



BILLING CODE: 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF811

Endangered and Threatened Species; Take of Anadromous Fish

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Applications for four new scientific research permits, two permit modifications, and eight permit renewals.

SUMMARY: Notice is hereby given that NMFS has received 14 scientific research permit application requests relating to Pacific salmon, steelhead, eulachon, and green sturgeon. The proposed research is intended to increase knowledge of species listed under the Endangered Species Act (ESA) and to help guide management and conservation efforts. The applications may be viewed online at https://apps.nmfs.noaa.gov/preview/preview_open_for_comment.cfm.

DATES: Comments or requests for a public hearing on the applications must be received at the appropriate address or fax number (see ADDRESSES) no later than 5 p.m. Pacific standard time on *[insert date 30 days after date of publication in the FEDERAL REGISTER]*.

ADDRESSES: Written comments on the applications should be sent to the Protected Resources Division, NMFS, 1201 NE Lloyd Blvd., Suite 1100, Portland, OR 97232-1274. Comments may also be sent via fax to 503-230-5441 or by e-mail to nmfs.nwr.apps@noaa.gov (include the permit number in the subject line of the fax or email).

FOR FURTHER INFORMATION CONTACT: Rob Clapp, Portland, OR (Tel: 503-231-2314, Fax: 503-230-5441, e-mail: *Robert.Clapp@noaa.gov*). Permit application instructions are available from the address above, or online at <https://apps.nmfs.noaa.gov>.

SUPPLEMENTARY INFORMATION:

Species Covered in This Notice

The following listed species are covered in this notice:

Chinook salmon (*Oncorhynchus tshawytscha*): Threatened Lower Columbia River (LCR); threatened Puget Sound (PS); threatened Snake River (SR) spring/summer-run; threatened Snake River (SR) fall-run; endangered Upper Columbia River (UCR) spring-run; threatened Upper Willamette River (UWR).

Steelhead (*O. mykiss*): Threatened LCR; threatened Middle Columbia River (MCR); threatened PS; threatened SR; threatened UCR; threatened UWR

Chum salmon (*O. keta*): Threatened Hood Canal Summer-run (HCS); threatened Columbia River (CR).

Coho salmon (*O. kisutch*): Threatened LCR; threatened Oregon Coast (OC) coho.

Sockeye salmon (*O. nerka*): Threatened Ozette Lake (OL); endangered SR.

Eulachon (*Thaleichthys pacificus*): Threatened Southern (S).

Green sturgeon (*Acipenser medirostris*): Threatened Southern (S).

Authority

Scientific research permits are issued in accordance with section 10(a)(1)(A) of the ESA (16 U.S.C. 1531 *et seq.*) and regulations governing listed fish and wildlife permits (50 CFR 222-226). NMFS issues permits based on findings that such permits: (1) are applied for in good faith; (2) if granted and exercised, would not operate to the disadvantage of the listed species that are

the subject of the permit; and (3) are consistent with the purposes and policy of section 2 of the ESA. The authority to take listed species is subject to conditions set forth in the permits.

Anyone requesting a hearing on an application listed in this notice should set out the specific reasons why a hearing on that application would be appropriate (see ADDRESSES). Such hearings are held at the discretion of the Assistant Administrator for Fisheries, NMFS.

Applications Received

Permit 10020-5R

The City of Bellingham (COB) is seeking to renew, for five years, a research permit that currently allows them to take juvenile and adult PS Chinook salmon and PS steelhead in Cemetery, Padden, Silver, and Squalicum creeks in Bellingham, WA. The purpose of the COB study is to assess the effectiveness of habitat restoration activities within the City of Bellingham by documenting population trends for salmonids inhabiting these urban creeks. These restoration actions include native riparian and upland plantings, large woody debris and gravel augmentation, re-routing and re-structuring of degraded stream channel, and floodplain re-connection. This research would benefit the affected species by informing future restoration designs, providing data to support future enhancement projects, and helping managers assess salmonid population status in these urban systems. The COB proposes to capture fish using a smolt trap (V-shaped channel-spanning weirs with live boxes) in only one of the aforementioned streams annually. Captured fish would be anesthetized, identified to species, measured, have a tissue sample taken (to determine their origin), and allowed to recover in cool, aerated water before being released back to the stream. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 16069-3M

The City of Portland is seeking to modify a permit that currently authorizes them to take juvenile and adult MCR steelhead, UCR spring Chinook salmon, UCR steelhead, SR spring/summer-run Chinook salmon, SR fall-run Chinook salmon, SR steelhead, SR sockeye salmon, LCR Chinook salmon, LCR coho salmon, LCR steelhead, CR chum salmon, UWR Chinook salmon, UWR steelhead, OC coho salmon, and S green sturgeon in the Columbia and Willamette rivers and tributaries (Oregon). The research may also cause them to take adult S eulachon—a species for which there are currently no ESA take prohibitions. The permit modification would not change the methods or scope of the ongoing research, except to increase the number of incidental mortalities authorized for juvenile UWR steelhead from one to five juvenile fish annually. This research is part of the Portland Watershed Management Plan, which aims to improve watershed health in the Portland area. In this program, researchers sample 37 sites annually across all Portland watersheds for hydrology, habitat, water chemistry, and biological communities. The research would benefit listed salmonids by providing information to assess watershed health, status of critical habitat, effectiveness of watershed restoration actions, and compliance with regulatory requirements. The City of Portland proposes to capture juvenile fish using backpack and boat electrofishing, hold fish in a bucket of aerated water, take caudal fin clips for genetic analysis, and release fish at a point near their capture site that would be chosen to minimize the likelihood of recapture. The researchers would avoid contact with adult fish. The researchers do not propose to kill any fish but a small number may die as an unintended result of the activities.

Permit 16303-2R

The United States Geological Survey (USGS) is seeking to renew, for five years, a research permit that currently allows them to take adult PS/GB bocaccio, juvenile HCS chum salmon and PS steelhead, and juvenile and adult PS Chinook salmon throughout the marine waters of Puget Sound, Hood Canal, and the Strait of Juan de Fuca (Washington State). The USGS research may also cause them to take adult S eulachon and PS/GB yelloweye rockfish--species for which there are currently no ESA take prohibitions. The purpose of the USGS study is to examine salmonid stage-specific growth, bioenergetics, competition, and predation during the critical early marine growth period. Additionally, unlisted salmonid species, herring, and other forage fish species would be studied. This research would benefit the affected species by quantifying key factors limiting Chinook survival and production. The USGS proposes capturing fish by mid-water trawl, hook and line (micro trolling), beach seine, and purse seine. The mid-water trawling would be conducted by Canadian Department of Fisheries and Oceans (CDFO) research vessels using a mid-water rope trawl during daylight at various depths and velocities and would be coordinated with surveys in Canadian waters. For the mid-water trawls, the fish would be identified to species, weighed, measured for length, tissue-sampled (fin clip and scales), and checked for coded wire tags (CWTs). Viable sub-adult/adult salmon and rockfish would be released. Listed rockfish would be released via rapid submergence to their capture depth to reduce the effects from barotrauma, and sub-adult/adult salmonids would be released at the surface. Juvenile salmonids that suffer lethal injuries due to crushing and descaling would be further sampled for CWTs, scales, fins, stomach contents, and otoliths. For the other capture methods, the fish would be anesthetized, identified to species, checked for CWTs, measured to length, gastric lavaged, tissue-sampled (fin clip and scales), and released. For the seining, all juvenile, hatchery-origin, CWT fish would be intentionally sacrificed to determine their origins.

The researchers do not propose to kill any other captured fish, but some may die as an unintended result of the activities.

Permit 17258-2R

The Washington State Department of Natural Resources (WDNR) is seeking to renew, for five years, a research permit that currently allows them to take juvenile PS Chinook salmon, HCS chum salmon, PS steelhead, and OL sockeye salmon throughout the streams of Clallam, Jefferson, and Grays Harbor counties in western Washington State. The purpose of the WDNR study is to determine potential fish presence or absence in streams located on WDNR-managed lands in order to support a region-wide program of road maintenance and abandonment. This research would benefit the affected species by determining which streams with road-related passage barriers contain listed fish and, thus, allow WDNR to focus its resources on road improvements that would best help those species. The WDNR proposes to capture fish using backpack electrofishing equipment and minnow traps. Captured fish would be netted, identified to species, and released. In most cases, the stream survey would terminate when one listed fish is located. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 17798-2R

The Northwest Fisheries Science Center (NWFSC) is seeking to renew, for five years, a research permit that currently allows them to take juvenile PS Chinook salmon and PS steelhead. The NWFSC research may also cause them to take adult *S. eulachon*—a species for which there are currently no ESA take prohibitions. Study locations include several bays and estuaries in the Puget Sound that receive effluent from municipal wastewater plants and industrial contaminant sources. The purpose of the NWFSC study is to assess the bioaccumulation and toxic effects of

Chemicals of Emerging Concern (CECs) in Chinook salmon. Whole genome and molecular analyses of Chinook salmon would be conducted on various tissues, which would allow for identification of gene pathways and robust mechanism-based diagnostic indices for CEC toxicity. This research would benefit the listed species by identifying degraded estuaries, studying how CECs affect Chinook salmon, and providing information that can be used to mitigate and improve listed species habitat. The NWFSC proposes to capture fish using beach seines. Sampling would occur at seven locations up to two times annually. For each sample event, 40 juvenile Chinook salmon would be euthanized for whole body analysis. The researchers would prioritize using adipose-fin-clipped hatchery fish and unintentional mortalities over natural-origin fish. Excess Chinook salmon (and all other species) would be released immediately after capture. The researchers do not propose to kill any of the listed steelhead or eulachon being captured, but some may die as an unintended result of the activities.

Permit 17839-2R

The U.S. Forest Service (USFS) is seeking to renew, for five years, a research permit that currently allows them to take juvenile PS Chinook salmon and PS steelhead in the Nooksack, Sauk, Skagit, and Stillaguamish River drainages of western Washington. The purpose of the USFS study is to expand distributional knowledge of the Salish sucker (*Catostomus sp. cf. catostomus*), a species listed as endangered in Canada since 2005 by the Species At Risk Act (SARA). Tissue samples would also be collected from captured Salish suckers for genetic analysis to determine their genetic separation from the longnose sucker (*Catostomus catostomus*) – a species that they are considered to be diverging from. The research would benefit the listed species by providing information on their distribution. The main benefactor of this research is the Salish sucker whose status is not well understood in the United States. The USFS proposes to

capture fish using minnow and Feddes traps. Captured salmonids would be identified to species, checked for an adipose fin clip, and immediately released downstream. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 17851-3R

The Coastal Watershed Institute (CWI) is seeking to renew, for five years, a research permit that currently allows them to take juvenile PS Chinook salmon, HCS chum salmon, and PS steelhead in the Elwha River estuary (Washington State). The CWI research may also cause them to take adult *S. eulachon*—a species for which there are currently no ESA take prohibitions. The purpose of the CWI study is to research the nearshore restoration response to the Elwha River dam removals with an emphasis on ecological function of nearshore habitats for juvenile salmon and forage fish. The research would benefit listed species by providing a long-term continuous dataset on how salmonids use local nearshore areas after the dam removals on the Elwha River. This study provides information on how watersheds and fish populations recover after dam removals. The CWI proposes to capture fish using a beach seine. Captured fish would be identified to their lowest taxonomic level. At each sampling event, twenty individuals from each species would be measured and released. Salmonids would be scanned for fin clips and tags. The researchers do not propose to kill any listed fish being captured, but some may die as an inadvertent result of the research.

Permit 18001-3R

The Pierce County Department of Public Works and Utilities (PCDPWU) is seeking to renew, for five years, a research permit that currently allows them to take juvenile PS Chinook salmon and PS steelhead in the waterways of Pierce County, Washington. The purpose of the PCDPWU study is to determine the distribution and diversity of anadromous fish species in the

waterbodies adjacent to and within the county's levee system. The surveys would help establish listed salmonid presence in waterbodies—information that would be used to assess the impacts proposed projects might have on listed species. The PCDPWU proposes to capture fish using seines, dip netting, minnow traps, fyke nets, hook and line, and backpack electrofishing. Electrofishing would largely be “spotshocking” for presence and absence and would not typically cover broad, continuous areas. Captured fish would be identified, measured, and then released at or near their capture site. Fish would not be removed from the water unless absolutely necessary. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 20313

The NWFSC is seeking a two-year research permit to annually take adult PS/GB bocaccio and sub-adult PS Chinook salmon in the Puget Sound near the San Juan Islands (Washington state). The NWFSC research may also cause them to take adult PS/GB yelloweye rockfish—a species for which there are currently no ESA take prohibitions. The purpose of the NWFSC study is to assess the role Chinook salmon residency plays in salmon recovery—including growth, movement patterns, and population structure. This research would benefit the affected species by giving managers information on which populations contribute to the resident PS Chinook salmon population in the San Juan Islands and helping determine the relationship between the Chinook resident life-history type and overall marine survival. These efforts would serve as the foundation for evaluating the relative contribution residents make to the broader ESU—and thereby help managers understand how this behavior type can help salmon recovery. The NWFSC proposes to capture fish using hook and line angling equipment. Captured salmon would be scanned for CWT, measured for length, tissue-sampled (scales and fin clips), and

released. Hatchery-origin Chinook salmon would also be anesthetized and gastric lavaged. Fifty adipose-clipped, hatchery-origin subadult Chinook salmon would be intentionally sacrificed annually to obtain otolith samples movement patterns and early growth history may be analyzed. Listed rockfish would be released immediately via rapid submergence to their capture depth to reduce the effects from barotrauma. The researchers do not propose to kill any other captured fish, but some may die as an unintended result of the activities.

Permit 20451-2R

The University of Washington (UW) is seeking to renew, for five years, a research permit that currently allows them to take juvenile and adult OL sockeye salmon in Lake Ozette (northwest Washington State). The purpose of the UW study is to investigate the interactions of native predators (*i.e.*, northern pikeminnow, sculpin) and non-native predators (*i.e.* largemouth bass, yellow perch) with Olympic mudminnow (*Novumbra hubbsi*), a state sensitive species. The research would benefit the listed species because OL sockeye salmon are similarly threatened by the same predators. The UW proposes to capture fish using minnow traps, hoop nets, gill nets, trammel nets, and hook and line. For OL sockeye salmon, captured fish would be handled and immediately released. After the listed fish are released, the remaining fish would be anesthetized, fin clipped, gastric lavaged, and released. The researchers do not intend to kill any listed fish, but some may die as an inadvertent result of the research.

Permit 20492-2M

The Oregon Department of Fish and Wildlife (ODFW) is seeking to modify a permit that currently authorizes research in lake, river, backwater, slough, and estuary habitats in the Willamette and Columbia basins (Oregon) and on the Oregon coast. The permit would cover the following projects for four years: (1) Warmwater and Recreational Game Fish Management, (2)

District Fish Population Sampling in the Upper Willamette Basin, and (3) Salmonid Assessment and Monitoring in the Deschutes River. These studies provide information on fish population structure, abundance, genetics, disease occurrences, and species interactions, and is used to direct management actions to benefit listed species. The permit modification would not change the methods or scope of the ongoing research, except to add take of juvenile and adult UWR Chinook and UWR steelhead at new research sites in the Tualatin and Yamhill Rivers. The modified permit would authorize take of juvenile UCR spring-run Chinook salmon, UCR steelhead, SR spring/summer-run Chinook salmon, SR fall-run Chinook salmon, SR Basin steelhead, SR sockeye salmon, MCR steelhead, LCR Chinook salmon, LCR coho salmon, LCR steelhead, CR chum salmon, and OC coho salmon; juvenile and adult UWR Chinook salmon and UWR steelhead; and adult S green sturgeon. The ODFW research may also take adult S eulachon—a species for which there are currently no ESA take prohibitions. Researchers would sample fish using boat electrofishing. A subset of captured juveniles would be anesthetized, weighed and measured, allowed to recover, and then released. Most juveniles and all adults would be allowed to swim away after being electroshocked, or they would be netted and released immediately. The ODFW does not intend to kill any of the fish being captured, but a small number may die as an unintended result of the activities.

Permit 20713

The NWFSC is seeking a two-year permit that would allow them to take juvenile LCR Chinook salmon, SR fall-run Chinook salmon, SR spring/summer-run Chinook salmon, UCR spring-run Chinook salmon, UWR Chinook salmon, CR chum salmon, LCR coho salmon, SR sockeye salmon, LCR steelhead, MCR steelhead, SR Basin steelhead, UCR steelhead, UWR steelhead, and S green sturgeon. The research may also cause them to take adult S eulachon—a

species for which there are currently no ESA take prohibitions. The purpose of the study is to measure contaminant levels in juvenile UWR Chinook salmon in the lower Willamette River (Oregon) near a Superfund site with high levels of pollutants and to evaluate associations between toxins in fish tissues and fish growth and immune response. Study results would support an ongoing Natural Resource Damage Assessment. In addition, the data would be used in Chinook salmon life cycle models to compare how chemical pollution affects UWR Chinook salmon populations relative to other stressors.

The researchers propose to collect fish with beach seines at sites in the lower 20 miles of the Willamette River. The researchers hope to complete all sampling between March and June 2018, but fieldwork could extend to other months and to 2019 if sample size targets are not met in the initial timeframe. The researchers propose to hold fish in buckets, identify and count fish, check fish for passive integrated transponder and coded wire tags, and then immediately release any fish that is not a juvenile Chinook salmon with an intact adipose fin. The researchers propose using a lethal dose of MS-222 to kill natural-origin juvenile Chinook salmon that are between 50 and 80 mm in fork length. The target ESU for contaminant analysis is UWR Chinook, but juvenile Chinook salmon from other ESUs in the Columbia River basin could also be killed because juveniles from different ESUs cannot be distinguished visually. Fish that are killed would be frozen individually and later identified to ESU using genetic analysis. The researchers would pool UWR Chinook specimens into composite samples for toxicological analysis and would use scales and otoliths for analysis of age and growth. Specimens that are identified through genetic analysis to an ESU other than the UWR Chinook ESU would be saved and offered for use in other studies pending NMFS approval.

The NWFSC researchers used information from past studies to estimate the number of fish needed to obtain enough tissues for statistically robust sample sizes, and to estimate expected mortality rates of fish from non-target ESUs. Based on this information, the NWFSC proposes to intentionally kill up to: 201 natural-origin and 9 hatchery-origin (intact adipose fin) juvenile UWR Chinook salmon; 119 natural-origin and 5 hatchery-origin (intact adipose fin) juvenile LCR Chinook salmon; 4 natural-origin juvenile SR fall-run Chinook salmon; 2 natural-origin juvenile SR spring/summer-run Chinook salmon; and 5 natural-origin juvenile UCR spring-run Chinook salmon. Any Chinook salmon unintentionally killed during the research would be used in lieu of a fish that would otherwise be sacrificed. The NWFSC does not intend to kill any fish that is not a juvenile Chinook salmon, but a small number of individuals from other species may die as an unintended result of the research activities.

Permit 21432

Cramer Fish Sciences is seeking a research permit, for two years, that would allow them to take juvenile LCR Chinook, LCR coho, LCR steelhead, and MCR steelhead in the Klickitat, Wind, and White Salmon River subbasins (Washington). The purpose of the research is to determine fish occupancy in stream reaches in lands owned by SDS Lumber Company. Cramer Fish Sciences proposes to capture fish using single-pass backpack electrofishing, identify fish while they are held briefly in hand-held dip nets, and return fish to the stream. The researchers would compare results of the electrofishing surveys with environmental DNA (eDNA) studies done in the same stream reaches, which would provide information on the utility of eDNA analysis for determining fish occupancy. The research would benefit listed fish by affording them protections if they are found in streams that previously were assessed as non-fish bearing.

The researchers do not propose to kill any fish but a small number may die as an unintended result of research activities.

Permit 21507

Mount Hood Environmental is seeking a research permit, for three years, that would allow them to take juvenile and adult UWR steelhead and UWR Chinook in the Tualatin River (Oregon). The purpose of the research is to determine if salmonids and lamprey are present in the intake channel from the Tualatin River to the Spring Hill Pumping Plant and if these fish are likely to be entrained in the intake. The study would benefit listed fish by providing information to manage and mitigate for potential entrainment of these fish during early life-stages. The researchers propose to work in the intake channel, where they would measure water temperature and velocity, capture fish by seining, trapping, and boat-electrofishing, hold fish in aerated buckets, identify them, and then release them back to the channel. The researchers do not propose to kill any fish but a small number may die as an unintended result of research activities.

This notice is provided pursuant to section 10(c) of the ESA. NMFS will evaluate the applications, associated documents, and comments submitted to determine whether the

applications meet the requirements of section 10(a) of the ESA and Federal regulations. The final permit decisions will not be made until after the end of the 30-day comment period. NMFS will publish notice of its final action in the *Federal Register*.

Dated: November 8, 2017.

Angela Somma,
Chief, Endangered Species Division,
Office of Protected Resources,
National Marine Fisheries Service

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