



Madam Chair Marcus and Board Members:

I am Dr. Michael Martin, I represent the Merced River Conservation Committee, a local Mariposa County volunteer organization of members interested in the Merced River watershed and its future.

I am an avid fly fisher with over 60 years of experience. I am a retired California Department of Fish and Wildlife scientist (35 years) and retired university professor (14 years). I have fished all over the world, and the Merced River is my favorite! Its anadromous fish stocks are on the edge of extinction.

I appreciate the Board addressing the issue of survival and restoration of the 3 iconic salmonid species of the Merced and San Joaquin Rivers.

My Main Points:

- **FIRST:** No scientific evidence that flows < than 50% UIF will achieve salmon and steelhead doubling targets or ensure a functioning Merced River ecosystem
- **SECONDLY:** Even at these higher-than-historic baseline flows, salmon doubling is possible only if accompanied by very precise management of flow (i.e. "shaping") PLUS HUGE investments in physical restoration of habitat in the lower Merced River
- **THIRDLY:** Rearing habitat restoration is required under all flow alternatives, but flows < than 50% UIF require proportionally higher restoration acreages, thus inflating costs
- **FINALLY:** High temperatures limit egg incubation and juvenile rearing habitat at flows < than 50% UIF—this affects the Merced carrying capacity AND reduces an ability to shape flows without serious negative effects

Can we reduce flows (< 50% UIF) and simply construct spawning and rearing habitats for fall run Chinook and steelhead in the Merced River and floodplain? My scientific opinion is that it is highly unlikely. In addition to increased floodplain inundation and spawning gravel addition, there are other non-flow measures that could improve salmonid population conditions: screen unscreened diversions, reduce the proportion of river flow directly diverted, reduce predator abundance, increase geomorphic flows (by shaping), increase large woody debris, and provide access to habitats above Crocker-Huffman and New Exchequer Dams. Habitat restoration won't produce the desired results if temperatures in the river get too high too early in the year. If young fish cannot escape (migrate), then simply doing habitat restoration won't provide much benefit.

I recommend you adopt a flexible > 50%UIF flow standard (with options to increase flows, should fish population targets not be met, through Adaptive Management measures). Science says that a 60% UIF standard is required to meet the salmonid doubling target. Board mandated non-flow measures to compensate for the reductions in flows are necessary for restoration of the salmon and steelhead populations in the Merced and lower San Joaquin Rivers. Thank you very much!