BILLING CODE: 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XE098

Endangered and Threatened Species; Take of Anadromous Fish

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

ACTION: Issuance of one permit and receipt of four permit modification requests for scientific research and enhancement.

SUMMARY: Notice is hereby given that NMFS has issued Endangered Species Act (ESA) scientific research Permit 18251 to the Marine Science Institute. Additionally, NMFS has received four scientific research and enhancement permit modification requests relating to anadromous species listed under the ESA. The proposed research activities are intended to increase knowledge of the species and to help guide management and conservation efforts. The application for each permit is available on the Applications and Permits for Protected Species (APPS), *https://apps.nmfs.noaa.gov* website by searching the permit number within the Search Database page. The applications for each permit modification request 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 submitted to the California Central Valley Office, NMFS, 650 Capitol Mall, Suite 5-100, Sacramento, CA 95814. Comments may also be submitted via fax to 916-930-3629 or by email to *nmfs.swr.apps@noaa.gov* (include the permit number in the subject line of the fax or email).

FOR FURTHER INFORMATION CONTACT: Amanda Cranford, Sacramento, CA (ph.: 916-930-3706), Fax: 916-930-3629, e-mail: *Amanda.Cranford@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 Central Valley spring-run (CVSR); endangered Sacramento River winter-run (SRWR).

Steelhead (*O. mykiss*): threatened California Central Valley (CCV);

North American green sturgeon (*Acipenser medisrostris*): threatened southern distinct population segment (SDPS).

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 parts 222-227). 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.

Permits Issued

Permit 18251

A notice of the receipt of an application for a scientific research and enhancement permit (18251) was published in the **Federal Register** on March 10, 2014 (79 FR 13279). Permit 18251 was issued to the Marine Science Institute on June 30, 2014 and expires on December 31, 2018. Permit 18251 authorizes take of SRWR Chinook salmon smolts, CVSR Chinook salmon smolts, CCV steelhead smolts, and juvenile SDPS green sturgeon associated with monitoring and research activities conducted in the Sacramento-San Joaquin Delta, Central Valley, California. The purpose of the research is to educate local 6th graders and their parents about the Delta ecosystem and to teach them how to be better stewards of the watershed. The students will go on a 3.5 hour voyage. During the voyage they will rotate through four stations: Hydrology (discussion based), Benthic

(mud grab and invertebrate study), Plankton (plankton tow and identification), and Ichthyology (Otter trawl and fish identification). During the Ichthyology station a five minute mid-water trawl using an Otter trawl will be deployed to collect fish for the students to study. The net will be emptied by instructional staff into a tank that is constantly refilled with water from the Delta. Any species of concern are then identified and immediately released back into the Delta. Fish are transferred from the tank back into Delta by buckets filled with water from the Delta to minimize stress.

Modification Requests Received

Permit 18181 – 2M

The California Department of Fish and Wildlife (CDFW) is requesting to modify Permit 18181. Permit 18181 was issued to CDFW on January 14, 2014 for take of CVSR Chinook salmon, SRWR Chinook salmon, CCV steelhead, and SDPS green sturgeon associated with research and rescue activities in the Upper Sacramento River and associated tributaries in Shasta and Tehama counties, the Colusa Basin Drainage Canal (CBDC), Wallace and Fremont weirs in the Yolo Bypass, and Tisdale Weir in the Sutter Bypass. CDFW is requesting to modify Permit 18181 to include additional rescue and monitoring efforts that routinely occur throughout the Central Valley. Further, after conducting capture and relocation activities within the CBDC and at Wallace Weir, the project description, sampling methodologies and take estimates can be refined to better reflect the current rescue operations. The primary purpose of the proposed monitoring will be to assess entrainment of ESA-listed salmonids and SDPS green sturgeon resulting from extreme environmental conditions and complex water operations within California's Central Valley. CDFW will assess the conditions leading to entrainment and determine

whether rescue and relocation activities are warranted. The rescue and relocation efforts proposed are: (1) the CBDC Trapping and Relocation Operation, which aims to trap and relocate adult Chinook salmon and other species of management concern before they enter and become entrained within the CDBC; (2) Monitoring of Sacramento River Flood Control Project Weirs and Flood Relief Structures, bypasses are surveyed after high flow events to determine the level of entrainment and if warranted rescues will be conducted, with a specific focus on Tisdale and Fremont weirs in the Sacramento River; and (3) Upper Sacramento River Redd Dewatering Surveys and Rescue of Stranded Juvenile Winter-run Chinook Salmon, which allows CDFW biologists to predict the flow at which redds will be dewatered on a redd-by-redd basis and conduct rescues if necessary. Rescue and relocation of ESA-listed fish will be carried out using fyke traps, Alaskan-style resistance board weirs, block nets, hoop nets, fyke nets, and beach seines. Observational surveys using dual identification sonar (DIDSON) imagery may also be conducted if necessary. The majority of captured fish would be identified to species, enumerated, measured for standard length, sampled for tissues and released. Juvenile SRWR and CVSR Chinook salmon would be identified using the Length-at-Date-of-Capture Table. ESA-listed species would be processed first and released. Adult salmonids that are trapped during rescue and relocation activities will be sampled for tissues (genetics), tagged with two individually numbered Floy tags, and relocated to the nearest, accessible location on the Sacramento River. If SDPS green sturgeon are encountered during rescue activities, acoustic tags will be surgically implanted by trained staff and data will be recorded on fish size, condition, and time of release. To reduce handling mortality, investigators will conduct water to water transfers, use fish-friendly nets, avoid handling

when possible, and release fish will at the nearest suitable location to reduce handling and transport times.

Permit 14808 – 2M

Permit 14808 was issued to CDFW on September 26, 2012 for take of juvenile CVSR Chinook salmon, SRWR Chinook salmon, and CCV steelhead while conducting juvenile emigration monitoring at Knights Landing in the Lower Sacramento River, Yolo County, California. The permit modification is being requested in order to refine sampling methods, increase take levels and address changes to the proposed procedures. Additionally, CDFW requested that all ongoing research and monitoring be consolidated into a single section 10(a)(1)(A) Permit to improve efficiencies associated with reporting. In addition to the juvenile emigration monitoring at Knights Landing, which aims to compile information on timing, composition (species/race), and relative abundance of juvenile Chinook salmon and steelhead emigrating from the Upper Sacramento River system into the Sacramento-San Joaquin Delta, CDFW is requesting that the following research and monitoring efforts be added to Permit 14808: (1) the Central Valley Steelhead Monitoring Program, that includes studies targeting CCV steelhead throughout the Sacramento River and San Joaquin River basins in order to examine the distribution, abundance, and population trends of CCV steelhead and provide the data necessary to help assess progress towards restoration and recovery goals; and (2) Upper Sacramento River Restoration Site Monitoring, which will establish baseline use at proposed restoration sites to help determine the success once restoration projects are implemented through juvenile presence/absence surveys at a variety of sites on the Upper Sacramento

River. CDFW will conduct juvenile emigration monitoring through the use of paired 8-foot rotary screw traps (RSTs) on the Sacramento River beginning in October and continuing through June of the following year. Traps will be fished continuously and checked once every 24 hours unless conditions such as high flows or excessive debris warrant more frequent sampling. Captured salmonids will be handled (including measurements), allowed to recover in fresh aerated water and released back into the Sacramento River. A small subsample of adipose fin-clipped (hatchery-origin) Chinook salmon will be sacrificed (directed mortality) daily for coded wire tag extraction and analysis. The Steelhead Monitoring Program will utilize wire fyke traps to capture, mark, and recapture upstream migrating adult steelhead in order to estimate adult steelhead escapement from the Sacramento-San Joaquin River Delta. Fyke trapping will occur annually from August through May. A DIDSON camera or device of similar capabilities will be placed at the entrance to the fyke traps to monitor salmonid movements and assist in adjusting trap placement to maximize capture rates. Traps will be fished 24 hours a day with all traps being inspected, cleaned, and emptied at least once every 24 hours to minimize the period of time steelhead are detained. All captured steelhead (hatchery and wild) will be enumerated, weighed, measured, sexed (if possible), photographed for body condition, checked for previous tags, and sampled for scales. Healthy steelhead captured in good condition will receive a passive integrated transponder (PIT) tag. Hatchery-origin steelhead will receive a two inch, individually numbered, bicolor Floy tag posterior to the dorsal fin. A randomly selected subset of captured steelhead will receive an acoustic tag in addition to PIT and Floy tags to determine migration and survival behavior. Individuals selected for acoustic tagging will be surgically tagged with a

VEMCO acoustic transmitter tag or similarly compatible device in the abdomen posterior to the pelvic fins. Tag recapture monitoring in Sacramento River tributaries will be performed using in-stream PIT tag detection antennas. Current angler harvest surveys and hatchery broodstock collection programs combined with advances in tag detection technology will allow biologists to estimate the number of tag recaptures to Sacramento River tributaries. All Upper Sacramento River Restoration Site Monitoring will be observational and no handling of juvenile salmonids will occur. Sampling methods will include snorkel surveys, video surveys and DIDSON surveys. The survey results will help Restoration Ecologists design better projects in the future. Information collected will also help to determine locations where juvenile Chinook salmon are rearing upstream of Red Bluff Diversion Dam.

Permit 1415 – 2M

Permit 1415 was issued to the USFWS, Red Bluff Fish and Wildlife Office on February 6, 2014. The overall purpose of the project is to provide monitoring data for various evaluations, including restoration actions, stream flow assessments, management actions, and life-history investigations. Species under investigation include CVSR Chinook salmon, SRWR Chinook salmon, CCV steelhead, and SDPS green sturgeon while conducting research studies in Battle Creek, Clear Creek, and the Upper Sacramento River Basin (i.e., Upper River and surrounding watersheds). The permit modification requested by USFWS is specific to Study 6 – Sacramento River Juvenile Fish Monitoring at the Red Bluff Diversion Dam. All other studies authorized under Permit 1415 will remain unchanged at this time. Take resulting from the research and monitoring activities carried out by USFWS will involve observations (snorkel surveys,

redd counts and escapement/stream surveys) or capture (by trawl, seine, fyke-net trap, benthic D-net, substrate samplers, hook and line, backpack electrofishing, weir trap, trammel or gill net, rotary screw trap, egg mats, or by dip net), handling (sedation, fin clipping, tissue sampling, coded-wire tag extraction, otolith extraction), marking (Bismark brown Y stain), tagging (acoustic, PIT), and release of fish once adequately recovered. A majority of the ESA-listed fish that are captured will be immediately collected from the sampling gears, placed in containers filled with river water collected at the location being sampled, processed, held in a recovery container filled with aerated river water, and subsequently released at the sampled location. One exception includes the proposed intentional directed mortality of up to 80 SRWR Chinook salmon juveniles associated with Study 6. The purpose of the directed intentional mortality of SRWR Chinook salmon is to determine potential mechanisms for reduced survival in collaboration with the USWFS California-Nevada Fish Health Center. Extreme drought conditions and poor in-river conditions appear to be having adverse effects on emigrating juvenile salmonids. Elevated water temperatures are likely increasing the prevalence of some bacteria and parasite infections. USFWS will obtain up to 10 live juvenile winter-run Chinook salmon per week (for approximately 8 weeks) from RST monitoring carried out at the Red Bluff Diversion Dam (Study 6), from early September through October. The subsample of juveniles collected from the traps will be sacrificed in order to identify microbial (e.g. parasite and bacteria) and non-infectious (e.g. coagulative yolk, gill hyperplasia) disease in the out-migrant juvenile SRWR Chinook salmon population passing the RSTs during the typical peak period. The low sample number proposed would likely limit detection to high prevalence pathogens. The histological approach will

provide information on the severity of any given condition and is logistically prudent for the RST monitoring.

Permit 17299 – 2M

Permit 17299 was issued to the NMFS Southwest Fisheries Science Center (SWFSC), Fishery Ecology Division (FED), on April 4, 2013 for research to be conducted at various sites and hatcheries within California's Central Valley. 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 modification request relates to the life stages sampled and the total take associated with Studies 1 and 3 authorized by Permit 17299. These studies include investigations into outmigration survival based upon telemetry technology and investigations of the physiological response (as measured by aerobic scope) to varying temperature and flow regimes. Given the current threats posed to SRWR Chinook salmon including anthropogenic alterations of natural flow regimes and climate change, these studies quantitatively measures the capacity for adaptation of SRWR Chinook salmon juveniles to these conditions. The unprecedented conditions associated with the California drought have exacerbated these challenges, such that more detailed and finer resolution studies are needed to evaluate the potential consequences of a range of water management options including management of cold water storage pools behind large dams and pulse flows. The permit modification request aims to address these needs by increasing the sample sizes and associated take, and by broadening the scope of studies to include additional

life stages. Study 1 is a large scale telemetry project to assess habitat use, behavior and survival of hatchery- and natural-origin SRWR and CVSR Chinook salmon and CCV steelhead. Additional take associated with increased sample sizes will allow for better estimates of survival and identification of conditions that may be affecting juvenile salmonid emigration. Study 3 will measure the physiological capacity (aerobic scope and other cardiovascular capabilities) of hatchery-origin salmonids to deal with potential seasonal and geographic temperature challenges, by identifying their combined threshold tolerance to abiotic factors such as temperature, dissolved oxygen and flow. The SWFSC will use this data to determine sites where these factors may be limiting migration, survival and growth. This study requires that all fish tested be euthanized in order to collect the appropriate information and assess the aerobic scope. All euthanized fish will also be sampled for otoliths (age/growth), and organ tissue (isotope, biochemical and genomic expression assays), examined for parasite infections, and will contribute to tag effects/retention studies. The SWFSC proposes to broaden the scope of Study 3 through increased sample sizes and the addition of take for other life stages (eggs, fry, alevin, and parr). This additional take is in response to an urgent data gap on the temperature tolerance of these life stages. The proposed research will benefit ESA-listed fish by supporting conservation and management of anadromous salmonids and green sturgeon in California by directly addressing information needs identified by NMFS and other agencies.

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: August 14, 2015

_____

Cathryn E. Tortorici, Acting Director,

Office of Protected Resources,

National Marine Fisheries Service.

[FR Doc. 2015-20616 Filed: 8/19/2015 08:45 am; Publication Date: 8/20/2015]