

survival among naturally produced salmonids and (b) determine the extent to which juvenile steelhead and chinook use marine-derived nutrients and learn more about the relationships between juvenile salmonid body size, population density, and nutrient uptake. The research will benefit the fish by helping managers use nutrient enhancement techniques to help recover listed salmonid populations. Moreover, managers will be able to gain a broader understanding of the role marine-derived nutrients play in ecosystem health as a whole. This, in turn, will help inform management decisions and actions intended to help salmon recovery in the future.

Permit 1406

The NWFSC is requesting a 5-year permit to annually take juvenile (and precocious male) threatened SR spring/summer chinook salmon (naturally produced) and juvenile threatened SR steelhead at various places in the Salmon River drainage in Idaho, at Little Goose Dam on the lower Snake River, and at multiple subbasins in Northeast Oregon, Southeast Washington, and Idaho including the Clearwater and Grande Ronde Rivers. The research is largely a continuation of two long-term, ongoing studies formerly conducted under permits 852 and 1056; the studies have been in place for more than 10 years. They are: Monitoring the Migrations of wild Snake River Spring/summer Chinook Salmon Smolts and Monitoring and Evaluating the Genetic Characteristics of Supplemented Salmon and Steelhead. Under these studies, the listed fish would be variously captured (using seines, dip nets, and electrofishing), re-captured at a smolt bypass facility, anesthetized, tagged with PIT tags or otherwise marked, tissue sampled, weighed, measured, and released. Both projects call for some juvenile listed fish to be intentionally killed as part of the research. It is also likely that a small percentage of the fish being captured would unintentionally be killed during the process.

The research has many purposes and would benefit listed salmon and steelhead in different ways. In general, the purpose of the research is to continue monitoring juvenile out migration behavior and the effects of supplementation among steelhead spring/summer chinook salmon populations in Idaho. The research will benefit the fish by continuing to supply managers with the information they need to (a) budget water releases at hydropower facilities in ways that will help protect migrating juveniles, and (b)

use hatchery programs to conserve listed species.

Permit 1421

The USFWS in Vancouver, WA is requesting a 3-year permit to annually take adult and juvenile endangered SR sockeye salmon; adult and juvenile endangered UCR spring chinook salmon (natural and artificially propagated); adult and juvenile endangered UCR steelhead (natural and artificially propagated); adult and juvenile threatened SR fall chinook salmon; adult and juvenile threatened SR spring/summer chinook salmon (natural and artificially propagated); adult and juvenile threatened SR steelhead; adult and juvenile threatened MCR steelhead; adult and juvenile threatened LCR chinook salmon; adult and juvenile threatened LCR steelhead; and adult and juvenile threatened CR chum salmon during the course of a study in the Franz Lake National Wildlife Refuge on the Lower Columbia River. The USFWS proposes to capture (using boat and backpack electrofishing, fyke nets, and minnow traps), anesthetize, measure, check for tags, mark, sample for stomach content, and release listed salmonids.

The objectives of the study are to (1) document fish species in the refuge, (2) evaluate fish distribution relative to habitat features, and (3) describe fish diets in the refuge. The study will be coordinated with a mosquito control study conducted by the Oregon Cooperative Fish and Wildlife Research Unit. The study will benefit listed fish by generating information on the effects of mosquito control on salmonids and salmonid prey species, and the spatial and temporal relations among fish distribution, fish diets, and areas typically treated to control mosquitos. The USFWS does not intend to kill any of the listed fish being captured, but a small percentage may die as an unintended result of the research activities.

Permit 1422

The USFS is requesting a 5-year permit to annually take juvenile endangered UCR chinook salmon, juvenile endangered UCR steelhead, and juvenile threatened MCR steelhead during research activities taking place at various points in the Yakima, Methow, Entiat, and Wenatchee River drainages in Washington State. The fish would be captured (using minnow traps, hook-and-line angling, and electrofishing equipment), identified, and immediately released. The purpose of the research is to determine fish distribution in the subbasins listed above. The research will benefit the fish by giving land

managers information they need in order to design forest management activities (e.g., timber sales, grazing plans, road building) in such a way as to conserve listed species. The USFS does not intend to kill any of the listed fish being captured, but a small percentage may die as an unintended result of the research activities.

Permit 1423

The USFWS is requesting a 3-year permit to annually take juvenile endangered UCR steelhead and juvenile endangered UCR chinook (naturally propagated) at points near Icicle Creek and Entiat River National Fish Hatcheries in Washington State. The fish would be captured (using seines, minnow traps, a screw trap, electrofishing, and hook-and-line angling), anesthetized, measured, and killed. It is also likely that a small number of the fish being captured—over and above those that would be sacrificed would unintentionally be killed. Several samples would then be taken from the fish and used to determine whether any disease—viral or bacterial—was present in the population.

The purpose of the research is to determine if there are any interactions between wild and hatchery fish in terms of disease transmission and to gather baseline information on pathogen presence in the local fish populations. The research would benefit listed fish by increasing our knowledge of disease presence and transmission in the UCR and thereby help managers reduce the risks associated with those diseases.

Permit 1426

The Bonneville Power Administration (BPA) is requesting a 5-year permit to annually take adult threatened MCR steelhead at Roza Dam on the Yakima River, WA. Under this study, the adult MCR steelhead would be captured at the adult monitoring and broodstock collection facility on the adult ladder at Roza Dam, anesthetized, radio-tagged, allowed to recover, and released.

The purpose of the research is to determine the movements (migration timing, holding area locations, migration routes, etc.) of the steelhead in the upper Yakima watershed. The information would benefit the fish because it would be used to help develop supplementation plans and passage improvements as well as protecting and enhancing mainstem and tributary habitats the MCR steelhead use. The BPA does not intend to kill any of the listed fish being captured, but a small percentage may die as an