



Oregon

Kate Brown, Governor

Department of Fish and Wildlife

Fish Division

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2015 SCIENTIFIC TAKING PERMIT - FISH



Permit Holder: **Randall Absolon**

Permit Number: **19449**

Organization: **NMFS Northwest Fisheries Science Center**

Project Title: **Evaluation of fish condition and Gatewell Residence Time for Juvenile Salmonids in a Modified Gatewell at the Bonneville Dam's Second Powerhouse**

Address: **3305 E Commerce St.
Pasco, WA 99301**

Dates: **3/27/2015 – 12/31/2015**

Phone: **(509)542-4050**

Email: **randy.absolon@noaa.gov**

Federal Authorization: **NOAA Determination of Take (14-15-NWFSC105) dated March 23, 2015 under the FCRPS BiOp. – Revision in progress to update take numbers to reflect what is in the take table below. As per Condition 11h of this permit, the applicant must comply with the more restrictive condition when any discrepancy occurs.**

Principal Investigator: **Randall Absolon**

Co-Investigators: **Benjamin Sandford**

PI Signature: _____ CI Signature: _____

Location: **Lower Columbia HUC: Columbia River at Bonneville Dam**

CONDITIONS AND AUTHORIZATION OF THIS PERMIT:

1. The Permit Holder shall at all times observe and comply with all federal and state laws, including the Endangered Species Act of 1973, as amended, and lawful regulations issued thereunder, which relate to threatened or endangered plant or animal species while performing activities described in the permit application. ODFW's approval of this permit does not certify that Permit Holder's activities described in its application are lawful under the federal ESA. Permit Holder's compliance with permit conditions is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act. General conditions of Oregon Revised Statutes and Oregon Administrative Rules apply to this permit that cannot be used in lieu of any permit required by federal law or regulation. Permission to sample in areas where federally protected fish may occur is contingent upon the permittee obtaining necessary authorization from the appropriate federal agency and acting in accordance with the conditions established by the federal government.
2. This permit is not transferable from one company or person to another and must be carried on person while collecting.
3. Access to private property is contingent on the permission of the landowner. This permit does not authorize trespassing.
4. This permit is not valid in any refuge, park, city, wildlife area, or area closed to collection without written approval of manager or administrator.

5. Local officials of the Department of Fish and Wildlife and Oregon State Police must be notified prior to sampling effort.
6. An annual activity/collection report associated with this permit must be submitted to ODFW by December 31, 2015, using the on line application process available at <https://apps.nmfs.noaa.gov/>. Renewal of this permit is subject to receipt by ODFW of the annual activity/collection report either prior to or in conjunction with the renewal application.
7. No protected species may be taken unless specifically listed below and any other necessary federal authorizations have been granted. See ODFW Sport Fishing Regulations for listing of species, or contact ODFW directly.
8. All numbers of fish authorized in this permit and the attached APPS permit and take table are annual totals.
9. Persons named above as "Co-investigators" must sign their own copy of the permit and carry the signed copy while engaged in the activities authorized in this permit.
10. Persons not named above may assist in collecting only while accompanied by the Principal Investigator(s) or Co-investigator(s) listed above.
11. Additional conditions and authorization:
 - a) **May only conduct research and monitoring activities as described in the completed APPS permit (attached at the bottom of this document). Actual distribution of take among sites is authorized as described in the APPS permit application.**
 - b) **All fish handled must be recorded in the annual report for this permit.**
 - c) **Fish may only be taken by methods described in the APPS permit application (attached at the bottom of this document). If electrofishing, protocols should follow the guidelines established by the National Marine Fisheries Service (NMFS) in June 2000.**
 - d) **Activities must be coordinated with local ODFW Fish Biologists in the district you are sampling, *prior to any sampling in their districts.***
 - e) **Indirect mortality may not exceed 3% (electrofishing) or 1% (other methods) as described in the take tables in the permit application. In the event that mortality for any species exceeds this rate, the permittee should contact the Endangered Species Act Program, ODFW, (503-947-6254 or 541-440-3353 x263) prior to any further activity.**
 - f) **Follow FDA approved protocols and use only FDA approved substances for anesthetizing fish.**
 - g) **If sampling in multiple sub-basins (4th field HUCs), boots and sampling equipment intended for use in the water will be disinfected and air-dried prior to use in each location. Water containing chemicals used in handling fish and used for disinfecting equipment must not be allowed to enter waters of the state. Dispose of on dry land or allow to evaporate.**
 - h) **This permit only grants authority to conduct this activity under state law. Obtaining appropriate federal clearance under the Endangered Species Act is the permittee's responsibility. If a condition on this permit conflicts with a condition on the federal permit or authorization, then the permittee must comply with the more restrictive condition.**
 - i) **Unless otherwise stated in this permit, all authorized take is only for the species, purposes and by the protocols described in the permit application. If you approach or meet your permitted take at a location and still have sampling to do, please contact the ODFW ESA Program as soon as possible.**

ISSUED BY:



Michele Weaver
Endangered Species Act Specialist
(503) 947-6254

DATE: March 27, 2015

Distribution: Chris Knutsen, Robert Bradley, Tom Rien -ODFW

OREGON FISH BIOLOGISTS CONTACT DETAILS

ODFW District Biologist	Phone	E-mail	Watershed District	Office
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* = Assistant Fish Biologist



Authorizations and Permits for Protected Species (APPS)

File #: 19449

Title: Evaluation of fish condition and Gatewell Res

Applicant Information

Name: Randall Absolon
Title: Supervisory Biologist
Affiliation: NMFS Northwest Fisheries Science Center
Address: 3305 E Commerce St.
City,State,Zip: Pasco, WA 99301
Phone Number: (509)542-4050
Fax Number: (509)547-4181
Email: randy.absolon@noaa.gov

Project Information

File Number: 19449
Application Status: **Application Complete**
Project Title: Evaluation of fish condition and Gatewell Residence Time for Juvenile Salmonids in a Modified Gatewell at the Bonneville Dam's Second Powerhouse
Project Status: New
Previous Federal or State Permit:
Permit Requested:

- Oregon Scientific Taking Permit for Fish and Marine and Freshwater Invertebrates

Where will activities occur? US Locations including offshore waters
Oregon (including Columbia River and offshore waters)
State department of fish and game/wildlife: N/A
Research Timeframe: **Start:** 03/30/2015 **End:** 12/31/2015

Sampling Season/Project Duration: This research study is anticipated to be a one year evaluation beginning the end of March 2015 and concluding by the end of June 2015

Project Type: Management/Applied Research

Project Description

Purpose: The primary purpose of this evaluation is to test the hypothesis that reducing flow into a PH2 modified gatewell will improve gatewell flow conditions thereby reducing mortality at the upper 1% peak efficiency turbine operation range. Flows in the 12.0-12.5 kcfs range will represent the low 1%, flows in the 14.0-15.0 kcfs range will represent the mid 1% operation, and flows in the 18.0-18.5 kcfs range will represent the upper 1%. Treatments for validation of the CFD model in gatewell 15A include operation of a turbine unit at flows representing the lower, middle, and upper 1% peak efficiency range with a flow control alternative and one open orifice. The flow measurement objectives are being refined through regional discussion in the Fish Facility Design Review Work Group. Evaluation of gatewell residence times, fish condition (mortality and injury) shall be compared between treatments at the upper and middle 1%.

Description: Fish will be handled using water-to-water transfer techniques, anesthetized with tricaine methanesulfonate at a concentration of about 50 mg/L, and tagged with passive integrated transponder (PIT) tags. Tags will be injected with single use pre-loaded needles. Tagged fish will be held at the Second Powerhouse JFMF for a 16- to 24-hour recovery period before release. Tagging files will be submitted to the PTAGIS database.

Releases of PIT tagged test fish will be made via a release hose through a steel pipe sleeve mounted on the trash racks (used in 2008-2009 and 2013 tests) into Second Powerhouse Turbine Intakes of the test slots (14A, 15A and C). We plan to make all fish releases in the morning.

Test fish will be recaptured at the JFMF using programmable SbyC, anesthetized, examined for passage effects, held for a short period of time to recover from anesthesia, and returned to the river. Recaptured test fish and bycatch will be entered into P3 files and uploaded to PTAGIS. Mortality rates and passage timing will be obtained for Spring Creek NFH subyearling Chinook salmon. Descaling rates are typically very low in Spring Creek fish, so meaningful descaling information will probably not be obtained from either test series.

Travel times for fish recaptured live will be computed as elapsed time from release to detection at the JFMF (SbyC Separator Gate Monitor). Passage timing data for individual PIT-tagged fish will be obtained via query of the PTAGIS database. The downloaded CSV data files will be imported into spreadsheet and database programs for calculation of minimum, maximum, and 10th, 50th, and 90th percentile passage times.

Mortality and descaling data at recapture will be logged using P3 software. Later comparison of tagging and recapture data in a relational database program will determine group identity. Statistically significant differences between control and treatment groups will be determined by Analysis of Variance.

C. Methodology

Objective 3

Estimate Spring Creek NFH juvenile subyearling Chinook salmon mortality and gatewell residence time at the upper and middle 1% peak efficiency range under the following gatewell configurations in 15A and 14A. The objective specifies two treatment groups, defined as follows:

A Modified Gatewell 15A and upper 1% operation.

B Unmodified Gatewell 14A at middle 1% operation.

Turbine operation during all tests will be at either the middle or upper end of the 1% peak efficiency range. Test species would be subyearling Chinook salmon obtained directly from Spring Creek NFH.

Based on past experience conducting studies of this type at Bonneville Dam, we estimate that identifying 3% additive differences between control and treatment groups and the number of test days available in each series, will allow about ten test blocks. With two test gatewells, a single operation in each turbine unit, and a minimum 24-h waiting period between releases in each gatewell; a complete test block can be completed each day.

Objective 4

Estimate Spring Creek NFH juvenile subyearling Chinook salmon mortality and gateway residence time at the upper and middle 1% peak efficiency range of Gateways 14A and 15C. The objective specifies two treatment groups, defined as follows:

- A Unmodified Gateway 15C at upper 1% operation.
- B Unmodified Gateway 14A at middle 1% operation.

Turbine operation during all tests will be at either the middle or upper end of the 1% peak efficiency range. Test species would be subyearling Chinook salmon obtained directly from Spring Creek NFH. We anticipate using the same stock of fish from Spring Creek NFH for this objective as Objective 3. We have had preliminary discussions with USFWS staff and anticipate being able to hold test fish for this objective at Spring Creek NFH past the anticipated early May release date of the remaining hatchery production.

Because this objective will be conducted several weeks after Objective 3, the fish will likely be larger, which will have to be considered if trying to compare results from each objective. We intend to present results for each objective, but do not intend to try and draw conclusions between objectives.

Based on past experience conducting studies of this type at Bonneville Dam, we estimate that identifying 3% additive differences between control and treatment groups and the number of test days available in each series, will allow about fifteen test blocks.

With two test gateways, a single operation in each turbine unit, and a minimum 24-h waiting period between releases in each gateway; a complete test block can be completed each day.

Objective 5

Compare treatment A against treatment B for Objective 3 and 4 releases. (sample sizes shall be calculated to detect a difference in fish condition of 3% at $\alpha = 0.05$).

Fish Condition (FC): $H_0 = FC_{upper15A} = FC_{mid14A}$;

$H_A = FC_{upper15A} \neq FC_{mid14A}$

Gateway Residence Time (GRT): $H_0 = GRT_{upper15A} = GRT_{mid14A}$;

$H_A = GRT_{upper15A} \neq GRT_{mid14A}$

Fish Condition (FC): $H_0 = FC_{upper15C} = FC_{mid14A}$;

$H_A = FC_{upper15C} \neq FC_{mid14A}$

Gateway Residence Time (GRT): $H_0 = GRT_{upper15C} = GRT_{mid14A}$;

$H_A = GRT_{upper15C} \neq GRT_{mid14A}$

Analysis of variance will be used to identify significant differences in fish condition and passage distribution parameters. Differences between gateway flow conditions will have to be considered when interpreting results.

Based on past experience conducting studies of this type at Bonneville Dam, the possibility exists that a substantial portion of the test fish may not be recaptured. If this occurs during this study, a comparison between the two treatments will include an evaluation of the percentage of live fish recaptured based on the number released, to estimate a minimum survival rate.

Sample Size Calculation

We calculated treatment group sizes necessary to detect an additive difference, d , given a background or control effect, p_1 , with $\alpha = 0.05$ and $\beta = 0.20$.

The research summary specifies a detectable additive difference of 3%. At this level of sensitivity, application of the equation results in estimated treatment group sizes of 817, 989, and 1,157 fish (number of fish to recapture) at p_1 values of 0.03, 0.04, and 0.05, respectively. The total number of fish released for each treatment will be divided among 10 to 15 replicate (day) releases to allow statistical analysis by ANOVA.

The research summary specifies a total of two groups, consisting of a control and treatment group. For both Objective 3 and 4, using Spring Creek NFH fish, based on our 2013 results, we estimate an 80% overall recapture rate and $p_1 = 0.05$. If 1,157 fish are needed for each of 2 groups, then $(1,157 \times 2) / 0.80 = 2,893$ fish would be required. In addition, we will release 50 fish into the collection channel on up to four dates (one per week), so $2,893 + 200 = 3,093$ fish will be needed for each objective. This results in a total of about 6,200 fish to complete both Objective 3 and 4.

Supplemental Information

Anticipated Effects on Animals:

Measures to Minimize Effects:

Test fish will be released in the morning when dam passage of juvenile salmonids is at its lowest. This will reduce the number of fish caught as bycatch in the Separation by Code system at the Juvenile Fish Facility at Bonneville Dam.

The study will also be suspended when Spring Creek NFH releases their production groups of Tule Stock subyearling Chinook salmon, to minimize impact to those groups of fish.

Public Availability of Product/Publications:

Results of this research will be presented at the annual Corps of Engineers AFEP meeting in December 2015, and the final report of research will be available from the Corps of Engineers when complete.

Biologist Comments

Date	From	Comments
02/25/2015	Tom Rien	Thanks Randy. I am fine with your proposal. Michele, This research is supported by FPOM and AFEP work groups and has been an on-going effort for many years to improve passage for juvenile fish that experience the Bonneville 2 bypass route. No additional comments at this time. Tom Rien Office: 971.673.6061
02/25/2015	Tom Rien	Thanks Randy. I am fine with your proposal. Michele, This research is supported by FPOM and AFEP work groups and has been an on-going effort for many years to improve passage for juvenile fish that experience the Bonneville 2 bypass route. No additional comments at this time. Tom Rien

Federal Information

Federal Agency	Type	Authorization Number and Title	Date Signed	Expiration Date	Listing Units/Stocks Covered	Comments
U.S. Army Corps of Engineers (Corps)	Funding	Evaluation of Fish condition and Gatewell Residence Time for Juvenile Salmonids in a Modified Gatewell at the Bonneville Dam's Second Powerhouse" BPS-P-15-1			N/A	Contract for study is in process, hasn't been signed at this time.
National Marine Fisheries Service (NMFS)	Section 7 Consultation (Biological Opinion)	NWFSCxx Evaluation of Fish condition and Gatewell	03/23/2015	12/31/2015	Chinook Salmon, Snake River fall-run (NMFS Threatened);Chinook Salmon, Snake River spring/summer-run (NMFS Threatened);Sockeye Salmon, Snake River (NMFS Endangered);Steelhead, Upper Columbia River (NMFS Threatened);Steelhead, Snake River Basin (NMFS Threatened);Coho Salmon, Lower Columbia River (NMFS Threatened);Steelhead, Lower Columbia River (NMFS Threatened);Steelhead, Middle Columbia River (NMFS Threatened);Chinook Salmon, Lower Columbia River (NMFS Threatened);Chinook Salmon, Upper Columbia River spring-run (NMFS Endangered);Sockeye Salmon, Ozette Lake (NMFS Threatened)	3/25/15: Blane and Randy sent new updated letter with increased take and March allowance for sampling (attached). <-HH entered
U.S. Fish and Wildlife Service (FWS)	Cooperator	Evaluation of Fish condition and Gatewell Residenc			Chinook Salmon, Lower Columbia River (NMFS Threatened)	Test fish used in study will be obtained from USFWS Spring Creek NFH. Formal approval is in process.

Location/Take Information

Freshwater Location

Research Area: Pacific Ocean **State:** OR **Sub Basin (4th Field HUC):** Lower Columbia **Stream Name:** Columbia River at Bonneville Dam **Begin Mile:** 146.0 **End Mile:** 146.0

Sal in Oregon of species taken: None

Location Description: Study will be conducted at Bonneville Dam on the Lower Columbia River

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Snake River fall-run (NMFS Threatened)	Natural	Smolt	Unknown	19	0	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Fall	N/A	3/30/2015	12/31/2015

2		Salmon, Chinook	Snake River fall-run (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	11	0	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Fall	N/A	3/30/2015	12/31/2015
4		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	37	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Fall	N/A	3/30/2015	12/31/2015
5		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	780	14	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Fall	N/A	3/30/2015	12/31/2015
6		Salmon, Chinook	Snake River spring/summer-run (NMFS Threatened)	Natural	Smolt	Unknown	67	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring/Summer	N/A	3/30/2015	12/31/2015
7		Salmon, Chinook	Snake River spring/summer-run (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	120	2	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring/Summer	N/A	3/30/2015	12/31/2015
8		Salmon, Chinook	Upper Columbia River spring-run (NMFS Endangered)	Natural	Smolt	Unknown	67	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring/Summer	N/A	3/30/2015	12/31/2015
9		Salmon, Chinook	Upper Columbia River spring-run (NMFS Endangered)	Listed Hatchery Adipose Clip	Smolt	Unknown	85	2	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring/Summer	N/A	3/30/2015	12/31/2015
10		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	4	0	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring	N/A	3/30/2015	12/31/2015
11		Salmon, coho	Lower Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	35	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		N/A	N/A	3/30/2015	12/31/2015
12		Salmon, sockeye	Snake River (NMFS Endangered)	Natural	Smolt	Unknown	46	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		N/A	N/A	3/30/2015	12/31/2015

13		Steelhead	Snake River Basin (NMFS Threatened)	Natural	Smolt	Unknown	114	2	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Summer	N/A	3/30/2015	12/31/2015	
14		Steelhead	Snake River Basin (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	307	5	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Summer	N/A	3/30/2015	12/31/2015	
15		Steelhead	Upper Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	42	2	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Summer	N/A	3/30/2015	12/31/2015	
16		Steelhead	Upper Columbia River (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	282	5	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Summer	N/A	3/30/2015	12/31/2015	
17		Steelhead	Middle Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	184	3	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Mixed	N/A	3/30/2015	12/31/2015	
18		Steelhead	Middle Columbia River (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	228	5	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Mixed	N/A	3/30/2015	12/31/2015	
19		Steelhead	Lower Columbia River (NMFS Threatened)	Natural	Smolt	Unknown	14	0	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Mixed	N/A	3/30/2015	12/31/2015	
20		Steelhead	Lower Columbia River (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	36	1	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Mixed	N/A	3/30/2015	12/31/2015	
21		Salmon, Chinook	Lower Columbia River (NMFS Threatened)	Listed Hatchery Adipose Clip	Smolt	Unknown	6300	518	Capture/Mark, Tag, Sample Tissue/Release Live Animal	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)	Tag, PIT	Tule Fall	N/A	3/30/2015	12/31/2015	
Details: no incidental morts listed in BiOp																
22		Salmon, Chinook	Unspecified	Unlisted Hatchery	Smolt	Unknown	2204	40	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Spring/Summer	N/A	3/30/2015	12/31/2015	

23		Salmon, coho	Unspecified	Unlisted Hatchery	Smolt	Unknown	2198	40	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		N/A	N/A	3/30/2015	12/31/2015
24		Salmon, sockeye	NA	Unlisted Hatchery	Smolt	Unknown	2954	53	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		N/A	N/A	3/30/2015	12/31/2015
25		Steelhead	Unspecified	Unlisted Hatchery	Smolt	Unknown	984	18	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Mixed	N/A	3/30/2015	12/31/2015
26		Salmon, Chinook	Unspecified	Unlisted Hatchery	Smolt	Unknown	1992	36	Capture/Handle/Release Fish	Dam bypass, gatewell, orifice, etc. (only if associated with fish handling)		Fall	N/A	3/30/2015	12/31/2015

Project Contacts

Primary Contact: Randall Absolon

Principal Investigator: Randall Absolon

Other Personnel:

Name	Role(s)
Benjamin Sandford	Co-Investigator

Attachments

Contact - Benjamin Sandford: C18434T5Absolon_CV_Feb2015.doc (Added Mar 10, 2015)

Contact - Randall Absolon: C263T5Absolon_CV_Feb2015.doc (Added Feb 27, 2015)

Federal Authorization - P19449T23.25.15 updated BiOp take from Blane Absolon_FCRPS_TakeApp_2015_new_V3.doc (Added Mar 25, 2015)

Federal Authorization - P19449T2Fed BiOp sent 3.25.15- 14.15.NWFSC105 - final.docx (Added Mar 25, 2015)

References - P19449T12Absolon-Sandford Gatewell REVISED Final 2015 Proposal_v4.pdf (Added Feb 12, 2015)

References - P19449T14Issued.pdf (Added Mar 27, 2015)

Status

Application Status: Application Complete
Date Submitted: March 25, 2015
Last Date Archived: March 27, 2015

• Oregon Scientific Taking Permit for Fish and Marine and Freshwater Invertebrates

Current Status: Issued **Status Date:** March 27, 2015
Date State Approved: March 27, 2015
Expire Date: December 31, 2015

Modification Requests

This section is currently empty.

Reports

Report Required

Nbr	Report Type	Report Period		Date Due	Status	Date Received
		Start Date	End Date			
1	Annual-Year End	01/01/2015	12/31/2015	12/31/2015	N/A	