Shasta Dam Raise
FACT SHEET: July, 2013

Shasta Dam is the seventh highest dam in California and its 4.5 million acre-foot reservoir is the largest in the state. The dam captures water from three rivers (the upper Sacramento, McCloud, and Pit). Constructed and operated by the U.S. Bureau of Reclamation, the Shasta Dam and Reservoir is the cornerstone of the giant Central Valley Project (CVP), which provides irrigation and drinking water to much of California.

The Bureau of Reclamation is studying an up to 18.5-foot raise of Shasta Dam, which could theoretically increase water storage behind the dam by about 13%. The proposed project is intended to improve conditions in the Sacramento River for threatened and endangered salmon and steelhead. The Bureau has just released for public comment period its Shasta Lake Water Resources Investigation (SLWRI) Draft Feasibility Report and Draft Environmental Impact Statement (DEIS).The report and DEIS considers a range of alternatives from raising the dam by 6.5 feet to 18.5 feet. According to the Bureau, the 18.5-foot raise is the most "economically justified" alternative to pursue. Most of the facts in this document were gleaned from the SLWRI Draft Feasibility Report and DEIS, which can be reviewed at www.usbr.gov/mp/slwri/index.html

Significant & Unavoidable Impacts

The Bureau's preliminary DEIS (released last spring) admits to a long list of significant and unavoidable environmental impacts that cannot be mitigated. In addition, there are serious concerns about the validity of many of the Bureau's assumptions. Significant impacts and concerns include:

Salmon and Steelhead – Even though the dam raise is proposed by the Bureau to supposedly improve conditions in the Sacramento River for threatened and endangered salmon and steelhead, the U.S.Fish and Wildlife Service (USFWS) believes that the dam raise will provide "negligible" benefits for anadromous fish. According to theUSFWS the dam raise will not benefit salmon 90% of the time.

Native American Cultural Heritage – The DEIS documents that the dam raise and reservoir expansion will have "disproportionally high" impacts on local Native Americans, specifically the Winnemem Wintu Tribe. The Tribe lost most of their traditional homeland under the existing reservoir. Raising the dam will drown cultural and sacred sites still used by the Winnemem to this day.

National Forest Lands & Infrastructure – Raising Shasta Dam and enlarging its reservoir will drown thousands of acres of the Shasta-Trinity National Recreation Area, which is managed by the U.S. Forest Service for public recreation and wildlife. The dam raise will also require the relocation of more than six

miles of public roads, the relocation or modification of five bridges, dozens of recreation facilities (marinas, campgrounds, etc), and utilities and wastewater systems.

Wild & Scenic Rivers – Expanding Shasta Reservoir will flood upstream rivers and streams, including 1.5 miles of the McCloud River, which is protected under the California Wild & Scenic Rivers Act, though it has yet to be fully designated Wild & Scenic under the act. The Bureau's response to this violation of state law is to simply propose changing the law. The expanded reservoir would also flood segments of the McCloud and upper Sacramento Rivers identified by the Forest Service as eligible for protection in the National Wild & Scenic Rivers System. Not only would the dam raise flood these important river segments, it would harm the rivers' outstandingly remarkable scenic, recreational, wild trout, and Native American cultural values.

Wildlife – The dam raise/reservoir expansion will cause permanent loss of habitat for numerous important and special status wildlife species, including Pacific fisher, northern spotted owl, northern goshawk, foothill yellow-legged frog, Shasta salamander, seven bat species, and four mollusks. The project will also result in the permanent loss of rare plant habitat and important winter and fawning habitat for deer.

Lower Sacramento River – The dam raise/reservoir expansion will modify flows in the lower Sacramento River, with potentially significant impacts on the river's riparian ecosystem and protected wildlife species that depend on that ecosystem. The Bureau proposes a rough sketch of a Adaptive Management Plan to mitigate these impacts but provides little information on how the Plan will be implemented, how the needs of water contracts will be weighed against ecosystem flow needs, and what guarantees will be provided to ensure that these significant impacts are truly mitigated to less than significant levels.

Delta – The effects of the dam raise/reservoir expansion will be felt all the way downstream to the Sacramento-San Joaquin Delta. Storing more water behind the expanded dam and reservoir will reduce fresh water flows into the Delta during critical periods, with potentially significant increases in mortality for endangered Delta fish due to increased reverse flows in the south Delta.

Air Quality – The Bureau admits that the dam raise/reservoir expansion will increase the short-term emission of carbon dioxide (a greenhouse gas) by 30% but fails to recognize that the existing reservoir already pumps 224 tons of carbon dioxide into the atmosphere on a daily basis (equal to 14,500 automobiles driving 40 miles a day). Expanding the reservoir may increase Shasta Dam's daily contribution to greenhouse gases and global warming.

Hydropower – The dam raise/reservoir expansion could decrease long-term monthly average hydropower generation by as much as 5%, a level that could affect California's always tenuous power market.

Cost and Benefits – Raising Shasta Dam by 18.5 feet will cost nearly $1.1 billion dollars, with annual operating costs of $54 million. The Bureau of Reclamation claims that more than 60% of the benefits and therefore 60% of the costs of the dam raise should be apportioned to the public. According to the Bureau, the primary public benefit of raising the dam will be to provide cold water downstream to

benefit threatened and endangered salmon in the Sacramento River. But according to the USFWS, raising the dam will provide no benefits for salmon 9 out of 10 years. Improving the dam's existing temperature control device, restoring spawning gravel and rearing habitat, improving fish passage, increasing minimum flows, and screening water diversions all increase salmon survival more than the dam raise.

Water Yield – The 18.5-foot raise will increase the existing reservoir capacity by 634,000 acre-feet or about 13%. But the annual firm water yield provided by the enlarged reservoir is no more than133,000 acre-feet in comparison to the CVP's typical annual deliveries of 7 million acre-feet and management of 9 million acre-feet of water. The comparatively small additional water yield is because the existing Shasta Dam already develops much of the available yield of the rivers it dams. . Of course, the enlarged reservoir will still be subject to California's chronic drought cycles and climate change. In addition, the Bureau admits that hydrology, climate change, water system operations, water supply reliability, and water demand are all "significant uncertainties" in regard to the project's actual yield of water.

Water Contracts – All of the estimated firm yield of 133,000 acre-feet will be sold to federal water contractors, with 77% sold to water contractors south of the Delta. This directly ties the Shasta Dam raise to the Delta tunnels project proposed in the Bay Delta Conservation Plan (BDCP). The Bureau's previous study of the Shasta Dam raise was shelved when voters rejected the proposed Peripheral Canal in 1982, presumably because most of the customers for the water developed by the dam raise are between the dam and the meandering channels of the Delta. The dam raise was revived with the resurrection of the canal as the BDCP's Delta tunnels.

For more information concerning this project, please contact Steve Evans, Wild Rivers Project Consultant for Friends of the River, phone: (916) 708-3155, email: sevans@friendsoftheriver.org.