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Tehama-Colusa Canal Authority

MAY 21 1997

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May 20, 1997

Lester Snow, Executive Director
CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

RE: Ecosystem Restoration Program Plan, Executive Summary, April 8, 1997

Dear Lester,

We have grave concerns regarding the Ecosystem Restoration Program Plan (ERPP) as it was presented in the Executive Summary and Tables Working Draft dated April 8, 1997 and we offer the following comments:

Sacramento River Targets

- **Pg 39 Water Diversion: Reduce entrainment and upgrade RBDD:** The gates out program at the RBDD to enable the unrestricted the passage of the endangered Winter-run Chinook Salmon past the Dam has been in effect in various stages since December 1986, yet the salmon population continues to decline. The primary reasons for this continuing decline appear to be unrelated to the RBDD and seem more apparently related to:

- 1) Increase in ocean harvest;
- 2) Delta hazards;
- 3) Gross inaccuracies in the fish count above the dam is inaccurate (accuracy of a count with gates out, especially when water is muddy, is near impossible).

Whatever the reason, a solution to the RBDD fish passage problem must be developed and implemented as soon as possible to assure continued contract water supplies to the users.

- **Pg 41 Predation and Competition: Reduce adverse effects of predation and eliminate human made instream structures or operational conditions:** Recent years show a large decrease in predation at RBDD with the current gates-out program. Poor catches at the annual Squawfish Derby support this conclusion. New studies should be implemented to determine the current status of predation at RBDD.
- **Pg 42 Manage the legal harvest:** We agree absolutely! As ocean harvest rates increase, it is hard, if not impossible, to re-establish a healthy run. This is probably the biggest single adverse impact on the entire species.

Colusa Basin Ecological Zone

- **Pg 62 Stony Creek Targets: Stream flows** established in Stony Creek in an effort to attract fall-run could be subjecting that run to a most certain death as conditions in the streambed are not conducive with the life cycle (ie: temperature, etc.). Recent modeling studies conducted by the Bureau of Reclamation indicate there was only one year during 1964 and 1994 when there was enough volume of water to sustain the life cycle of the fall-run without having adverse third party impacts. Temperature, spawning gravel, and stream-bed scouring from high flood flows are just a few of the other variables that would also limit success of sustaining a run in this stream.

Temperature, in particular, is a problem. For the small proportion of the fall run which may pass Stony Creek confluence after mid-November, it would be very difficult to artificially attract salmon into the creek with flows less than 200 cfs¹ and the flows in Stony Creek are expected to be much warmer than the mainstem of the Sacramento River. Once salmon find Stony Creek favorable enough to enter from the Sacramento River (assuming both flow and temperature are attractive), there will still be a certain amount of time following creek entry when they can be expected to spawn (est. one to two weeks), for those eggs to incubate, rear and emigrate. That window is further limited by water temperature (56 degrees suitable for spawning in the fall, while 65 degrees becomes hazardous in the spring. A listing of historic stream temperatures is included as Attachment A.

Another limiting factor to this life cycle is the extremely high flows which occur during incubation (Attachment B). For example, the water years 1974 and 1983 exhibited a broader window than other years because of more favorable water temperatures, yet those same years also exhibited extreme flow events which would have destroyed salmon eggs. Given the very short window actually available for salmon production in Stony Creek (assuming other limiting factors can be overcome) it is not clear how a true salmon run can be established.

- **Pg 62 Elder Creek Targets: Provide stream flows....to correspond to seasonal runoff pattern:** Elder Creek is an undammed stream which experiences seasonal runoff currently. Why try to modify what occurs naturally.
- **Pg 63 Stony Creek Targets: Natural Sediment Supply:** Black Butte Dam is a flood control facility which acts as a barrier to the flow of natural sediments. It should be noted

¹ California Department of Fish and Game, (Puckett) 1969. Fisheries Surveys on Thames and Stony Creeks, with Special Emphasis on Their Potentials for King Salmon Spawning.

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that Puckett (1969) not only determined the only usable spawning habitat was found in the uppermost two miles just downstream of Black Butte Dam, but also found that no usable spawning area was available at flows less than 400 cfs to provide adequate depths and velocities for salmon spawning.

- **Pg 63 Elder Creek Targets: Natural Sediment Supply: To improve the quantity of sediment transported and maintain an average bedload of 34K ton per year:** As stated above, Elder Creek has natural sediment transportation currently. Is the ERPP proposing modifying the natural process and increasing that bedload?
- **Pg 65 Natural Floodplain and flood process: Stony Creek Target: None developed.** ERPP must look at the floodplain and flood process carefully, as Black Butte Dam is a flood control facility. The floodplain takes in a large portion of the community of Orland and the lack of a flood control facility could subject that community to annual flooding.
- **Pg 66 Stony Creek Target: Stream Temperatures: None Developed.** As noted above, water temperatures in Stony Creek are not conducive to the life cycle of chinook salmon and will need to be addressed.

These issues and concerns need to be addressed in the ERPP and we welcome the opportunity to discuss any or all of them with you at your convenience.

Sincerely,



Arthur R. Bullock
General Manager

ARB/jj

Attachments