



October 5, 2020

David Brick
Bureau of Reclamation
CGB-152
2800 Cottage Way
Sacramento, CA 95825

RE: Changed Circumstances and New Information Require Reclamation to Update the 2015 Final Feasibility Report for Shasta Lake Water Resources Investigation through a Public Process that Provides for Public Review and Comment

Dear Mr. Brick:

On behalf of the Natural Resources Defense Council, Defenders of Wildlife, Golden State Salmon Association, Sierra Club California, California Sportfishing Protection Alliance, The Bay Institute, San Francisco Baykeeper, and Friends of the River, we are writing with respect to significant changed circumstances and new information that materially affect several of the assumptions and findings in the Bureau of Reclamation's ("Reclamation") 2015 Final Feasibility Report for the Shasta Water Resources Investigation ("2015 Final Feasibility Report").¹ This new information materially alters and in several cases contradicts the assumptions and findings

¹ In the 2015 Final Feasibility Report, Reclamation did not make a final determination whether any of the alternatives were feasible and did not make a recommendation to Congress to seek project authorization, due to "unresolved considerations as discussed in Chapter 9." *See, e.g.*, 2015 Final Feasibility Report at ES-2 to ES-3, ES-32. The 2015 Final Feasibility Report stated that these unresolved issues that precluded a recommendation to Congress included the lack of a cost-sharing agreement with project partners, "potential conflicts with State law, fish and wildlife concerns, and tribal considerations that must also be addressed." *Id.* at ES-32. Reclamation must provide an opportunity for public review and comment before it makes any changes to the 2015 Final Feasibility Report for this project, including making a recommendation to Congress regarding this project.

in the 2015 Final Feasibility Report, and as a result, the 2015 Final Feasibility Report does not accurately assess the feasibility of the proposed project. To the extent that Reclamation seeks to revise the assumptions, findings, and/or lack of a recommendation to Congress in the 2015 Final Feasibility Report in light of these changed circumstances and new information, Reclamation must provide an opportunity for public review and comment before it updates the feasibility report.

The 2015 Final Feasibility Report fails to account for a number of significant changed circumstances and new information that materially affect Reclamation's prior conclusions in that report, including:

- The State of California's determination that enlarging Shasta Dam violates California law, and the corresponding requirement that the State Water Project not participate in water supply from the project, which significantly alters the assignment of costs and benefits in the 2015 Final Feasibility Report by precluding the participation of the State Water Project and its contractors;
- The lawsuit by the Attorney General and orders and decisions of the Shasta County Superior Court in *People v. Westlands Water District*, Case No. 192487, including the preliminary injunction against the Westlands Water District's actions to participate as a cost-sharing partner, which affect the assignment of costs and financial feasibility in the 2015 Final Feasibility Report;
- Significant changes to the operations of the State Water Project and Central Valley Project adopted by Reclamation in its Record of Decision on the Reinitiation of Consultation for Long Term Operations, which significantly alter the assignment of potential costs and benefits for anadromous fish in the 2015 Final Feasibility Report;
- The State Water Resources Control Board's determination that enlarging Shasta Dam would require the Board to issue Reclamation a discretionary extension of time on its water rights permits and that doing so would violate State law, which affects the findings regarding environmental feasibility in the 2015 Final Feasibility Report;
- Enactment of subtitle J of the 2016 Water Infrastructure Improvements for the Nation Act ("WIIN Act"), which alters the potential process for authorizing water storage projects and affects the findings regarding financial feasibility in the 2015 Final Feasibility Report; and,
- Reclamation's determination that there are significant seismic concerns regarding enlarging Shasta Dam, which have not been publicly disclosed and which significantly affect the findings regarding technical feasibility in the 2015 Final Feasibility Report.

Each of these changed circumstances since 2015 significantly alters the assumptions and findings in the 2015 Final Feasibility Report, including the findings regarding cost and benefit allocations, financial feasibility, technical feasibility, and environmental feasibility.

I. Financial Feasibility and Assignment of Costs and Benefits

The 2015 Final Feasibility Report’s findings regarding financial feasibility are inaccurate in light of changed circumstances and must be significantly revised.

First, in the 2015 Final Feasibility Report, Reclamation assigned 24 percent of the total cost of enlarging Shasta Dam to State Water Project municipal and industrial users. *See* 2015 Final Feasibility Report at 6-13, 6-19, 6-21. The cost allocation to State Water Project M&I contractors in the 2015 Final Feasibility Report is based on the assumption that the proposed project “could provide water supply benefits to a range of CVP and SWP M&I contractors,” based on the analysis of the ability to pay from “a range of representative SWP M&I contractors that could receive project water supplies.” *Id.* at 6-19. It specifically includes an assumption that there would be additional State Water Project pumping costs, *id.* at 6-21, “assumes the increment of M&I water supply from the NED Plan would require repayment contracts with existing CVP and SWP contractors who are willing and able to pay the incremental costs to receive the incremental benefits,” and assumes that “specific M&I water supply beneficiaries have not been identified beyond SWP M&I contractors generally.” *Id.* at 6-21.

However, the State of California has publicly determined that enlarging Shasta Dam would violate state law, and the Attorney General has successfully filed litigation and obtained a preliminary injunction preventing the Westlands Water District from assisting or participating in this project, including through the execution of a cost-sharing agreement. *People v. Westlands Water District*, Shasta Co. Superior Court Case No. 192487 (July 29, 2019). Section 5093.542 of the California Public Resources Code generally prohibits Westlands Water District and other water districts, which are generally agencies of the State, *see* Cal. Gov. Code § 16271(d), from executing cost sharing contracts with Reclamation that would assist or contribute to the enlargement of Shasta Dam. As a result, the assumption that State Water Project and its contractors would execute contracts to pay for a portion of these costs is not accurate, and the assumption of financial feasibility must be revised.

In addition, rather than providing a water supply benefit to State Water Project contractors as assumed in the 2015 Final Feasibility Report, Reclamation’s modeling of the proposed project for the DSEIS shows that on average State Water Project contractors would **lose** 14,000 acre feet of water per year. *See* Supplemental modeling by Reclamation, included in Exhibit A.² Reclamation’s modeling in the Draft Supplemental Environmental Impact Statement on the Shasta Lake Water Resources Investigation (“DSEIS”) is wholly inconsistent with the 2015 Final Feasibility Report, and the assumptions of financial feasibility must be revised.

² This and other references cited in this letter are included as Exhibits to the comment letter by NRDC *et al* on the Draft Supplemental EIS. They are referred to here by the same exhibit name given in the comments to the DSEIS.

Second, the 2015 Final Feasibility Report assumes that 8% of the cost of enlarging Shasta Dam would be paid for by Central Valley Project irrigation contractors. *See* 2015 Final Feasibility Report at 6-13. However, the California Attorney General filed successful litigation that enjoined the Westlands Water District's preliminary efforts to participate in the construction of enlarging Shasta Dam, including through a cost-sharing agreement. As a result, Central Valley Project contractors including the Westlands Water District are legally prohibited from executing contracts to pay for a portion of these costs, and the assumption of financial feasibility must be revised.

In addition, the WIIN Act, which was enacted by Congress after the 2015 Final Feasibility Report, explicitly requires the Secretary to execute a cost-sharing agreement with one or more project beneficiaries to pay for 50% of the cost prior to authorizing construction of the project. P.L. 114-322, § 4007. However, as noted above, section 5093.542 of the California Public Resources Code generally prohibits water districts in California from executing cost-sharing contracts with Reclamation that would assist or contribute to the enlargement of Shasta Dam, and the courts issued an injunction specifically precluding the Westlands Water District from taking the steps necessary to execute such a cost-sharing agreement. The 2015 Final Feasibility Report must be revised to account for these requirements of the WIIN Act and the prohibition on water districts in California from executing such cost-sharing agreements for enlarging Shasta Dam.

Finally, the 2015 Final Feasibility Report assigns 49% of the costs of the project to fish and wildlife, based on its estimate of temperature benefits to salmon (anadromous fish survival). *See* 2015 Final Feasibility Report at 6-4, 6-13. That assessment of benefits was "based on operations described in Reclamation's 2008 Long-Term Operations BA, the 2008 USFWS BO, the 2009 NMFS BO, and the Coordinated Operations Agreement between Reclamation and DWR, as ratified by Congress." However, each of those operational assumptions is no longer valid in light of subsequent changes in operations of the Central Valley Project and State Water Project. In addition, the 2015 Final Feasibility report's estimate of costs and benefits for anadromous fish survival does not account for new scientific information regarding the effects of water temperatures and flows downstream of Shasta Dam on salmon. In particular, the 2015 Final Feasibility Report's assignment of anadromous fish survival benefits fails to consider:

- the significant changes in Shasta Dam operations resulting from the 2018 Addendum to the Coordinated Operating Agreement;
- the significant changes in Shasta Dam operations resulting from Reclamation's Record of Decision regarding Reinitiation of Consultation, the 2019 NMFS Biological Opinion, and 2019 FWS Biological Opinion;
- the effects of climate change, including effects on Central Valley Project and State Water Project operations and effects on water temperatures;
- new scientific information regarding the effects of water temperatures at Shasta Dam on salmon (Martin et al 2017); or
- new scientific information demonstrating the adverse effects of reduced flow in the Sacramento River, which reduces the survival of juvenile salmon migrating downstream

(See, e.g., Stuart Munch et al 2020. *Science for integrative management of a diadromous fish stock: interdependencies of fisheries, flow and habitat restoration*, Can. J. Fish. Aquat. Sci. 77: 1487–1504 (2020) [dx.doi.org/10.1139/cjfas-2020-0075](https://doi.org/10.1139/cjfas-2020-0075); Michel, Cyril 2019. *Decoupling outmigration from marine survival indicates outsized influence of streamflow on cohort success for California's Chinook salmon populations*, Can. J. Fish. Aquat. Sci. 76: 1398–1410 (2019) [dx.doi.org/10.1139/cjfas-2018-0140](https://doi.org/10.1139/cjfas-2018-0140); Friedman, W. R. et al. 2019. *Modeling composite effects of marine and freshwater processes on migratory species*. Ecosphere 10(7):e02743. [10.1002/ecs2.2743](https://doi.org/10.1002/ecs2.2743); Mark Henderson et al, 2018. *Estimating spatial-temporal differences in Chinook salmon outmigration survival with habitat and predation related covariates*. Can. J. Fish. Aquat. Sci. 76(9): 1549-1561, <https://doi.org/10.1139/cjfas-2018-0212>; Notch, Jeremy et al 2020. *Outmigration survival of wild Chinook salmon smolts through the Sacramento River during historic drought and high water conditions*. Environ Biol Fish, <https://doi.org/10.1007/s10641-020-00952-1>).

As a result, the assumptions in the 2015 Final Feasibility Report regarding costs and benefits for fish and wildlife are inaccurate and must be revised to address Reclamation's current operations at Shasta Dam and current scientific information regarding the effects of temperatures and flow on survival of salmon.

II. Technical Feasibility:

In addition to financial feasibility, the 2015 Final Feasibility Report's findings and discussion regarding technical feasibility must be revised to account for Reclamation's discovery of significant seismic risks in recent years, that may preclude the enlargement of Shasta Dam in a safe manner. According to comments by Reclamation staff (Jack Worsley) on the August 2019 Shasta Dam and Reservoir Enlargement Project (SDREP) – Dam Raise Final Design Status Report, “The December 2018 Risk had so much uncertainty project seismic loadings, flood curves and potential loss of life it was never finalized. Therefore was kept in a DRAFT form. Dam Safety began an Issue Evaluation on the existing Shasta Dam to reduce the uncertainty of the above. The Issue Evaluation has not been completed.” Although there are substantial redactions in this and other documents disclosed in response to FOIA requests by Earthjustice, a number of significant seismic concerns were identified that have not been publicly disclosed, including:

- Estimated seismic loads are significantly higher (200-300% higher) than the seismic loads used by Reclamation in its prior risk assessment in 2014. See email from Robert Pike (USBR) to Thomas Luebke et al, re: Background Information for Shasta Call, Feb. 11, 2019; see also Reclamation, Shasta Dam and Reservoir Enlargement Project (SDREP) – Dam Raise Final Design Status Report, August 2019;
- Raising the dam is likely to increase the loss of life expected as a result of a dam failure (“Life loss under existing conditions is less than under raised conditions”). See email from Sheena Barnes (USBR) to Anastasia Johnson et al, re: Shasta RCEM Draft Report, Feb. 8, 2019 (Attaching draft Tech. Memo No. SV-86-68130-2018-1), at 121;
- There are significant concerns regarding cavitation damage and failure from an enlarged spillway associated with the dam enlargement. See Bureau of Reclamation, Alternatives

for Preventing Cavitation Damage on the Shasta Dam Spillway, Hydraulic Laboratory
Report HL-2019-06, December 2019.

While it appears from these documents that Reclamation ceased design work on enlarging Shasta Dam without resolving these significant seismic concerns, there is no question that Reclamation has not analyzed or disclosed these risks pursuant to NEPA or accounted for them in the 2015 Final Feasibility Report. Reclamation plainly must update the 2015 Final Feasibility Report to account for these seismic risks.

III. Environmental Feasibility

The 2015 Final Feasibility Report's findings regarding environmental feasibility must be significantly revised in light of changed circumstances since 2015. Most notably, as discussed in detail in the letter from NRDC et al regarding the DSEIS, changed circumstances and new scientific information require Reclamation to completely revise the analysis of potential environmental impacts in the 2015 Final EIS in order to account for Reclamation's significant changes to operations of Shasta Dam, new scientific information, and the effects of climate change. Moreover, in 2019 the State Water Resources Control Board determined that Reclamation must obtain a discretionary time extension for several water rights permits before beginning construction on enlarging Shasta Dam, and that State law would prohibit issuance of such permits or approvals. *See* Letter from SWRCB to Bureau of Reclamation dated January 14, 2019, included in Exhibit I. Finally, in light of the State's determination that enlarging Shasta Dam would violate California's environmental laws, the 2015 Final Feasibility Report should be revised to determine that the project is not environmentally feasible. *See also* P.L. 108-361, § 103(d)(1)(B)(i).

IV. Conclusion

The 2015 Final Feasibility Report fails to account for significant changed circumstances and new information since 2015 that significantly affect Reclamation's prior findings regarding feasibility of the project and demonstrably makes those prior findings inaccurate. Reclamation must revise the 2015 Final Feasibility Report to account for these changed circumstances and new information. Moreover, such revisions are required to the extent that Interior now seeks to make a recommendation to Congress regarding the enlargement of Shasta Dam. Should Reclamation determine that revisions to the 2015 Final Feasibility Report are required or seek to make any different findings regarding feasibility or a recommendation to Congress, Reclamation must first provide the public and the State of California³ with an opportunity to review and comment.

³ Federal law specifically requires that the Secretary consult with the State before making any recommendation to Congress. P.L. 108-361, § 103(d)(1)(B)(i)

Thank you for consideration of our views.

Sincerely,



Doug Obegi
Natural Resources Defense Council



Rachel Zwillinger
Defenders of Wildlife



John McManus
Golden State Salmon Association



Brandon Dawson
Sierra Club California



Chris Shutes
California Sportfishing Protection Alliance



Gary Bobker
The Bay Institute



Jon Rosenfield, Ph.D.
San Francisco Baykeeper



Ron Stork
Friends of the River