NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE

Authorizations and Permits for Protected Species (APPS)

File #:

Applicant Information

Affiliation:	Washington Department of Natural Resources, Northwest Region
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Project Information

File Number:	19738
Application Status:	Application Complete
Project Title:	Stream Type Surveys on Washington Department of Natural Resource Lands
Project Status:	New
Previous Federal or State Permit:	
Permit Requested:	• ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrates)
Where will activities occur?	Washington (including Columbia River and offshore waters)
State department of fish and game/wildlife:	N/A
Research Timeframe:	Start: 01/05/2016 End: 12/31/2020

Sampling Season/Project Duration:	Sampling season for protocol surveys is generally March 1 - July 15 (shorter for specific streams in drought years). Some sampling in headwaters stream reaches above anadromous fish passage barriers may occur outside this window. Sampling will occur intermittently on an "as needed" basis throughout the sampling season. The proposed work will be conducted on an annual basis for the five-year term of the permit.
Abstract:	Biologists from the Washington Department of Natural Resources (DNR) will utilize electrofishing equipment, in conjunction with measuring relevant physical stream characteristics make stream typing determinations on Type 3, 4 & 5 streams. This work will be limited to state managed lands associated with specific project proposals (e.g. timber sales) in the Northwest Region of DNR. Correct typing of streams will ensure that appropriate riparian habitat buffers and adequate fish passage structures are provided to support or improve conditions for aquatic species. Adhering to the National Marine Fisheries Service Electrofishing Guidelines (NMFS 2000), DNR biologists will conduct electrofishing strictly for the purposes of determining fish presence/absence. To minimize unnecessary stress on fish, this proposal does not involve the capture or handling of fish. No drugs will be used. Given the type, size and location of streams to be electrofished, the likelihood of encountering ESA listed species is extremely low. In recognition that electrofishing has the potential to harm (or even kill) fish, incidental take coverage is requested for all ESA listed fish species within the study area. In the event that a fish is stunned, it will captured via dip net and placed in a low gradient stream segment or pool to recover. Any fish inadvertently killed will be left in the field and not be collected. The permitted DNR biologist on site will be responsible observing, documenting and reporting the fate of any ESA listed fish that is harmed or killed in conjunction with electrofishing activities under this proposal.

Project Description

Purpose:	The purpose of the proposed project is to determine fish presence/absence in small streams on state managed lands to ensure that they are appropriately typed, adequately protected with riparian management zones (RMZs), and restored via removal of man-made structures that limit or restrict fish passage to upstream habitat. Streams to be electrofished will generally associated with a proposed project (e.g. DNR timber sale). Electrofishing will most frequently occur well above the "anadromous zone" in smaller Type 4 & 5 streams and often in areas with a low likelihood of fish presence. Data generated by this proposal will be used to inform land management decision making (e.g. RMZ width, culvert sizing) and will also be submitted to DNR Forest Practices division to improve the existing stream type geographic information systems database.
Description:	DNR proposes to conduct electrofishing in small streams (i.e. Type 4 & 5) on state managed lands in the Northwest Region (i.e. Whatcom, Skagit, Snohomish and northern King Counties). The purpose of the proposal is to ensure that streams are appropriately typed (see WAC 222-16-31), RMZs are adequate, and man-made barriers that impede fish passage are removed/improved. The proposed timing for electrofishing is seasonally (generally March 1 - July 15), from 2016 to 2020. Electrofishing (to determine fish presence) will used in conjunction with physical measurements to determine stream characteristics to type streams. A two-person crew will use a Smith-Root LR-20B electrofisher for all electrofishing. At least one crew member will have completed training provided by Smith-Root. Electrofishing under this proposal will result in relatively few fish encounters (e.g. at Type 3-Type 4 stream breaks, below barriers). Because fish need only be observed in the stream to make this determination. As a result, fish capture and handling is not proposed.

Data from stream typing/electrofishing will be used to inform land management decisions (e.g. RMZ width, culvert size). Stream modifications will be turned in to DNR Forest Practices Division, which are reviewed and approved by the Timber, Fish and Wildlife Community prior to the DNR making updates to the stream type database managed by DNR.

Supplemental Information

Status of Species:	While highly unlikely to be encountered during the proposed electrofishing activities, currently listed species managed by NOAA Fisheries are: Puget Sound Chinook Salmon - Threatened Puget Sound Steelhead - Threatened
Methods:	The commonly accepted protocol for stream typing to be used is outlined in WAC 222-1-31 and Section 16 of the Washing DNR Forest Practice Board Manual. IN addition, DNR staff will follow the National Marine Fisheries Service Electrofishing Guidelines (NMFS 2000) to minimize the potential for non-lethal stress to fish or inadvertent mortality. The majority of electrofishing to be conducted will be in stream segments above natural and man-made features believed to restrict fish access. Fish encounter rates are anticipated to be low and encounters with ESA listed species highly unlikely. Because the primary purpose of the project is to determine fish/presence absence, fish merely need to be observed in a stream segment to make this determination. Capture and handling will generally not be required. Stream surveys will be conducted by a two person (minimum) crew using a Smith-Root LR-20B backpack electrofisher. At least one crew member will be a permittee and will be trained (by Smith-Root fisheries biologists) in the safe and appropriate use of this equipment. The permittee will operate the electrofisher and one person will act as a netter and data recorder. Stream surveys will be conducted from downstream to upstream through the stream reach associated with the specific project proposal. Surveys will begin at the furthest downstream location of known fish use and commence through the stream reach associated with the project proposal or 1/4 mile (whichever is greater). Where applicable electrofishing will be conducted through at least 2 pools. Prior to the stream surveys, water conductivity will be measured to inform biologists of appropriate electofisher settings. Initial electrofishing settings will be: Voltage= 100V; Pulse Width- 500us; Pulse Rate 30Hz. Settings will be gradually increased only to the point where fish are temporarily immobilized. If fish are encountered, electrofishing in that pool or segment will be immediately ceased and the crew will move upstream. The electrofishing effort will be concluded after the stream reach associated with specific project proposal, or 1/4 mile, whichever is greater, has been surveyed. Data from stream typing/electrofishing surveys will initially be recorded as field notes. A stream survey report will be completed and, where applicable, a stream modification forms will be completed and submitted to DNR Forest Practices Division for review and approval by the Timber, Fish and Wildlife Community. Approved stream typing modifications will be made in a stream type geographic information system managed by DNR.
Lethal Take:	Not Applicable
Anticipated Effects	While unlikely, it is possible that fish could be injured or killed by the improper application of electrofishing techniques. The appropriate amount of electrical current elicits taxis, an involuntary muscular response that causes fish to swim towards the anodes, and eventually results temporary stunning, or narcosis. For a short duration, this is not believed to result in long-term adverse effects to fish. If electrofisher settings are too high, fish aren't immediately

Anticipated Effects on Animals:	observed, or fish make contact with the anode, they can be permanently injured (through impacts to vertebrae tissues) or, ultimately killed. Because the purpose of this project is to determine fish absence/presence, electrofishing will immediately cease the moment a single fish is observed. It is anticipated that fish encountered during electrofishing efforts will be attracted to the surface and the electrofishing unit via taxis and, in some instances, may experience temporary narcosis, but will not experience bodily injury or mortality.
Measures to Minimize Effects:	A two-person crew will be used at all times with at least one crew member trained (by Smith-Root fisheries biologists) in the safe and appropriate use of this equipment. DNR staff will follow the National Marine Fisheries Service Electrofishing Guidelines (NMFS 2000). Electrofishing will be conducted during a timeframe when juvenile fish have emerged from gravels (i.e. after March 1st) and are thus unlikely to be adversely affected by electrofishing. Further, electrofishing will not be conducted (or will immediately cease) in areas where adult salmonids are observed. To minimize unnecessary stress on fish, this proposal does not involve the capture or handling of fish. No drugs will be used. In the event that a fish is stunned, it will captured via dip net and placed in a pool for recovery.
Resources Needed to Accomplish Objectives:	A backpack electrofisher (Smith-Root LR-20B), appropriately trained personnel, permits from NOAA Fisheries, US Fish and Wildlife Service, and Washington Department of Fish and Wildlife. The permit applicants have worked in the natural resources field in the Pacific Northwest for more than 25 years. The focus of their current positions with DNR is threatened and endangered terrestrial species. Daily tasks in these positions relevant to the proposed project include spatial data review, field reconnaissance, data collection, map preparation, report writing, inter-agency coordination, and information dissemination. Both the permit applicant and sub-permittee have limited experience with the proposed methodology (i.e. less than one year). However, both have had exposure to threatened and endangered anadromous fish issues and are familiar with the species to be encountered. Chris has previous experience with the proposed methods and species to be encountered as outlined below. Actual hands-on experience with proposed methods is less than one year. Experience with species encountered (e.g. biology, life history, distribution, identification) is approximately five years. 1) Smith-Root Electrofishing Training, Smith-Root Inc., (proposed winter 2015) 2) Trained and certified in electrofishing, Northwest Environmental Training Center (1999) 3) Assist with electrofishing in Skagit County, Upper Skagit Indian Tribe (2015) 4) Smolt trap volunteer, Stillaguamish Tribe (2003) 5) Environmental review and consultation for salmon-related projects, Snohomish County Public Works (2000-2004) 6) Coordination of Chinook Recovery Plan development and Salmon Recovery Funding Board project review in Stillaguamish Watershed, Snohomish County Public Works (1999-2000)
Disposition of Tissues:	N/A. The project does not involve handling or collection. Carcasses of any fish that are mortally injured will be left in the field. Data will be recorded and reported to NOAA Fisheries, US Fish & Wildlife Service and Washington Department of Fish & Wildlife
Public Availability of Product/Publications:	Permits and reports are available upon request.

Federal Information

Federal Agency	Type	Authorization Number and Title	Date Signed	Expiration Date	Listing Units/Stocks Covered	Comments
U.S. Fish and Wildlife Service (FWS)	Section 10 permit	Section 10 "Recovery Permit"			Bull Trout, Entire range (USFWS Threatened)	permit application being completed

Location/Take Information

Freshwater Location

Research Area: Pacific Ocean State: WA Sub Basin (4th Field HUC): N/A Stream Name: Sream that flow into the Puget Sound
Location Description: Freshwater stream surveys on state managed lands in Whatcom, Skagit, Snohomish, and northern King Counties

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	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	1/5/2016	1/1/2020
2		Salmon, Chinook	Puget Sound (NMFS Threatened)	Listed Hatchery Adipose Clip	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	1/5/2016	1/1/2020
3		Steelhead	Puget Sound (NMFS Threatened)	Natural	Juvenile	Male and Female	10	1	Capture/Handle/Release Fish	Electrofishing, Backpack		Mixed	N/A	1/5/2016	1/1/2020

Project Contacts

Responsible Party: Chris Danilson
Primary Contact: Chris Danilson
Principal Investigator: Chris Danilson

Other Personnel:

Name	Role(s)
Lisa Egtvedt	Co-Investigator

Attachments

Certification of Identity - P19738T1119738 signature authentification.pdf (Added Sep 1, 2015)
Contact - Chris Danilson C18909T5Resume_ChrisDanilson_08242015.doc (Added Aug 24, 2015)

Status

Application Status:	Application Complete		
Date Submitted:	October 20, 2015		
Date Completed:	October 21, 2015		
FR Notice of Receipt Published:	November 6, 2015	Number: 2015-28333	
Comment Period Closed:	December 7, 2015	Comments Received: No	Comments Addressed: No
Last Date Archived:	January 5, 2016		

• ESA Section 10(a)(1)(A) permit (Pacific fish/invertebrates)
Current Status: Issued Status Date: January 5, 2016
Section 7 Consultation: Formal Consultation
NEPA Analysis: Categorical Exclusion
Expire Date: December 31, 2020

Analyst Information:

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Reports