1 of Douglas County

1161 Valley Mall Parkway • East Wenatchee, Washington 98802-4497 • 509/884-7191 • FAX 509/884-0553 • [www.douglaspubd.org](http://www.douglaspubd.org)

## Via Electronic Filing

Honorable Kimberly D. Bose  
Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington DC 20426

September 23, 2013

**Subject: Wells Hydroelectric Project No. 2149**  
**Bull Trout Stranding, Entrapment and Take Study Plan-License Article 402**

Dear Secretary:

Pursuant to Article 402 of the new license for the Wells Hydroelectric Project (Wells Project), the Public Utility District No. 1 of Douglas County (Douglas PUD) hereby submits for approval the attached Bull Trout Stranding, Entrapment and Take Study Plan (Plan).

Article 402 requires Douglas PUD to file a Bull Trout Stranding, Entrapment and Take Study Plan with the Federal Energy Regulatory Commission (FERC) within one year of issuance of the license following consultation with the parties to the Aquatic Settlement Agreement (ASA), as well as following consultation with the National Marine Fisheries Service (NMFS) and the Bureau of Indian Affairs (BIA). The final Plan is attached as Exhibit A and was developed in consultation with the parties to the ASA including the United States Fish and Wildlife Service (USFWS), U.S. Bureau of Land Management (BLM), Washington State Department of Fish and Wildlife (WDFW), Washington State Department of Ecology (Ecology), the Confederated Tribes of the Colville Reservation (CCT) and the Confederated Tribes and the Bands of the Yakama Nation (YN). The BIA and the NMFS were also provided an opportunity to review and comment on the Plan during the 30-day ASA comment period.

The only comments received on the Plan were provided by the USFWS. Douglas PUD revised the Plan to address all of the comments received from the USFWS. The revised Plan (Exhibit A) was approved by the Aquatic Settlement Work Group following the close of the 30 day comment period during a conference call on Wednesday September 11, 2013.

The proposed Plan is intended to provide a strategy and schedule for conducting the following actions: a) bull trout stranding evaluations as described in section 4.4 of the ASA's Bull Trout Management Plan (BTMP); b) bull trout incidental take monitoring studies described in section 4.5.1 of the BTMP; and c) bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the BTMP.

Douglas PUD respectfully requests that the FERC approve the enclosed Bull Trout Stranding, Entrapment and Take Study Plan prior to December 31, 2013. Several of the actions proposed in the plan require implementation starting in early January 2014. The pre-filing consultation record supporting the approval of the plan is attached as Exhibit B.

If you have any questions related to the Bull Trout Stranding, Entrapment and Take Study Plan, please feel free to contact me at (509) 881-2208 or [sbickford@dcpud.org](mailto:sbickford@dcpud.org).

Sincerely,



Shane Bickford  
Supervisor of Natural Resources

Enclosure:

Exhibit A – Bull Trout Stranding, Entrapment and Take Study Plan.

Exhibit B – Pre-filing consultation record for Bull Trout Stranding, Entrapment and Take Study Plan.

Copy: Steve Lewis, USFWS

Wells HCP Coordinating Committee – Members List

Wells Aquatic Settlement Work Group – Members List

Andrew Gingerich, Douglas PUD

Brad Hawkins, Douglas PUD

## Exhibit A

### Bull Trout Stranding, Entrapment and Take Study Plan

**BULL TROUT STRANDING, ENTRAPMENT AND TAKE STUDY PLAN  
LICENSE ARTICLE 402**

**WELLS HYDROELECTRIC PROJECT**

**FERC PROJECT NO. 2149**

Prepared by:

Public Utility No. 1 Utility of Douglas County  
East Wenatchee, WA  
98802

September 2013

For copies of this plan, contact:

Public Utility District No. 1 of Douglas County  
Attention: Natural Resources  
1151 Valley Mall Parkway  
East Wenatchee, WA 98802-4497  
Phone: (509) 884-7191

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## EXECUTIVE SUMMARY

The Bull Trout Evaluations Study Plan (Plan) is intended to satisfy Article 402 of the Wells Hydroelectric Project (Wells Project) Federal Energy Regulatory Commission (FERC) Operating License, which requires Public Utility District No. 1 of Douglas County (Douglas PUD) to file a bull trout study plan with the FERC for approval that addresses the requirements found in sections 4.4, 4.5.1, and 4.6.1 of the Bull Trout Management Plan (BTMP). The BTMP is one of six aquatic resource management plans contained within Douglas PUD's Aquatic Settlement Agreement. Specifically, within one year of license issuance (by October 31, 2013), Douglas PUD is required to file a study plan and schedule for FERC approval to conducting the following:

- (a) the bull trout stranding evaluations described in section 4.4 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010;
- (b) the bull trout incidental take monitoring studies described in section 4.5.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010; and
- (c) the bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010.

Along with the Plan, Douglas PUD is required to provide documentation of consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Washington Department of Fish and Wildlife, Washington Department of Ecology, Confederated Tribes of the Colville Reservation, Confederated Tribes and Bands of the Yakama Nation, U.S. Bureau of Indian Affairs, and U.S. Bureau of Land Management.

The Plan has been written to include an introduction, brief summary of the biology of bull trout, their current status, previous Wells Project bull trout research and monitoring implemented by Douglas PUD, the goal, objectives and the proposed measures pertaining to this Plan, and reporting.

## 1.0 INTRODUCTION

On May 27<sup>th</sup>, 2010 Public Utility District No. 1 of Douglas County (Douglas PUD) filed with the Federal Energy Regulatory Commission (FERC) an Aquatic Settlement Agreement (ASA), which was signed by state, federal and tribal stakeholders. The ASA was intended to meet all other fish and aquatic resource obligations outside of Douglas PUD's Anadromous Salmonid Habitat Conservation Plan (HCP). The ASA contains six management plans, one of which is the Bull Trout Management Plan (BTMP). The goal of the BTMP is to identify, monitor and address impacts, if any, on bull trout resulting from the Wells Hydroelectric Project (Wells Project or Project) in a manner consistent with the U.S. Fish and Wildlife Service's (USFWS) Bull Trout Recovery Plan, and the terms of the Section 7 Incidental Take Statement (ITS) and the Federal Power Act section 18 fishway prescriptions associated with the relicensing of the Wells Project. The BTMP includes a suite of Protection, Mitigation and Enhancement measures (PMEs) to address plan objectives that include protecting adult and sub-adult bull trout through fishway operations; identification of adverse impacts on passage; implementation and evaluation of fishway modifications to address impacts, as needed; monitoring entrapment and stranding during low reservoir operations; participation in recovery planning; and identification of adverse impacts of Project-related hatchery operations.

On November 9<sup>th</sup>, 2012 the FERC issued a new Operating License (License) for the Wells Project. As part of the license issuance, FERC determined that three proposed BTMP PMEs lacked sufficient detail to enable administration and enforcement as license conditions. License Article 402 requires Douglas PUD to file a bull trout study plan to address sections 4.4, 4.5.1, and 4.6.1 of the BTMP. The FERC license requires that Douglas PUD file a study plan and schedule (herein called the Bull Trout Evaluations Study Plan [Plan]) with the FERC for approval by October 31, 2013. The Bull Trout Evaluations Study Plan was developed to address the following requirements of the BTMP:

- (a) the bull trout stranding evaluations described in section 4.4 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010;
- (b) the bull trout incidental take monitoring studies described in section 4.5.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010; and
- (c) the bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010.

## 2.0 BULL TROUT BIOLOGY

Bull trout (*Salvelinus confluentus*) are native to northwestern North America, historically occupying a large geographic range extending from California north into the Yukon and Northwest Territories of Canada, and East to Western Montana and Alberta (Cavender 1978). Bull trout occupy lakes, rivers and tributaries in Washington, Montana, Idaho, Oregon, Nevada, two Canadian Provinces (British Columbia and Alberta), and several cross-boundary drainages in extreme southeast Alaska. They are a member of the char group within the family Salmonidae and closely resemble Dolly Varden (*Salvelinus malma*), a related species. Genetic analyses

indicate, however, that bull trout are more closely related to an Asian char (*Salvelinus leucomaenis*) than to Dolly Varden (Pleyte et al. 1992).

Bull trout are believed to have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993). Growth, survival, and long-term persistence are dependent upon habitat characteristics that include clean, cold, connected, and complex instream habitat (USFWS et al. 2000), and stream/population connectivity.

Bull trout exhibit four distinct life history types: resident, fluvial, adfluvial, and anadromous. The fluvial, adfluvial, and resident forms exist throughout the range of the bull trout (Rieman and McIntyre 1993), although each form is not present everywhere. The majority of growth and maturation for anadromous bull trout occurs in estuarine and marine waters, adfluvial bull trout in lakes or reservoirs, and fluvial bull trout in large river systems. Resident bull trout populations are generally found in small headwater streams where fish remain their entire lives. Sexually mature resident bull trout are often much smaller at maturation than sexually mature adults of other life histories (McPhail and Baxter 1996).

For migratory life history types, juveniles tend to rear in tributary streams for 1 to 4 years before migrating downstream into a larger river, lake, or estuary and/or nearshore marine area to mature (Rieman and McIntyre 1993). In some lake systems, age 0+ fish (less than 1 year old) may migrate directly to lakes, but it is unknown if this emigration is a result of density dependent effects from limited stream rearing habitat, or if these young-of-the-year actually survive in the lake environment (Riehle et al. 1997). Juvenile bull trout in streams frequently inhabit side channels, stream margins and pools with suitable cover (Sexauer and James 1993) with maximum summer water temperatures generally less than 16°C (Dunham et al. 2003) and areas with cold hyporheic zones or groundwater upwellings (Baxter and Hauer 2000).

For more detailed information on bull trout biology, refer to the Biological Opinion (BO) for the Proposed Relicensing of the Wells Hydroelectric Project (USFWS 2012a).

## 2.1 Status

On June 10, 1998, the USFWS listed bull trout within the Columbia River basin as threatened under the Endangered Species Act (ESA; FR 63(111)). Later (November 1, 1999), the USFWS listed bull trout within the coterminous United States as threatened under the ESA (FR 64(210)). In April, 2004, the USFWS initiated a 5-year review on the status of bull trout which was released in 2008 and recommended no change to the current “threatened” listing status. The USFWS has cited habitat degradation, fragmentation, and alterations associated with dewatering, road construction and maintenance, mining, and grazing; blockage of migratory corridors by dams or other diversion structures; poor water quality; incidental angler harvest; entrainment into diversion channels; and introduced non-native species as major factors affecting the distribution and abundance of bull trout. They noted that dams (and natural barriers) have isolated population segments resulting in a loss of genetic exchange among these segments (FR 63(111)). The USFWS believes many populations are now isolated and disjunct.

In 2002, the USFWS released draft bull trout recovery plans for all recovery units in the Columbia River Distinct Population Segment (DPS) including the Upper Columbia River Recovery Unit<sup>1</sup> (USFWS 2002). The USFWS also designated critical habitat for bull trout, which was finalized on September 30, 2010. Since the issuance of a final critical habitat designation, the USFWS has turned its attention to recovery planning intended to provide information and guidance that will lead to recovery of the species, including its habitat. No time frame has been given for the release of a final recovery plan.

The Wells Project is situated within the Upper Columbia River Recovery Unit which includes three core areas; the Wenatchee, Entiat, and Methow rivers. A core area represents the closest approximation of a biologically functioning unit for bull trout and may function as a metapopulation for bull trout. Not all core areas are equal and each has specific functions that are unique. For example, the Entiat Core Area depends heavily on the mainstem Columbia River to provide overwintering, migration, and foraging habitats. The Wenatchee Core Area has populations using lake and riverine habitat (both the Wenatchee and Columbia rivers) for overwintering, migration, and foraging. Within a core area, many local populations may exist. A local population is assumed to be the smallest group of fish that is known to represent a regularly interacting reproductive unit. Sixteen local populations have been identified in the Wenatchee (6), Entiat (2), and Methow (8) core areas (USFWS 2002). Recently, genetic baselines have been established for these local populations (DeHaan and Neibauer 2012).

## **2.2 Wells Project Research and Monitoring Activities**

Listed Columbia River bull trout have been observed and counted at Wells Dam since 1998. In 2000, due to the potential for operations at mid-Columbia dams to affect the movement and survival of bull trout, the USFWS requested that the three mid-Columbia PUDs (Douglas, Chelan, and Grant PUDs) evaluate the movement and status of bull trout in their respective project areas. At that time, little was known about the life-history characteristics (e.g., movements, distribution, habitat use, etc.) of bull trout in the mid-Columbia River. Therefore, in order to assess the operational effects of hydroelectric projects on bull trout within the mid-Columbia, Douglas PUD has supported and carried out a series of research tasks.

From 2001 to 2003, bull trout were collected from the Wells, Rocky Reach, and Rock Island dams, radio-tagged, and monitored through 2004. The primary purpose of the study was to document the presence of bull trout at the project, identify passage times, determine their direction of travel (i.e., upstream/downstream), and assess bull trout movements into and out of the Wells Reservoir. Multiple-telemetry techniques over a broad spatial area were used for the assessment. Successful upstream and downstream passage was observed at the Wells Project. In addition, no bull trout injury or mortality was observed associated with the Wells Project. Radio-tagged bull trout that migrated upstream past Wells Dam used the Methow River subbasin during the bull trout spawning period (for more detailed information refer to BioAnalyst, Inc. 2004).

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<sup>1</sup> Note that while the USFWS refers to the area encompassing the Wells Project as the Upper Columbia Recovery Unit for bull trout, the section of the Columbia River from Chief Joseph Dam to the confluence of the Yakima and Columbia rivers is often termed the "mid-Columbia" for other purposes, and is the term used in this document when referring to the reach.

In 2004, Douglas in consultation with the USFWS and as required under the HCP BO developed the Wells Project Bull Trout Monitoring and Management Plan (WBTMMP). The goal of the WBTMMP is to continue monitoring and evaluating bull trout in the Project to quantify and address, to the extent feasible, potential Project impacts on bull trout. To address Project impacts on bull trout, Douglas captured, radio-tagged, and monitored adult bull trout in the Wells Project area (2005-2007); PIT-tagged sub-adult bull trout during tributary smolt sampling activities (2005-2007); conducted reservoir entrapment and stranding surveys (2005); and collected genetic samples to support identification of local populations and core area origins of bull trout utilizing the Project area (2005-2007). Results of the study were consistent with the previous 3-year study showing successful upstream and downstream passage, similar migration timing, and no documented impacts to bull trout from the Wells Project (for more detailed information refer to LGL 2007, LGL 2008).

Between 2008 and 2012, Douglas PUD continued to operate under the WBTMMP conducting year round Project fishway counts, PIT-tagging bull trout during off-site hatchery related activities, and conducting several entrapment and stranding surveys when normal reservoir surface elevation operations were at or below 773 feet mean sea level (MSL; Douglas PUD 2004).

Bull trout fishway counts up to 2012 indicate that an average of 62 fish are counted moving through Wells fishways each year. Ninety percent of this movement occurs within the May-June timeframe and is almost exclusively composed of adult fish.

Each year, Douglas PUD (via Washington Department of Fish and Wildlife [WDFW]) has PIT-tagged and collected biological data on all bull trout captured in tributary, hatchery-related smolt outmigrant (rotary-screw traps) and brood stock collection (weirs) activities in the Methow River watershed. Information from these activities is available on PTAGIS ([www.ptagis.org](http://www.ptagis.org)).

Entrapment and stranding surveys were conducted in 2008 and 2011. Locations were selected based upon an analysis of detailed bathymetric maps produced in 2005 combined with Wells Reservoir hydraulic information. Six total potential stranding locations were identified; the Methow River mouth, the Okanogan River mouth, the Kirk Islands, the shallow water habitat in the Columbia River directly across from the mouth of the Okanogan River, Schluneger Flats and the off-channel areas of the Bridgeport Bar Islands. Boat and foot surveys were conducted and included a combination of shoreline transects and inspection of isolated sanctuary pools. Similar to the 2005 bull trout stranding surveys, no bull trout were observed during the 2008 or 2011 surveys which suggest that bull trout are able to avoid stranding and entrapment areas when the Wells Reservoir fluctuates to elevations below 773 MSL (Douglas PUD, 2012).

### **3.0 GOALS AND OBJECTIVES**

The goal of the Plan is to satisfy Article 402 of the Wells Project FERC license, which requires Douglas PUD to file a bull trout study plan to address sections 4.4, 4.5.1, and 4.6.1 of the BTMP. The Plan must provide sufficient detail to enable administration and enforcement as license conditions of the following activities:

- (a) the bull trout stranding evaluations described in section 4.4 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010;
- (b) the bull trout incidental take monitoring studies described in section 4.5.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010; and
- (c) the bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the Aquatic Settlement Agreement's BTMP, filed May 27, 2010.

## **4.0 STUDY MEASURES**

### **4.1 Bull Trout Entrapment or Stranding Surveys**

The Wells Project is a run-of-river project meaning that average daily inflow equals daily outflow. As a result, the limited active storage capacity is only sufficient to regulate flow on a daily basis. Alterations in water volume or reservoir fluctuations are minimal and largely driven by the discharge of water from Chief Joseph Dam and Grand Coulee Dam. Typical operational fluctuations of the Wells Project are gradual, repetitive changes in reservoir stage that occur on a daily basis and generally result in reservoir elevation fluctuations of one to two ft. (Douglas PUD 2010). Infrequent reservoir operations necessitated by unusual circumstances, such as extreme runoff from the Methow or Okanogan rivers can result in reservoir elevation of 773-771 (Devine Tarbell & Associates 2006). From January 1998 to July 2013, the reservoir has typically operated within the upper four ft. (781 to 777 ft. MSL in elevation) 96.7 percent of the time (average daily reservoir elevation). Reservoir operations below 774 ft. occur infrequently (generally no more than one a year) but do have a limited potential to entrap and strand bull trout.

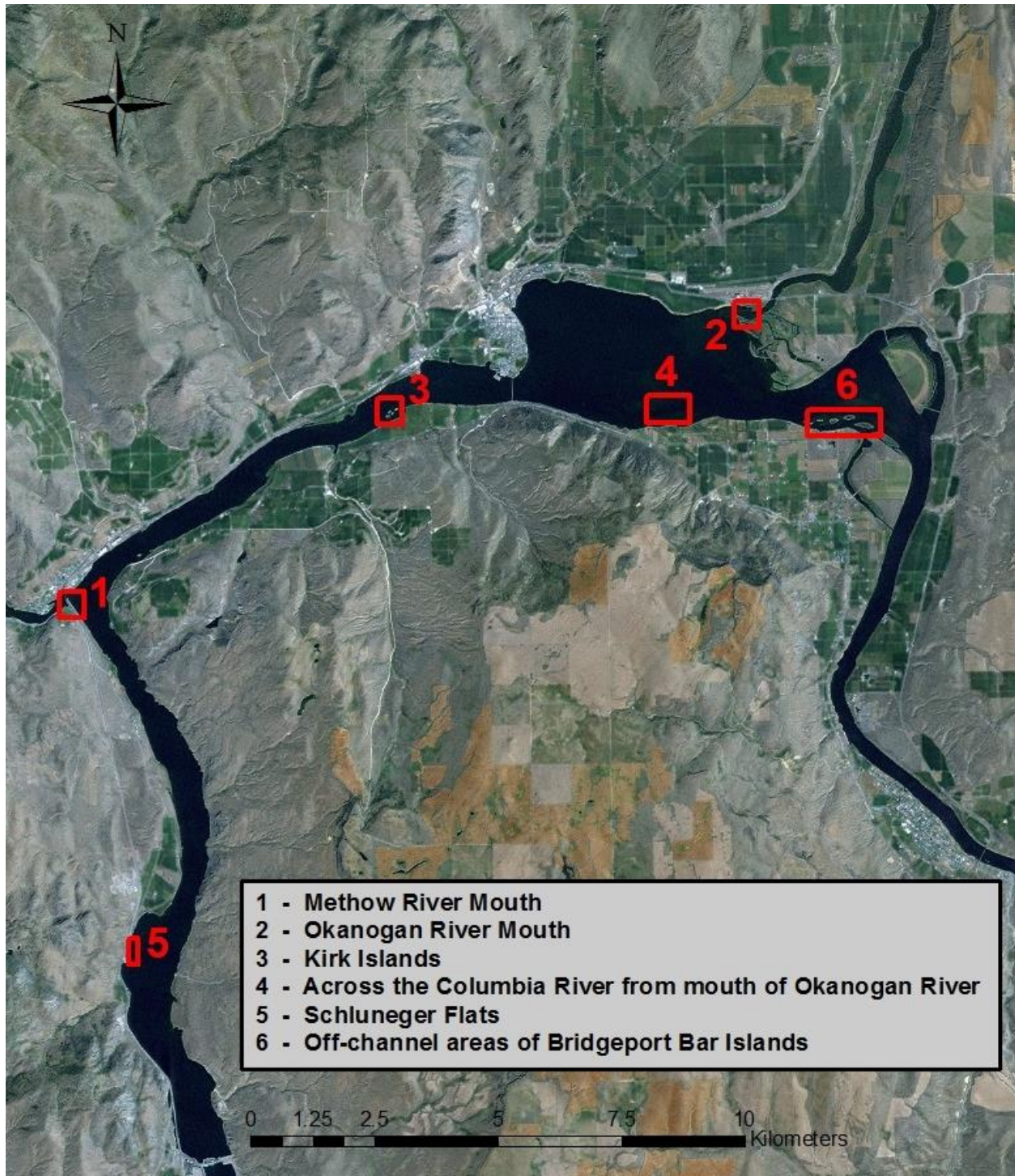
As proposed in the BTMP, during the first five years of the new license, Douglas PUD will implement up to five bull trout entrapment/stranding assessments during periods of low reservoir elevation (below 773' MSL). Assessments will be implemented on an opportunistic basis (i.e., low reservoir elevations will not be manufactured for the purposes of an assessment). If no incidences of bull trout stranding are observed during the first five years of study, additional assessment will take place every fifth year, when reservoir conditions are appropriate, during the remainder of the license term, unless waived by the Aquatic Settlement Work Group (Aquatic SWG). If bull trout entrapment and stranding result in an observed take in exceedance of the authorized incidental take level (see USFWS Biological Opinion), then reasonable and appropriate measures will be implemented by Douglas PUD, in consultation with the Aquatic SWG, to address the impact.

During reservoir elevations below 773' MSL, Douglas PUD shall visit the six locations identified as potential reservoir stranding locations identified in 2005 based upon an analysis of detailed bathymetric maps combined with Wells Reservoir hydraulic information. These six locations include and are featured in Figure 1:

1. Methow River mouth;
2. Okanogan River mouth;



3. Kirk Islands;
4. shallow water habitat in the Columbia River directly across from the mouth of the Okanogan River;
5. Schluneger Flats; and
6. off-channel areas of the Bridgeport Bar Islands.



## **Figure 1. Well Project bull trout stranding survey locations.**

Once Wells Project operations staff has confirmed that reservoir elevations are 773 msl or lower and that elevation is expected to be maintained for at least 24-hours, Douglas PUD shall notify the USFWS of its intention to conduct a stranding survey within 24 hours of the low reservoir condition. Surveys will be conducted by boat and/or foot, as appropriate, at each of the six sites identified above in the following order 3, 4, 6, 2, 1, and 5 (prioritized based on expected size and depth of stranding pools). Sampling will include visual inspections through a combination of shoreline transects and inspection of isolated sanctuary pools. Any locations too deep for visual inspections may be seined. Any bull trout that are observed will be captured, removed, and placed back into the main channel of the river. Procedures for capture and removal will follow USFWS guidance (2012b). Seines of the appropriate mesh size will be used to capture bull trout (typically 3/16 – 1/4 inch mesh size) and composed of soft (non-abrasive) nylon material. Seines, once pursed, will remain partially in the water while fish are removed with dip nets. Seining will be conducted until all bull trout have been removed from a stranding location. In deeper stranding areas with less than 100% visibility to the bottom, two consecutive passes with the seine without capture will indicate that the sampling area is free of bull trout. All bull trout removed will be transferred from stranding area to dark-colored, aerated containers and immediately transported to the main river channel for release. Bull trout will be enumerated and estimates of size and condition will be made prior to release. No anesthetics shall be used. All other fish captured during seining operations will be removed by dip net, and transported to the main channel (i.e., non-stranding location with river connectivity) for release. Incidentally captured species will be identified to species and enumerated up to the first 25 of each species. Additional counts beyond 25 will be estimated (e.g. approximately 100 stickle back). Non-target taxa will also be identified as adult or subadult. Any bull trout mortality will have a tissue sample taken (for genetic analysis in support of BTMP section 4.5.2), be placed in a zip lock bag and refrigerated as soon as possible. All mortalities will be provided to the USFWS. Finally, water temperatures will be taken in each pool when fish of any species are present.

After each stranding survey, a brief email summary of the results will be provided to the USFWS, the Aquatic SWG, and the FERC. The ASWG will may choose to discontinue stranding surveys consistent with the language found in the BTMP. A more detailed presentation of information will be included as a part of Douglas PUD's incidental take report due April 15<sup>th</sup> of each year and the annual report of activities accomplished related to the implementation of the BTMP. If after three consecutive stranding surveys bull trout are not observed the Aquatic SWG may choose to revisit the stranding survey approach and submit a revised plan with the FERC.

## **4.2 Bull Trout Incidental Take Monitoring of Other Aquatic Resource Management Plan Activities**

The implementation of activities associated with other Aquatic Resource Management Plans (white sturgeon, Pacific lamprey, resident fish, aquatic nuisance species, and water quality) and Predator Control Program may result in the incidental capture and take of bull trout. If the incidental take of bull trout is exceeded due to the implementation of other Aquatic Resource Management Plan activities, then Douglas PUD will develop a plan, in consultation with the



Aquatic SWG, to address the identified factors contributing to the exceedance of the allowable level of incidental take. If the incidental take of bull trout is exceeded due to the implementation of the Predator Control Program, then Douglas PUD will develop a plan, in consultation with the HCP Coordinating Committee and the Aquatic SWG, to address the identified factors contributing to the exceedance of the allowable level of incidental take.

In the past, Douglas PUD has implemented a variety of aquatic resources sampling activities in support of license compliance, relicensing, and prior to new license issuance. Many of these activities employ sampling gear and approaches specific to the species or parameters of interest (e.g., longline fishing for the northern pikeminnow, overflow weir traps for lamprey, water quality sampling, plankton tows for zebra/quagga mussels, etc.) and as such, don't generally encounter bull trout. However, bull trout are present within the Wells Project at specific times of the year and the potential for capture and incidental take of bull trout associated with aquatic sampling activities exists.

For all fish sampling activities (Table 1) implemented in support of the plans and program described above, Douglas PUD shall ensure that implementation staff (Douglas PUD or contractor) are aware of and trained in proper handling, release and communication protocols required when encountering bull trout. All bull trout incidentally captured will be released immediately after estimates of size and general condition are recorded. No anesthetics shall be used. Any fish that need to be held shall be placed in an aerated, dark-colored container consistent with USFWS guidance (2012b) and released near the point of capture as soon as possible. Douglas PUD will notify the USFWS of any bull trout encounters. Any mortality will have a tissue sample taken (for genetic analysis in support of BTMP section 4.5.2), be placed in a zip lock bag and refrigerated as soon as possible. All mortalities will be provided to the USFWS.

**Table 1. Wells Project implementation activities where bull trout incidental take monitoring protocols will be employed including the schedule of these activities over the term of the license.**

Implementation Activity	Schedule
ANSMP - Monitoring for quagga/zebra mussels using plankton tows and other methods	Annually during summer months.
Predator Control Program – longline sets to remove northern pikeminnow from Wells Project waters.	Annually during spring/summer months
WQMP – Gas bubble trauma monitoring at Rocky Reach Dam	As needed, when hourly TDG values in the Wells Project tailrace exceed 125%.
PLMP – Salvage activities during ladder maintenance dewatering	Annually during winter ladder maintenance period (typically December and January).
PLMP – sampling in support of upstream passage evaluation	As needed, within one year of lamprey passage improvement measures.
PLMP – periodic monitoring	Every ten years after upstream passage rates are similar to other mid-Columbia River dams.
PLMP – juvenile lamprey habitat evaluation	Within three years of license issuance (one year study).
RFMP – resident fish community assessment	In year 2 and every 10 years thereafter during

	license term.
RFMP – monitoring in response to proposed changes in Project operations	As needed, if operational changes requiring FERC approval are proposed.
WSMP – brood stock and larval collection activities	Annually until collection activities determined unnecessary by the Aquatic SWG.
WSMP – Phase I index monitoring program	Years 3-5 of license, two additional years prior to year 9, in year 12, and then for a year every 3-5 years (as determined by Aquatic SWG) for license term.

Acronyms in the table above are ANSMP; Aquatic Nuisance Species Management Plan, WQMP; Water Quality Management Plan, PLMP; Pacific Lamprey Management Plan, RFMP; Resident Fish Management Plan, and WSMP; White Sturgeon Management Plan. All Management Plans are found within Douglas PUD's Aquatic Settlement Agreement.

### 4.3 Bull Trout Monitoring During Hatchery Activities

The Wells and Methow hatcheries implement brood stock collection activities and Douglas PUD conducts spring Chinook and steelhead stock assessment activities at the Wells Dam fishway traps. Brood stock collection and stock assessment activities take place each year during May and June for spring Chinook, July and August for summer Chinook and August through October for steelhead. On the west fishway, trap operators may re-direct upstream migrating anadromous salmonids into a transport pipe that terminates at an adult holding pond at the adjacent Wells Hatchery. On the east fishway, trap operators re-direct potential hatchery brood stock into an aerated live well for processing and transport fish by truck across Wells Dam to the Wells Hatchery and other appropriate facilities. The Wells Fish Hatchery volunteer channel is also used to collect brood stock for the Wells Hatchery. Adult summer/fall Chinook, steelhead and coho readily volunteer into the hatchery collection trap and are manually handled and either retained for brood stock or released back into the Columbia River downstream of Wells Dam via a water/fish transport pipe. Unlike, incidental encounters at other hatchery locations, bull trout incidentally encountered in the Wells Hatchery volunteer trap are immediately returned to the Columbia River below Wells Dam and are not anesthetized or sampled.

The Wells Hatchery activities described above are expected to continue annually throughout the term of the license. All three of these activities have the potential to incidentally re-direct upstream migrating adult bull trout resulting in lethal or non-lethal incidental take.

Any bull trout encountered during trapping in the ladders at Wells Dam for either the Wells or Methow Hatchery brood collection activities will be anesthetized using MS-222, measured, general condition recorded, a tissue sample will be taken for genetic analysis, and given a Passive Integrated Transponder (PIT) tag. If a PIT tag exists, the PIT tag identification code will be recorded and the information will be uploaded to PTAGIS. After processing, all bull trout will be placed in an aerated, dark-colored container until recovery from anesthesia is achieved. On the east ladder, sampled fish will be placed in a semi-volitional recovery trough with fresh flow. Bull trout captured at the west ladder facility will be handled using the same protocols and released in the forebay of Wells Dam (Starr boat launch). All handling and release protocols will be consistent with USFWS guidance (2012b). Douglas PUD will notify the USFWS of any

lethal take of bull trout during the described sampling (over the last decade of hatchery actions no lethal take has been observed). Any mortality will have a tissue sample taken (for genetic analysis in support of BTMP section 4.5.2), be placed in a zip lock bag and refrigerated as soon as possible. All mortalities will be provided to the USFWS.

License Article 402 states requirements for incidental monitoring activities at the Wells Hatchery however, section 4.6.1 of the BTMP explicitly states that such activities will be implemented for all facilities including the Wells Hatchery, the Methow Hatchery, and any future facilities directly funded by Douglas PUD. Currently, hatchery activities in addition to the three sites described above include operation of the Twisp weir (Methow Hatchery), Methow Hatchery outfall trap, Methow and Twisp river rotary screw trap operations, and Hatchery Genetic Management Plan implementation activities. For all of these hatchery activities, handling, anesthetic and sampling methods as described above will be employed. All handling and release protocols will be consistent with USFWS guidance (2012b). Douglas PUD will notify the USFWS of any lethal take of bull trout during the described sampling (over the last decade of hatchery actions no lethal take has been observed). Any mortality will have a tissue sample taken (for genetic analysis in support of BTMP section 4.5.2), be placed in a zip lock bag and refrigerated as soon as possible. All mortalities will be provided to the USFWS.

During the course of the Wells Operating License, new hatchery related activities may be developed that are currently unforeseen. New hatchery actions that are implemented during HGMP activities may have the potential to encounter bull trout. In this event of new HGMP actions (e.g. development and operation of a new weir or trapping facility) Douglas PUD, along with the ASWG may elect to adopt similar measures for bull trout monitoring as explained above.

## **5.0 REPORTING**

Douglas PUD will provide the annual results of the Bull Trout Evaluations Study Plan activities as a part of the annual Bull Trout Incidental Take Report filed with the USFWS on April 15<sup>th</sup> of each year (see BO) and Douglas PUD will incorporate that same information into the annual Bull Trout Management Plan report that is developed by, and then approved by, the Aquatic SWG each year following a 30 day review. Starting in 2014, the annual Bull Trout Management Plan Report will be incorporated into the comprehensive Aquatic Settlement Agreement annual report, which is required to be filed with the FERC by May 30<sup>th</sup> of each year. As part of reporting, a PIT tag summary (primarily associated with activities in Section 4.3) will be provided at the request of the Aquatic SWG. If significant bull trout activities were not conducted in a given year, Douglas retains the option to instead prepare a technical memorandum providing an overview of all bull trout related sampling activities and an explanation of the circumstances in lieu of the annual report.

## 6.0 REFERENCES

- Baxter, C. V., and F. R. Hauer. 2000. Geomorphology, hyporheic exchange, and the selection of spawning habitat by bull trout (*Salvelinus confluentus*). *Canadian Journal of Aquatic Science*. 57:1470-1481.
- BioAnalysts, Inc. 2004. Movement of bull trout within the Mid-Columbia River and tributaries, 2001-2004. Report prepared by BioAnalysts for Public Utility District No.1 of Chelan County, Public Utility District No.1 of Douglas County, and Public Utility District No.2 of Grant County.
- Cavender, T. M. 1978. Taxonomy and distribution of the bull trout, *Salvelinus confluentus* (Suckley) from the American Northwest. *California Fish and Game* 64:139-174.
- Dehann P. and J. Neighbour. 2012. Analysis of Genetic Variation Within and Among Upper Columbia River Bull Trout Populations. U.S. Fish and Wildlife Service. Abernathy Fish Technology Center. Longview, WA 98632.
- Devine Tarbell & Associates. 2006. Effects of water level fluctuation on natural resources within the Wells Project: A Review of existing information. Bellingham, WA 98225. Prepared for Public Utility District No. 1 of Douglas County, East Wenatchee, WA 98802.
- Douglas PUD (Public Utility District No. 1 of Douglas County). 2004. Wells Hydroelectric Project Bull Trout Monitoring and Management Plan, 2004-2008. Prepared by Public Utility District No. 1 of Douglas County, East Wenatchee, WA.
- Douglas PUD (Public Utility District No. 1 of Douglas County). 2010. Wells Hydroelectric Project Biological Assessment and Essential Fish Habitat Analysis for the Proposed Action of Issuing a New Operating License for the Wells Hydroelectric Project. FERC No. 2149. Prepared by Public Utility District No. 1 of Douglas County, East Wenatchee, WA.
- Douglas PUD (Public Utility District No. 1 of Douglas County). 2012. 2012 Wells Hydroelectric Project Bull Trout Monitoring and Management Plan. FERC No. 2149. Prepared by Public Utility District No. 1 of Douglas County, East Wenatchee, WA.
- Dunham, J., B. Rieman, and G. Chandler. 2003. Influences of temperature and environmental variables on the distribution of bull trout within streams at the southern margin of its range. *North American Journal of Fisheries Management*, 23:894-904.
- LGL and Douglas PUD. 2008. Wells bull trout monitoring and management plan 2005-2008 final report. Report to Public Utility District No. 1 of Douglas County, East Wenatchee, WA.

- LGL and Douglas PUD. 2007. Wells Hydroelectric Project No. 2149 2006 Annual Report - Wells Bull Trout Monitoring and Management Plan. Report to Public Utility District No. 1 of Douglas County, East Wenatchee, WA.
- McPhail, J. D. and J. S. Baxter. 1996. A review of bull trout (*Salvelinus confluentus*) life history and habitat use in relation to compensation and improvement opportunities. Fisheries management report no. 104. University of British Columbia. Vancouver, B.C.
- Pleyte, Kay A., S. D. Duncan, and R. B. Phillips. 1992. Evolutionary relationships of the fish genus *Salvelinus* inferred from DNA sequences of the first internal transcribed spacer (ITS 1) of ribosomal DNA. *Molecular Phylogenetics and Evolution*, 1(3): 223-230.
- Riehle, M. W. Weber, A. M. Stuart, S. L. Thiesfeld and D. E. Ratliff. 1997. Progress report of the multi-agency study of bull trout in the Metolius River system, Oregon. In *Friends of the Bull Trout Conference Proceedings*. Bull Trout Task Force. Calgary, (Alberta). Pages 137-144.
- Rieman, B. E., and J. D. McIntyre. 1993. Demographic and habitat requirements for conservation of bull trout. U.S. Forest Service, Intermountain Research Station. General Technical Report INT-302.
- Sexauer, H. M. and P. W. James. 1993. A survey of the habitat use by juvenile and prespawning adult bull trout, *Salvelinus confluentus*, in four streams in the Wenatchee National Forest. Ellensburg, WA, Central Washington University.
- U.S. Fish and Wildlife Service, National Marine Fisheries Service, Plum Creek Timber Company, Inc., and CH2M Hill. 2000. Final Environmental Impact Statement and Native Fish Habitat Conservation Plan – Proposed Permit for Taking of Federally Listed Native Fish Species on Plum Creek Timber Company, Inc. Lands. September, 2000.
- U.S. Fish and Wildlife Service. 2002. Chapter 22, Upper Columbia Recovery Unit, Washington. 113 p. In: U.S. Fish and Wildlife Service. *Bull Trout (Salvelinus confluentus) Draft Recovery Plan*. Portland, Oregon.
- U.S. Fish and Wildlife Service. 2012a. Biological Opinion for the Proposed Relicensing of the Wells Hydroelectric Project. Federal Energy Regulatory Commission. Prepared by Steve Lewis, U.S. Fish and Wildlife Office, Wenatchee, WA. Reference numbers: 13410-2011-F-0090/1326-2006-P-0009.
- U.S. Fish and Wildlife Service. 2012b. Recommended Fish Exclusion, Capture, Handling, and Electroshocking Protocols and Standards. U.S. Fish and Wildlife Service. Washington Fish and Wildlife Office. Prepared by Nacy Brennan-Dubbs, Lacey, WA. June 19, 2012.

## Exhibit B

Pre-filing consultation record for Bull Trout Stranding, Entrapment and Take Study Plan

EMAIL TO THE AQUATIC SWG AND THE NMFS PROVIDING A REVIEW AND  
COMMENT PERIOD FOR THE BULL TROUT STRANDING, ENTRAPMENT AND TAKE  
STUDY PLAN

## Andrew Gingerich

---

**From:** Kristi Geris <kgeris@anchorqea.com>  
**Sent:** Monday, July 29, 2013 1:56 PM  
**To:** Andrew Gingerich; Bao Le; Beau Patterson; Bill Towey (bill.towey@colvilletribes.com); Bob Jateff (jatefrjj@dfw.wa.gov); Bob Rose; 'Brad James'; 'Bret Nine'; 'Chad Jackson'; Charlie McKinney (cmck461@ecy.wa.gov); Chas Kyger; Chris Sheridan; 'Donella Miller'; Jason McLellan; Jeff Korth (korthjwk@dfw.wa.gov); 'Jessi Gonzales'; Joe Peone (joe.peone@colvilletribes.com); Keith Kirkendall (Keith.Kirkendall@noaa.gov); kirk.truscott@colvilletribes.com; Kristi Geris; Mary Mayo; Mike Schiewe; Pat Irle (pirl461@ecy.wa.gov); 'Patrick Luke'; Patrick Verhey (Patrick.Verhey@dfw.wa.gov); Paul Ward (ward@yakama.com); Shane Bickford; 'Steve Lewis'; 'Steve Parker (parker@yakama.com)'; Steve Rainey  
**Subject:** FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)  
**Attachments:** 2013\_07\_29 Douglas - Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13).pdf

Hi Aquatic SWG: please see the email below from Andrew and the attached draft Bull Trout Stranding and Take Study Plan. This draft plan is out for a 30-day review period with comments due to Andrew no later than Wednesday, August 28, 2013. Please note Andrew's additional comments below regarding review and approval of the attached plan.

Thanks!  
Kristi ☺

Kristi Geris

ANCHOR QEA, LLC  
[kgeris@anchorqea.com](mailto:kgeris@anchorqea.com)  
T 509.491.3151 x104  
C 360.220.3988

---

**From:** Andrew Gingerich [<mailto:andrewg@dcpud.org>]  
**Sent:** Monday, July 29, 2013 1:43 PM  
**To:** Kristi Geris  
**Cc:** Chas Kyger  
**Subject:** Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

Kristi,

Please distribute the attached Bull Trout Stranding and Take Study Plan to the ASWG. This Plan was developed to specifically address License Article 402 in the new Well Operating License. The Plan describes the proposed methods, schedule and reporting that will be used to address requirements in the Bull Trout Management Plan (BTMP). Here are the specific areas in the BTMP that are addressed:

- (a) the bull trout stranding evaluations described in section 4.4 of the Aquatic Settlement Agreement's BTMP;
- (b) the bull trout incidental take monitoring studies described in section 4.5.1 of the Aquatic Settlement Agreement's BTMP; and
- (c) the bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the Aquatic Settlement Agreement's BTMP.



**Douglas PUD is asking the Aquatic SWG for a 30 day review, with all comments to be submitted to Douglas PUD by August 28<sup>th</sup>. At the September 11<sup>th</sup> conference call Douglas PUD will ask for formal approval from the ASWG, once any revisions have been made. For those signatories unable to make the call in September, please submit your approval to Mike prior to the meeting.**

Please let me know if you have questions and submit edits or comments to me.

Thanks  
Andrew

Andrew Gingerich  
Sr. Aquatic Resource Biologist  
**Douglas County Public Utility District**  
1151 Valley Mall Parkway, East Wenatchee, WA 98802  
Office Phone: (509) 881-2323  
Email: [andrewg@dcpud.org](mailto:andrewg@dcpud.org)

EMAIL TO BIA PROVIDING A REVIEW AND COMMENT PERIOD FOR THE BULL  
TROUT STRANDING, ENTRAPMENT AND TAKE STUDY PLAN

## Andrew Gingerich

---

**From:** Kristi Geris <kgeris@anchorage.com>  
**Sent:** Wednesday, July 31, 2013 8:54 AM  
**To:** Keith Hatch (Keith.Hatch@bia.gov)  
**Cc:** Andrew Gingerich; Shane Bickford; Mike Schiewe  
**Subject:** FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)  
**Attachments:** 2013\_07\_29 Douglas - Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13).pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi Keith,

Please see the emails below regarding review of the attached Bull Trout Stranding and Take Study Plan. Thanks! –kristi  
☺

**Kristi Geris**

**ANCHOR QEA, LLC**  
[kgeris@anchorage.com](mailto:kgeris@anchorage.com)  
T 509.491.3151 x104  
C 360.220.3988

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**From:** Kristi Geris  
**Sent:** Monday, July 29, 2013 1:56 PM  
**To:** Andrew Gingerich ([andrewg@dcpud.org](mailto:andrewg@dcpud.org)); Bao Le; Beau Patterson ([bpatterson@dcpud.org](mailto:bpatterson@dcpud.org)); Bill Towey ([bill.towey@colvilletribes.com](mailto:bill.towey@colvilletribes.com)); Bob Jateff ([jatefrjj@dfw.wa.gov](mailto:jatefrjj@dfw.wa.gov)); Bob Rose; 'Brad James'; 'Bret Nine'; 'Chad Jackson'; Charlie McKinney ([cmck461@ecy.wa.gov](mailto:cmck461@ecy.wa.gov)); Chas Kyger; Chris Sheridan; 'Donella Miller'; Jason McLellan; Jeff Korth ([korthjwk@dfw.wa.gov](mailto:korthjwk@dfw.wa.gov)); 'Jessi Gonzales'; Joe Peone ([joe.peone@colvilletribes.com](mailto:joe.peone@colvilletribes.com)); Keith Kirkendall ([Keith.Kirkendall@noaa.gov](mailto:Keith.Kirkendall@noaa.gov)); [kirk.truscott@colvilletribes.com](mailto:kirk.truscott@colvilletribes.com); Kristi Geris; 'Mary Mayo'; Mike Schiewe; Pat Irle ([pir461@ecy.wa.gov](mailto:pir461@ecy.wa.gov)); 'Patrick Luke'; Patrick Verhey ([Patrick.Verhey@dfw.wa.gov](mailto:Patrick.Verhey@dfw.wa.gov)); Paul Ward ([ward@yakama.com](mailto:ward@yakama.com)); Shane Bickford ([sbickford@dcpud.org](mailto:sbickford@dcpud.org)); 'Steve Lewis'; 'Steve Parker' ([parker@yakama.com](mailto:parker@yakama.com)); Steve Rainey  
**Subject:** FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

Hi Aquatic SWG: please see the email below from Andrew and the attached draft Bull Trout Stranding and Take Study Plan. This draft plan is out for a 30-day review period with comments due to Andrew no later than Wednesday, August 28, 2013. Please note Andrew's **additional comments below** regarding review and approval of the attached plan.

Thanks!  
Kristi ☺

**Kristi Geris**

**ANCHOR QEA, LLC**  
[kgeris@anchorage.com](mailto:kgeris@anchorage.com)  
T 509.491.3151 x104  
C 360.220.3988

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**From:** Andrew Gingerich [<mailto:andrewg@dcpud.org>]  
**Sent:** Monday, July 29, 2013 1:43 PM

**To:** Kristi Geris  
**Cc:** Chas Kyger  
**Subject:** Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

Kristi,

Please distribute the attached Bull Trout Stranding and Take Study Plan to the ASWG. This Plan was developed to specifically address License Article 402 in the new Well Operating License. The Plan describes the proposed methods, schedule and reporting that will be used to address requirements in the Bull Trout Management Plan (BTMP). Here are the specific areas in the BTMP that are addressed:

- (a) the bull trout stranding evaluations described in section 4.4 of the Aquatic Settlement Agreement's BTMP;
- (b) the bull trout incidental take monitoring studies described in section 4.5.1 of the Aquatic Settlement Agreement's BTMP; and
- (c) the bull trout incidental take monitoring studies to be implemented at the Wells Hatchery as described in section 4.6.1 of the Aquatic Settlement Agreement's BTMP.

**Douglas PUD is asking the Aquatic SWG for a 30 day review, with all comments to be submitted to Douglas PUD by August 28<sup>th</sup>. At the September 11<sup>th</sup> conference call Douglas PUD will ask for formal approval from the ASWG, once any revisions have been made. For those signatories unable to make the call in September, please submit your approval to Mike prior to the meeting.**

Please let me know if you have questions and submit edits or comments to me.

Thanks  
Andrew

Andrew Gingerich  
Sr. Aquatic Resource Biologist  
**Douglas County Public Utility District**  
1151 Valley Mall Parkway, East Wenatchee, WA 98802  
Office Phone: (509) 881-2323  
Email: [andrewg@dcpubd.org](mailto:andrewg@dcpubd.org)

**REMINDER TO THE ASWG TO REVIEW AND COMMENT ON THE BULL TROUT  
STRANDING, ENTRAPMENT AND TAKE STUDY PLAN**

## Andrew Gingerich

---

**From:** Kristi Geris <kgeris@anchorage.com>  
**Sent:** Tuesday, August 27, 2013 6:12 PM  
**To:** 'Steve Parker (parker@yakama.com)'; Chris Sheridan; Paul Ward (ward@yakama.com); Bob Jateff (jatefrj@dfw.wa.gov); Shane Bickford; 'Jessi Gonzales'; Pat Irle (pirl461@ecy.wa.gov); Bill Towey (bill.towey@colvilletribes.com); Mike Schiewe; Beau Patterson; 'Donella Miller'; Charlie McKinney (cmck461@ecy.wa.gov); 'Steve Lewis'; kirk.truscott@colvilletribes.com; korthjwk@dfw.wa.gov; 'Chad Jackson'; Mary Mayo; Bob Rose; 'Bret Nine'; Andrew Gingerich; 'Bryan Nordlund (bryan.nordlund@noaa.gov)'; Bao Le; 'Patrick Luke'; 'Brad James'; Keith Hatch (Keith.Hatch@bia.gov)  
**Subject:** FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)  
**Attachments:** 2013\_07\_29 Douglas - Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13).pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi Aquatic SWG: please remember to submit comments on the attached draft Bull Trout Stranding and Take Study Plan to Andrew no later than EOD TOMORROW.

Thanks! -kristi :)

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: Kristi Geris <kgeris@anchorage.com>  
Date: 07/29/2013 1:56 PM (GMT-08:00)  
To: "Andrew Gingerich (andrewg@dcpud.org)" <andrewg@dcpud.org>, Bao Le <Bao.Le@hdrinc.com>, "Beau Patterson (bpatterson@dcpud.org)" <bpatterson@dcpud.org>, "Bill Towey (bill.towey@colvilletribes.com)" <bill.towey@colvilletribes.com>, "Bob Jateff (jatefrj@dfw.wa.gov)" <jatefrj@dfw.wa.gov>, Bob Rose <rosb@yakamafish-nsn.gov>, 'Brad James' <jamesbwj@dfw.wa.gov>, 'Bret Nine' <bret.nine@colvilletribes.com>, 'Chad Jackson' <chad.jackson@dfw.wa.gov>, "Charlie McKinney (cmck461@ecy.wa.gov)" <cmck461@ecy.wa.gov>, Chas Kyger <chask@dcpud.org>, Chris Sheridan <cscherida@blm.gov>, 'Donella Miller' <donella@yakama.com>, Jason McLellan <Jason.McLellan@colvilletribes.com>, "Jeff Korth (korthjwk@dfw.wa.gov)" <korthjwk@dfw.wa.gov>, 'Jessi Gonzales' <jessica\_gonzales@fws.gov>, "Joe Peone (joe.peone@colvilletribes.com)" <joe.peone@colvilletribes.com>, "Keith Kirkendall (Keith.Kirkendall@noaa.gov)" <Keith.Kirkendall@noaa.gov>, kirk.truscott@colvilletribes.com, Kristi Geris <kgeris@anchorage.com>, 'Mary Mayo' <marym@dcpud.org>, Mike Schiewe <mschiewe@anchorage.com>, "Pat Irle (pirl461@ecy.wa.gov)" <pirl461@ecy.wa.gov>, 'Patrick Luke' <pluke@ykfp.org>, "Patrick Verhey (Patrick.Verhey@dfw.wa.gov)" <Patrick.Verhey@dfw.wa.gov>, "Paul Ward (ward@yakama.com)" <ward@yakama.com>, "Shane Bickford (sbickford@dcpud.org)" <sbickford@dcpud.org>, 'Steve Lewis' <stephen\_lewis@fws.gov>, "Steve Parker (parker@yakama.com)" <parker@yakama.com>, Steve Rainey <WSteveRainey@aol.com>  
Subject: FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

**USFWS COMMENTS ON THE BULL TROUT STRANDING, ENTRAPMENT AND TAKE  
STUDY PLAN**

## Andrew Gingerich

---

**From:** Lewis, Stephen <stephen\_lewis@fws.gov>  
**Sent:** Wednesday, August 28, 2013 11:42 AM  
**To:** Andrew Gingerich  
**Subject:** Fwd: FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)  
**Attachments:** 2013\_07\_29 Douglas - Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13).pdf; DevineTarbellAssociates2006EffectofWaterLevelFluctuations.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi Andrew-

Thanks for the opportunity to review this document. In general the document looks pretty good, but I offer some helpful suggestions for your consideration:

- 1.) The word "stranding" doesn't necessarily encapsulate all the aspects of reservoir fluctuation effects. "Entrapment" into a specific area of the reservoir periphery is also important. I suggest incorporating this concept into the study plan as well and modifying the title accordingly. In instances where a documented "stranding" or "entrapment" event has occurred, please not the respective water temperature during those instances.
- 2.) Devine Tarbell & Associates 2006 (attached below) provides a good summary of effects resulting from potential reservoir fluctuations in the Wells Pool. I suggest inserting this reference into the document to strengthen the rationale for these actions contained in the study plan.
- 3.) I always think its important to multi-task during these types of studies to the extent possible and reasonable. So I suggest reporting any incidental aquatic species that might be surveyed during the implementation of this study.
- 4.) Bull Trout Monitoring During Hatchery Activities (page 10): Please insert a placeholder into this section which takes into account other unforeseen hatchery activities which may occur during the course of the new license. I think that's what you intended through the HGMP caveat, but further clarification would be useful.
- 5.) Figure 1 (page 7): This figure identifies six locations under consideration for these surveys. However, do you have a sense of how these sites will be prioritized once a reservoir fluctuation event has been identified. Based on the reservoir bathymetry, I'm sure some locations rise to the top in terms of importance? Clarification of this point in the document would be very useful.

Hopefully these suggestions help! Give me a call if you would like to discuss!

S-

----- Forwarded message -----

From: **Kristi Geris** <[kgeris@anchorqea.com](mailto:kgeris@anchorqea.com)>  
Date: Tue, Aug 27, 2013 at 6:12 PM



--

\*\*\*\*\*

Stephen T. Lewis  
Hydropower and Energy Coordinator  
US FISH AND WILDLIFE SERVICE  
CENTRAL WASHINGTON FIELD OFFICE  
215 MELODY LANE STE 103  
WENATCHEE, WA 98801-8122  
phone: (509) 665-3508 Ext. 2002  
e-mail: [Stephen.Lewis@fws.gov](mailto:Stephen.Lewis@fws.gov)

*"If a road has no obstacles, it probably doesn't lead to anywhere." S. Lewis*

**EMAIL TO THE AQUATIC SETTLEMENT WORK GROUP WITH THE REVISED BULL  
TROUT STRANDING, ENTRAPMENT AND TAKE STUDY PLAN**

## Andrew Gingerich

---

**From:** Kristi Geris <kgeris@anchorage.com>  
**Sent:** Monday, September 09, 2013 9:40 AM  
**To:** Andrew Gingerich; Bao Le; Beau Patterson; Bill Towey (bill.towey@colvilletribes.com); Bob Jateff (jatefrjj@dfw.wa.gov); Bob Rose; 'Brad James'; 'Bret Nine'; 'Bryan Nordlund (bryan.nordlund@noaa.gov)'; 'Chad Jackson'; Charlie McKinney (cmck461@ecy.wa.gov); Chas Kyger; Chris Sheridan; 'Donella Miller'; Jason McLellan; Jeff Korth (korthjwk@dfw.wa.gov); 'Jessi Gonzales'; Keith Kirkendall (Keith.Kirkendall@noaa.gov); kirk.truscott@colvilletribes.com; Kristi Geris; Mary Mayo; Mike Schiewe; Pat Irle (pirl461@ecy.wa.gov); 'Patrick Luke'; Patrick Verhey (Patrick.Verhey@dfw.wa.gov); Paul Ward (ward@yakama.com); Shane Bickford; 'Steve Lewis'; 'Steve Parker (parker@yakama.com)'  
**Cc:** Keith Hatch (Keith.Hatch@bia.gov)  
**Subject:** FW: Revised Bull Trout Stranding and Take Study Plan License Article 402  
**Attachments:** 2013\_09\_09 Douglas - Bull Trout Stranding and Take Study Plan License Article 402 (9-5-13).doc

Hi Aquatic SWG: please see the email below from Andrew and the attached revised Bull Trout Stranding and Take Study Plan that will be up for approval at this week's Aquatic SWG conference call.

Thanks!  
Kristi ☺

**Kristi Geris**

**ANCHOR QEA, LLC**  
[kgeris@anchorage.com](mailto:kgeris@anchorage.com)  
T 509.491.3151 x104  
C 360.220.3988

---

**From:** Andrew Gingerich [mailto:andrewg@dcpud.org]  
**Sent:** Monday, September 09, 2013 9:32 AM  
**To:** Kristi Geris  
**Cc:** Stephen T. Lewis (Stephen\_Lewis@fws.gov) (Stephen\_Lewis@fws.gov); Shane Bickford; Chas Kyger  
**Subject:** Revised Bull Trout Stranding and Take Study Plan License Article 402

Kristi, please distribute this email and the attached document to the ASWG.

The comment period for the Bull Trout Stranding and Take Study Plan closed 8/28/2013. Douglas PUD received comments from the USFWS on this plan. The comments were very good and helped improve the document. Douglas PUD's responses to the comments are included below. In addition, I have attached the revised document with the changes that were made in response to the USFWS' comments (I kept the changes in track changes for ease of review). Once the document is approved by the ASWG we will turn off track changes and circulate a final version.

The revised plan, with tracked changes, is up for approval this Wed. Sept. 11 during our ASWG call.

Thanks  
Andrew  
509-881-2323

**From:** Lewis, Stephen [[mailto:stephen\\_lewis@fws.gov](mailto:stephen_lewis@fws.gov)]

**Sent:** Wednesday, August 28, 2013 11:42 AM

**To:** Andrew Gingerich

**Subject:** Fwd: FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

Hi Andrew-

Thanks for the opportunity to review this document. In general the document looks pretty good, but I offer some helpful suggestions for your consideration:

1.) The word "stranding" doesn't necessarily encapsulate all the aspects of reservoir fluctuation effects. "Entrapment" into a specific area of the reservoir periphery is also important. I suggest incorporating this concept into the study plan as well and modifying the title accordingly. In instances where a documented "stranding" or "entrapment" event has occurred, please not the respective water temperature during those instances.

I have updated the title to be, "Bull Trout Stranding, Entrapment and Take Study Plan" and added a section to note water temperature in the entrapment and stranding survey section that reads, "Finally, water temperatures will be taken in each pool when fish of any species are present."

2.) Devine Tarbell & Associates 2006 (attached below) provides a good summary of effects resulting from potential reservoir fluctuations in the Wells Pool. I suggest inserting this reference into the document to strengthen the rationale for these actions contained in the study plan.

Agree. As such, I have added to the stranding justification section and added the reference to the reference list at the end of the document, "Infrequent reservoir operations necessitated by unusual circumstances, such as extreme runoff from the Methow or Okanogan rivers can result in reservoir elevation of 773-771 (Devine Tarbell & Associates 2006)."

3.) I always think its important to multi-task during these types of studies to the extent possible and reasonable. So I suggest reporting any incidental aquatic species that might be surveyed during the implementation of this study.

Sounds good. I added this to the pool surveys, " Incidentally captured species will be identified to species and enumerated up to the first 25 of each species. Additional counts beyond 25 will be estimated (e.g. approximately 100 stickle back). Non-target taxa will also be identified as adult or subadult."

4.) Bull Trout Monitoring During Hatchery Activities (page 10): Please insert a placeholder into this section which takes into account other unforeseen hatchery activities which may occur during the course of the new license. I think that's what you intended through the HGMP caveat, but further clarification would be useful.

Good point. I added this to the section, "During the course of the Wells Operating License, new hatchery related activities may be developed that are currently unforeseen. New hatchery actions that are implemented during HGMP activities may have the potential to encounter bull trout. In the event of new HGMP actions (e.g. development and operation of a new weir or trapping facility) Douglas PUD, along with the ASWG may elect to adopt similar measures for bull trout monitoring as explained above."

5.) Figure 1 (page 7): This figure identifies six locations under consideration for these surveys. However, do you have a sense of how these sites will be prioritized once a reservoir fluctuation event has been identified. Based on the reservoir bathymetry, I'm sure some locations rise to the top in terms of importance? Clarification of this point in the document would be very useful.

Yes. Good point the upper area of the Project has the potential to have more smaller and more numerous stranding locations. As such, I added, "Surveys will be conducted by boat and/or foot, as appropriate, at each of

the six sites identified above in the following order 3, 4, 6, 2, 1, and 5 (prioritized based on expected size and depth of stranding pools)."

Hopefully these suggestions help! Give me a call if you would like to discuss!

S-

----- Forwarded message -----

From: **Kristi Geris** <[kgeris@anchorage.com](mailto:kgeris@anchorage.com)>

Date: Tue, Aug 27, 2013 at 6:12 PM

Subject: FW: Bull Trout Stranding and Take Study Plan License Article 402 (7-29-13)

To: "Steve Parker (parker@yakama.com)" <[parker@yakama.com](mailto:parker@yakama.com)>, Chris Sheridan <[csherida@blm.gov](mailto:csherida@blm.gov)>, "Paul Ward (ward@yakama.com)" <[ward@yakama.com](mailto:ward@yakama.com)>, "Bob Jateff (jatefrjj@dfw.wa.gov)" <[jatefrjj@dfw.wa.gov](mailto:jatefrjj@dfw.wa.gov)>, "Shane Bickford ([sbickford@dcpud.org](mailto:sbickford@dcpud.org))" <[sbickford@dcpud.org](mailto:sbickford@dcpud.org)>, Jessi Gonzales <[jessica\\_gonzales@fws.gov](mailto:jessica_gonzales@fws.gov)>, "Pat Irle (pir461@ecy.wa.gov)" <[pir461@ecy.wa.gov](mailto:pir461@ecy.wa.gov)>, "Bill Towey (bill.towey@colvilletribes.com)" <[bill.towey@colvilletribes.com](mailto:bill.towey@colvilletribes.com)>, Mike Schiewe <[mschiewe@anchorage.com](mailto:mschiewe@anchorage.com)>, "Beau Patterson (bpatterson@dcpud.org)" <[bpatterson@dcpud.org](mailto:bpatterson@dcpud.org)>, Donella Miller <[donella@yakama.com](mailto:donella@yakama.com)>, "Charlie McKinney (cmck461@ecy.wa.gov)" <[cmck461@ecy.wa.gov](mailto:cmck461@ecy.wa.gov)>, Steve Lewis <[stephen\\_lewis@fws.gov](mailto:stephen_lewis@fws.gov)>, "[kirk.truscott@colvilletribes.com](mailto:kirk.truscott@colvilletribes.com)" <[kirk.truscott@colvilletribes.com](mailto:kirk.truscott@colvilletribes.com)>, "[korthjwk@dfw.wa.gov](mailto:korthjwk@dfw.wa.gov)" <[korthjwk@dfw.wa.gov](mailto:korthjwk@dfw.wa.gov)>, Chad Jackson <[chad.jackson@dfw.wa.gov](mailto:chad.jackson@dfw.wa.gov)>, Mary Mayo <[marym@dcpud.org](mailto:marym@dcpud.org)>, Bob Rose <[rosb@yakamafish-nsn.gov](mailto:rosb@yakamafish-nsn.gov)>, Bret Nine <[bret.nine@colvilletribes.com](mailto:bret.nine@colvilletribes.com)>, "Andrew Gingerich ([andrewg@dcpud.org](mailto:andrewg@dcpud.org))" <[andrewg@dcpud.org](mailto:andrewg@dcpud.org)>, "Bryan Nordlund ([bryan.nordlund@noaa.gov](mailto:bryan.nordlund@noaa.gov))" <[bryan.nordlund@noaa.gov](mailto:bryan.nordlund@noaa.gov)>, Bao Le <[Bao.Le@hdrinc.com](mailto:Bao.Le@hdrinc.com)>, Patrick Luke <[pluke@ykfp.org](mailto:pluke@ykfp.org)>, Brad James <[jamesbwj@dfw.wa.gov](mailto:jamesbwj@dfw.wa.gov)>, "Keith Hatch ([Keith.Hatch@bia.gov](mailto:Keith.Hatch@bia.gov))" <[Keith.Hatch@bia.gov](mailto:Keith.Hatch@bia.gov)>

Hi Aquatic SWG: please remember to submit comments on the attached draft Bull Trout Stranding and Take Study Plan to Andrew no later than EOD TOMORROW.

Thanks! -kristi :)

Sent from my Verizon Wireless 4G LTE smartphone

----- Original message -----

From: Kristi Geris <[kgeris@anchorage.com](mailto:kgeris@anchorage.com)>

Date: 07/29/2013 1:56 PM (GMT-08:00)

To: "Andrew Gingerich ([andrewg@dcpud.org](mailto:andrewg@dcpud.org))" <[andrewg@dcpud.org](mailto:andrewg@dcpud.org)>, Bao Le <[Bao.Le@hdrinc.com](mailto:Bao.Le@hdrinc.com)>, "Beau Patterson ([bpatterson@dcpud.org](mailto:bpatterson@dcpud.org))" <[bpatterson@dcpud.org](mailto:bpatterson@dcpud.org)>, "Bill Towey ([bill.towey@colvilletribes.com](mailto:bill.towey@colvilletribes.com))" <[bill.towey@colvilletribes.com](mailto:bill.towey@colvilletribes.com)>, "Bob Jateff ([jatefrjj@dfw.wa.gov](mailto:jatefrjj@dfw.wa.gov))" <[jatefrjj@dfw.wa.gov](mailto:jatefrjj@dfw.wa.gov)>, Bob Rose <[rosb@yakamafish-nsn.gov](mailto:rosb@yakamafish-nsn.gov)>, 'Brad James' <[jamesbwj@dfw.wa.gov](mailto:jamesbwj@dfw.wa.gov)>, 'Bret Nine' <[bret.nine@colvilletribes.com](mailto:bret.nine@colvilletribes.com)>, 'Chad Jackson' <[chad.jackson@dfw.wa.gov](mailto:chad.jackson@dfw.wa.gov)>, "Charlie McKinney ([cmck461@ecy.wa.gov](mailto:cmck461@ecy.wa.gov))" <[cmck461@ecy.wa.gov](mailto:cmck461@ecy.wa.gov)>, Chas Kyger <[chask@dcpud.org](mailto:chask@dcpud.org)>, Chris Sheridan <[csherida@blm.gov](mailto:csherida@blm.gov)>, 'Donella Miller' <[donella@yakama.com](mailto:donella@yakama.com)>, Jason McLellan <[Jason.McLellan@colvilletribes.com](mailto:Jason.McLellan@colvilletribes.com)>, "Jeff Korth ([korthjwk@dfw.wa.gov](mailto:korthjwk@dfw.wa.gov))" <[korthjwk@dfw.wa.gov](mailto:korthjwk@dfw.wa.gov)>, 'Jessi Gonzales' <[jessica\\_gonzales@fws.gov](mailto:jessica_gonzales@fws.gov)>, "Joe Peone ([joe.peone@colvilletribes.com](mailto:joe.peone@colvilletribes.com))"

**APPROVAL BY THE AQUATIC SETTLEMENT WORK GROUP OF THE BULL TROUT  
STRANDING, ENTRAPMENT AND TAKE STUDY PLAN**

# Final Conference Call Action Items

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## *Aquatic Settlement Work Group*

**To:** Aquatic SWG Parties **Date:** September 16, 2013  
**From:** Michael Schiewe, Chair (Anchor QEA, LLC)  
**Re:** Final Action Items of the September 11, 2013, Aquatic SWG Conference Call

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Below is a summary of Action Items from the Aquatic SWG meeting held by conference call from 10:00 am to 11:30 am on Wednesday, September 11, 2013. These action items include the following:

### **I. Summary of Action Items**

1. Douglas PUD will finalize the revised draft Bull Trout Stranding and Take Study Plan, and will provide a final version of the plan to Kristi Geris for distribution to the Aquatic SWG (Item VI-2).
2. Douglas PUD will incorporate Section 2.6 – Regional Coordination of the Pacific Lamprey Management Plan (PLMP) into the draft Lamprey Entrance Efficiency and Operations Study Plan, per U.S. Fish and Wildlife's (USFWS's) request. Upon USFWS's approval of the revisions, Kristi Geris will distribute the final version of the plan to the Aquatic SWG (Item VI-3). *(Note: Steve Lewis provided USFWS's approval of the revised plan via email on September 11, 2013, and the final plan was distributed to the Aquatic SWG by Geris on September 12, 2013.)*
3. Douglas PUD will provide a revised draft Water Quality Attainment Plan (WQAP) to Kristi Geris for distribution to the Aquatic SWG. Aquatic SWG members will submit edits and comments on the revised draft WQAP to Andrew Gingerich no later than Tuesday, October 1, 2013 (Item VI-4).
4. Aquatic SWG members will submit edits and comments on the draft Spill Prevention Control and Countermeasures (SPCC) Plan to Andrew Gingerich no later than Tuesday, October 1, 2013 (Item VI-5).
5. Jason McLellan will present his Mid-Columbia Regional Sturgeon Workshop materials at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-6).
6. Douglas PUD will provide a demonstration of the Aquatic SWG Extranet site at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-8).

7. The Aquatic SWG meeting on October 9, 2013, will be held in person at 9:00 am at Douglas PUD Headquarters in East Wenatchee, Washington. If time permits, there will also be a Wells Dam site visit following the meeting (Item VII-1).

## II. Summary of Decisions

1. There were no Statements of Agreement (SOAs) approved at today's meeting.

## III. Agreements

1. The Aquatic SWG members present approved the draft Bull Trout Stranding and Take Study Plan, as revised (Item VI-2).
2. The Aquatic SWG members present conditionally approved the draft Lamprey Entrance Efficiency and Operations Study Plan, pending USFWS's email approval of the revised draft plan (Item VI-3). *(Note: Steve Lewis provided USFWS's approval of the revised plan via email on September 11, 2013, as distributed to the Aquatic SWG by Kristi Geris that same day.)*
3. The Aquatic SWG members present agreed to continue discussions on the Conflict of Interest Policy at the Aquatic SWG in-person meeting on October 9, 2013 (Item VI-9).
4. The Aquatic SWG members present agreed to hold the Aquatic SWG meeting on October 9, 2013, at an earlier than usual start time of 9:00 am. The meeting will be held in person at Douglas PUD Headquarters in East Wenatchee, Washington. If time permits, Aquatic SWG members also agreed to a Wells Dam site visit following the meeting (Item VII-1).

## IV. Review Items

1. Kristi Geris sent an email to the Aquatic SWG on August 26, 2013, notifying them that the draft SPCC Plan is available for review, with comments due to Andrew Gingerich no later than Tuesday, October 1, 2013.
2. Kristi Geris sent an email to the Aquatic SWG on August 27, 2013, notifying them that the draft Conflict of Interest Policy is available for review. The draft policy will be up for approval at the Aquatic SWG meeting on October 9, 2013.
3. Kristi Geris sent an email to the Aquatic SWG on August 27, 2013, notifying them that the draft WQAP is available for review, with comments due to Andrew Gingerich no later than Tuesday, October 1, 2013.

## V. Reports Finalized

1. The final Lamprey Entrance Efficiency and Operations Study Plan was approved by the Aquatic SWG on September 11, 2013, and was distributed to the Aquatic SWG by Kristi Geris on September 12, 2013.



Document Content(s)

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