

Attachment 1

Summary of

Flow Recommendations

for the Lower Tuolumne River

Submitted by Ten Conservation Groups

to the

Federal Energy Regulatory Commission

January 29, 2018

**General Parameters of NGO Flow Proposal for Lower Tuolumne River
From REA Comments in FERC Proceeding January 29, 2018**

Summary: February-June percent of unimpaired flow proposal following framework of State Water Resources Control Board, modified based on water-year type; late spring recession flows; flows for summer temperature maintenance; fall pulse flows to attract upstream salmon migration along with stable fall through January base flows for salmon spawning and incubation.

- I. Modified SWRCB percent-of-unimpaired February through May or June: description
 - A. Apply water-year types based on DWR Bulletin 120 estimated annual inflow to La Grange in February, March, April and May. Agencies and NGO's proposed B120 50% estimated annual inflow; may be open to negotiation.
 - B. Use 50% of unimpaired flow as the default for February-May months; add June in Wet years
 - C. Reduce number of months when percent of unimpaired flow is applied as water year type becomes drier
 - D. Switch to base flow plus pulse flow February-June requirements in Critically Dry water years.
 - E. Modify water-year types to provide "drought relief" in sequential drier years, effectively reducing flow requirements.
 - F. Apply managed flow recession at end of spring high flows in some water-year types.
- II. Modified SWRCB percent-of-unimpaired February through May or June: functions
 - A. Expanded rearing habitat in river channel and floodplain for juvenile salmon and *O. mykiss*
 - B. Increased food production
 - C. Expanded migration corridor for juvenile salmonids (predator avoidance)
 - D. Suitable water temperatures throughout period for rearing, smoltification and outmigration (including warmer floodplain temperatures to improve growth)
 - E. Increased pulse variability to stimulate diverse outmigration timing and life histories.
 - F. Flow recession at end of high flow period to stimulate final outmigration and improve riparian recruitment, especially of cottonwoods.
- III. Summer base flows: description
 - A. Maintain flows above RM 26
 - B. Divert some flow at ~ RM 26
- IV. Summer base flows: functions
 - A. Maintain water temperatures for ~ 12 miles habitat < 20°C to avoid stressful conditions for *O. mykiss*
 - B. Maintain sufficient physical habitat for *O. mykiss* adults as well as juveniles
 - C. Provide recreational fishery
 - D. Allow some diversion at RM 26 to reduce water supply impacts but maintain some outflow from Tuolumne River Delta and boatable flow level downstream of gallery

- V. Fall through January flows: description
 - A. Fall pulse flows
 - B. Base flows
- VI. Fall through January flows: functions
 - A. Fall pulse flows to stimulate upstream migration of adult salmon
 - B. Base flows to provide habitat for spawning and incubation
- VII. Require reduced irrigation deliveries (greater reductions as years get drier) to balance water in watershed
- VIII. Create groundwater water bank substantially financed by San Francisco to mitigate water supply effects of irrigation delivery reductions and to meet San Francisco's obligation to the Districts.