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Sites Project Authority
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Subject: Draft EIR/EIS Comments, Sites Reservoir Project

The Shasta Group of the Sierra Club consists of approximately 900 active members located in the geographical area from Red Bluff to Oregon within California. This area encompasses the headwaters of the Sacramento River and the Tehama Colusa Pumping Plant in Red Bluff which is a major element and source of water for the Sites Reservoir Project (Project).

The following are comments on the Draft Environmental Impact Report/Environmental Impact Statement (Report) dated August 2017. Underline indicates direct quotes from the Report.

1. Page 7-68. Shasta Lake and Sacramento River from Shasta Lake and Keswick Reservoir to Freeport Impact SW Qual-1: A Violation of Any Water Quality Standard or Waste Discharge Requirement, or Otherwise Substantially Degrade Surface Water Quality

Water Temperature

Water temperature modeling results under Alternative C generally are either reduced or less than 0.5°F higher than water temperatures under the Existing Conditions/No Project/No Action Condition in the Sacramento River between the Keswick Reservoir and Freeport, as shown in Appendix 7E River Temperature Modeling. However, in April and May in Below Normal, Dry, and Critical water years, water temperatures along the Sacramento River at Ball's Ferry, Jelly's Ferry, and Bend Bridge; downstream of the Tehama-Colusa Canal and GCID Main Canal intakes; and downstream of the Delevan Pipeline Intake/Discharge Facilities, temperatures under Alternative C would be 0.6 to 1°F higher as compared to the Existing Conditions/No Project/No Action Condition.

Page 12-100. Therefore, the potential impacts related to the temperature of water discharged from the Delevan Pipeline Intake/Discharge Facilities into the Sacramento River are considered to be less than significant. 7.3.1.1 Use of Numerical Models. For this monthly analysis, it was determined that incremental changes of 0.5° F in mean monthly water temperatures would be within the model uncertainty.

The authors of the water temperature model appear to indicate that the reliability of the temperature model is approximately 0.5 degrees F. This could therefore mean that the temperature of the Sacramento River could increase by 1.0° F in normal years. The Sites reservoir will have extremely poor water quality which will degrade further as years go by. It is not clear if water temperature changes in conveyance canals from Sacramento River diversions and small reservoirs existing or proposed have been incorporated into the temperature analysis. The analysis given in Appendix 7 only modelled the largest reservoir (Alternative B, 1.8 MAF) which gives higher volumes of deeper cold water than a smaller reservoir. This indicates that the

temperature modeling is not sufficient to predict the temperatures in the Sacramento River at the discharge point. The temperature model should be redone with the uncertainties above corrected for both reservoir sizes.

2. ES.1.2.2 Develop Additional Recreational Opportunities

The development of Sites Reservoir would provide new recreational areas and facilities adjacent to the reservoir to allow for and encourage water-related recreational activities such as fishing, swimming, camping, boating, and hiking. Recreation opportunities will be practically nonexistent due to very shallow lake depths, vegetation growth due to warm water temperatures, and nearly dry lakebed during warmer months of the year.

3. It was not possible to find in the Report the site-specific geotechnical data for the field explorations and analysis that led to the dam cross sections given the Report. This information should be provided in a supplement to the EIR/EIS to allow for public review and comment.
4. Table ES-2 Summary of Environmental Effects by Resource. This table reflects the “opinion” of the writers of the Report as to whether Project impacts are significant or not. There should be a review by qualified professional scientists independent of the Project team to determine if the “opinion” expressed by the writers is scientifically defensible.
5. Page 3-20. Rockfill and Riprap – The best available source of rockfill material for riprap within the Project area is fresh Venado sandstone. Sandstone quarry areas are located within the reservoir inundation area and are presented on Figure 3-6. Sufficient quantities of fresh sandstone for rockfill material could be obtained from these quarries to construct the proposed embankment dams. It is possible that one centrally located quarry would be developed for Golden Gate and Sites dams instead of developing a quarry for each dam. Note that fresh Venado sandstone was used as riprap for the existing Funks Dam and has performed well. The geology of the area does not contain sufficient good quality rock for rip rap. Sandstone weathers badly under wet/dry and freezing conditions. The Report indicated that rip rap from the project area is being used for rip rap at Funks Dam. The rock durability required for the dams and shoreline for the Project will have to be able to withstand large waves under both hot and freezing conditions. Further field investigation is needed to verify if local bedrock is suitable for the Project.
6. The 9 to 11 dams that will be required for the Project are indicative of the poor Project feasibility. If this area was a good reservoir site, it would have been developed many years ago. The poor dam sites have leaky complex rock formations, weak to poor rock quality and redesign of the dams will likely be required resulting in massive construction overruns. When the earthquake shaking potential is truly evaluated and analyzed for permitting by the California Division of Safety of Dams, the dam rock shell slopes will have to be flattened, expensive filter zones widened, foundation preparation area enlarged and core of low permeability soil will have to be widened. This will result in nearly doubling the cost of each dam.
7. The Sacramento Valley has sufficient water for responsible agriculture which minimizes use of high quality water supplies. More water needs to be used in the Sacramento/San Joaquin Delta to improve the health of the aquatic habitat and inhibit salt water intrusion in light of rising ocean levels. Agriculture is important for crops that are consumed in the United States. The large expansion of export nut and rice crops is using water that should be used to grow healthy food for domestic consumption. This export includes the water needed to grow the crops.

There is no mention in the Report concerning crop usage and the future food types likely to be used in California and how this will be affected by the Project.

8. Funds that might go for this project should instead be used and distributed to improving the health of the Sacramento/San Joaquin Delta, repairing all dams to provide safe operation, and for balancing groundwater extraction with sustainable groundwater recharge. This is where all efforts in California should be directed over the next 50 years, not for additional dams and facilities that may never be used.
9. ES.1.2.1 Allow for Flexible Hydropower Generation to Support the Integration of Renewable Energy Sources. The Project would be built with pumping/generating plants that would be capable of producing hydropower. If the hydropower component of the Project is implemented, electricity would be generated when water is released from Sites Reservoir into the proposed Holthouse Reservoir, and from the proposed Holthouse Reservoir to the proposed Terminal Regulating Reservoir (TRR) and into the Sacramento River. The statement seems contradictory and unclear if hydropower will be part of the Project. Electrical Power for all elements of the Project should come from new renewable energy sources. Additional electrical power will be required as part of construction for several years and permanent power facilities will be required for all pumping facilities and operation of valves, gates and maintenance required. All this should be powered by new renewable energy facilities developed by the Project. There is ample sun and wind power in the Project area. This will prevent loss of existing renewable power sources and discourage development of fossil fuel sources.
10. No new facilities should be constructed on the Sacramento River. The outfall for the Project will be a location of rapid changes in water temperature and water quality which will adversely affect onsite and migrating fish and biological creatures. Aquatic plant parts from the Sites Reservoir and supply canals and reservoirs will get thru any screening system devised and end up in the Sacramento River and migrate to the Delta which will further aggravate the already major plant fouling that has occurred there. Once water is removed from the Sacramento River and transported long distances thru canals, held in small and medium sized warm reservoirs and then released from the reservoirs it should not be returned to the river. This project will result in disastrous impacts to the Sacramento River water quality.
11. The No Project/No Action Alternative should be selected because the Project is not feasible and not needed.

Sincerely,



John Livingston
Chairman of the Executive Committee
Shasta Group of the Sierra Club