

The proposed monitoring project does not include activities designed to intentionally result in the death of listed taxa. If juvenile salmonids are found dead or incidentally killed during trapping activities, they will be salvaged for future studies. Permit 17428 authorizes non-lethal and low levels of unintentional lethal take of smolt and juvenile ESA-listed. Permit 17428 does not authorize any intentional lethal take of ESA-listed salmonids.

Permit 16543-M1

A notice of the receipt of an application for modification of a scientific research and enhancement permit (16543-M1) was published in the **Federal Register** on February 4, 2013 (78 FR 7755). Permit 16543-M1 was issued to CDWR on March 14, 2013, and expires on December 31, 2014.

Permit 16543-M1 is for research to be conducted in the Sacramento-San Joaquin Delta, California. The primary objectives to which ESA-listed salmonids and SDPS green sturgeon may be taken are to provide information on spatial and environmental patterns of predation; critical information for guiding future restoration projects on conditions likely to support or discourage higher predation rates on ESA-listed and native fishes. Take activities associated with research on adult ESA-listed salmonids and juvenile, subadult, and adult SDPS green sturgeon include the following: capture (by trammel net or gillnet), handling (species identification and enumeration), and release of fish downstream of the capture location.

Permit 16543-M1 authorizes CDWR non-lethal take of adult ESA-listed salmonids and juvenile, subadult, and adult SDPS green sturgeon. Permit 16543-M1 does not authorize any unintentional or intentional lethal take of ESA-listed salmonids and SDPS green sturgeon.

Permit 17777

A notice of the receipt of an application for a scientific research and enhancement permit (17777) was published in the **Federal Register** on February 4, 2013 (78 FR 7755). Permit 17777 was issued to NRSI on April 3, 2013 and expires on December 31, 2014.

Permit 17777 is for research activities conducted at the Sycamore Mutual Water Corporation diversion site on the middle Sacramento River, in Colusa County, California. The primary objectives to which ESA-listed salmonids and SDPS green sturgeon may be taken by NRSI are part of an ongoing effort to develop criteria to prioritize fish screening projects on the

Sacramento River and experiment with devices to reduce fish entrainment into unscreened diversions. Sampling will involve the use of fyke nets positioned at the diversion outfall in the irrigation canal. The diversion has been screened with two retractable screens. The UC-Davis Hydraulics Laboratory has designed an alternative device to reduce fish entrainment for placement over the two riverine intakes in lieu of the two fish screens. Fish sampling will occur every day with the behavioral devices in place and removed on alternating days throughout the irrigation season. The effectiveness of the behavioral device will be determined by comparing the numbers of fish entrained each day with the devices in place and removed.

Fish captured on the outfall side of the pumped diversions are not expected to be alive or salvageable since fish will be mortally injured by the pumps, lethally stressed in pressurized pipes and warm water, or otherwise lost to the water distribution systems. Dead or moribund fish will be identified to species, enumerated, measured, and the carcasses put back into the canals at the sampling site. To the extent practicable, any captured live ESA-listed species will be immediately returned to the river.

Dated: May 13, 2013.

Angela Somma,

Chief, Endangered Species Conservation Division, Office of Protected Resources, National Marine Fisheries Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XC682

Endangered and Threatened Species; Take of Anadromous Fish

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

ACTION: Issuance of four scientific research and enhancement permits.

SUMMARY: Notice is hereby given that NMFS has issued Permit 17299 to the NMFS Southwest Fisheries Science Center (SWFSC), Permit 16543-M1 to the California Department of Water Resources (CDWR), Permit 17428 to the United States Fish and Wildlife Service (USFWS), and Permit 17777 to Natural Resource Scientists Incorporated (NRSI).

ADDRESSES: The approved application for each permit is available on the

Applications and Permits for Protected Species (APPS), <https://apps.nmfs.noaa.gov> Web site by searching the permit number within the Search Database page. The applications, issued permits and supporting documents are also available upon written request or by appointment: Protected Resources Division, NMFS, 650 Capitol Mall, Room 5-100, Sacramento, CA 95814 (ph: (916) 930-3600, fax: (916) 930-3629).

FOR FURTHER INFORMATION CONTACT:

Amanda Cranford at 916-930-3706, or email: Amanda.Cranford@noaa.gov.

SUPPLEMENTARY INFORMATION:

Authority

The issuance of permits and permit modifications, as required by the Endangered Species Act of 1973 (16 U.S.C. 1531-1543) (ESA), is based on a finding that such permits/modifications: (1) Are applied for in good faith; (2) would not operate to the disadvantage of the listed species which are the subject of the permits; and (3) are consistent with the purposes and policies set forth in section 2 of the ESA. Authority to take listed species is subject to conditions set forth in the permits. Permits and modifications are issued in accordance with and are subject to the ESA and NMFS regulations (50 CFR parts 222-226) governing listed fish and wildlife permits.

Species Covered in This Notice

This notice is relevant to federally endangered Sacramento River (SR) winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*), threatened California Central Valley (CCV) steelhead (*O. mykiss*), and threatened southern distinct population segment (SDPS) of North American green sturgeon (*Acipenser medirostris*), henceforth referred to as ESA-listed salmonids and SDPS green sturgeon.

Permits Issued

Permit 17299

A notice of the receipt of an application for a scientific research and enhancement permit (17299) was published in the **Federal Register** on February 4, 2013 (78 FR 7755). Permit 17299 was issued to the SWFSC on April 4, 2013, and expires on December 31, 2017.

Permit 17299 is for research to be conducted at various sites and hatcheries within the Central Valley, CA. The main purpose of the research conducted by the SWFSC is to carry out

comparative studies on salmonid ecology across all Central Valley habitats (streams, rivers and Delta) to increase knowledge of California's Chinook salmon and steelhead life histories. The overall goal of this project is to provide critical information in support of conservation and management of California's salmon stocks. Studies authorized under Permit 17299 will follow three directions: (1) Telemetry studies to assess river habitat use, behavior, and survival, (2) predator impacts on salmon, and (3) physiological measurements of aerobic scope across stocks.

In situations where the SWFSC are unable to rely on collaborators to capture fish through rotary screw trapping, collection methods will include fyke nets, backpack electrofishing, beach seining, tangle netting, DIDSON observations, tethering and hook and line. Handling will typically involve sedation of juveniles (MS-222), measurements, tissue sampling (fin clips and scales from most, stomach lavage [subset] and tagging [PIT tags, acoustic tags]) followed by release of live fish. Another group of hatchery produced salmonids will be tested to measure aerobic scope under a range of temperature and flow combinations. A small subset of those hatchery produced fish will be sacrificed to collect otoliths for age and growth measurements, organ tissue for isotope analysis, biochemical and genomic expression assays, and tag effects and retention studies.

Permit 17299 authorizes non-lethal take and low levels (not to exceed two percent) of unintentional lethal take. Permit 17299 also authorizes intentional, directed lethal take of smolt and adult adipose fin-clipped, hatchery produced, Chinook salmon for aerobic scope measurements and otolith microchemistry analysis.

Permit 17428

A notice of the receipt of an application for a scientific research and enhancement permit (17428) was published in the **Federal Register** on October 16, 2012 (77 FR 63295). Permit 17428 was issued to the USFWS on January 25, 2013 and expires on December 31, 2017.

Permit 17428 is for research to be conducted in the American River, downstream of the Watt Avenue Bridge, in Sacramento County, CA. Each year, two to four rotary screw traps (RSTs) will be operated 5 to 7 days each week between January 1 and June 30. As traps are operated, data will be collected on fish abundance, trap operational status, and environmental characteristics at the

trap site. Trap operations will focus on the collection of juvenile CCV steelhead and non-listed fall-run Chinook salmon. Other fish species will be collected on an incidental basis. If salmon that may be federally listed spring- or winter-run Chinook are captured, fin clips will be taken so those samples can be used in genetic studies to determine which runs are actually present. The lengths of a representative sample of up to 100 individuals of each fish species will be measured each day. Weights from 25 salmon will be quantified each day. Captured fish will be released alive immediately downstream of the RSTs.

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Permit 16543-M1

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Permit 16543-M1 is for research to be conducted in the Sacramento-San Joaquin Delta, California. The primary objectives to which ESA-listed salmonids and SDPS green sturgeon may be taken are to provide information on spatial and environmental patterns of predation; critical information for guiding future restoration projects on conditions likely to support or discourage higher predation rates on ESA-listed and native fishes. Take activities associated with research on adult ESA-listed salmonids and juvenile, subadult, and adult SDPS green sturgeon include the following: capture (by trammel net or gillnet), handling (species identification and enumeration), and release of fish downstream of the capture location.

Permit 16543-M1 authorizes CDWR non-lethal take of adult ESA-listed salmonids and juvenile, subadult, and adult SDPS green sturgeon. Permit 16543-M1 does not authorize any unintentional or intentional lethal take of ESA-listed salmonids and SDPS green sturgeon.

Permit 17777

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Permit 17777 is for research activities conducted at the Sycamore Mutual Water Corporation diversion site on the middle Sacramento River, in Colusa County, California. The primary objectives to which ESA-listed salmonids and SDPS green sturgeon may be taken by NRSI are part of an ongoing effort to develop criteria to prioritize fish screening projects on the Sacramento River and experiment with devices to reduce fish entrainment into unscreened diversions. Sampling will involve the use of fyke nets positioned at the diversion outfall in the irrigation canal. The diversion has been screened with two retractable screens. The UC-Davis Hydraulics Laboratory has designed an alternative device to reduce fish entrainment for placement over the two riverine intakes in lieu of the two fish screens. Fish sampling will occur every day with the behavioral devices in place and removed on alternating days throughout the irrigation season. The effectiveness of the behavioral device will be determined by comparing the numbers of fish entrained each day with the devices in place and removed.

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Dated: May 13, 2013.

Angela Somma,

Chief, Endangered Species Conservation Division, Office of Protected Resources, National Marine Fisheries Service.

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