

612 EISENHOWER STREET, DAVIS, CALIFORNIA 95616-3031

25 August 1995

Christiane Hayashi
Office of City Attorney
City & County of San Francisco
415-554-9711

Re: USFWS draft biological opinion

Dear Chris:

As requested, here are my comments on the Opinion in relation to delta smelt.

I was pleased USFWS thinks the FERC agreement will have positive benefits to the smelt and other fishes. I think this is basically true although it is hard to argue that the effects on delta smelt will be strong. The reason for this is that since good records were kept in the 1960s, delta smelt populations have concentrated on the Sacramento side. During times of high abundance delta smelt were widely distributed throughout the Delta but even then numbers were usually low on the San Joaquin side. This phenomenon was recognized in the Delta Native Fishes Recovery Plan which includes distributional criteria as a way of evaluating recovery of the smelt. The portion of the Delta important to delta smelt was divided into three zones (Sacramento River/ Montezuma Slough, Suisun Bay, and north central Delta). The south Delta was not included because catches of smelt in trawls have been too infrequent to be meaningful. The north central Delta does include the San Joaquin River in part but the region is strongly affected by Sacramento River flows.

Despite assertions in the report, there is little direct or indirect evidence delta smelt spawn in the San Joaquin River, or have in recent years. Distribution of larvae and mature adults indicates most (if not all) spawning takes place in the Sacramento River and associated sloughs in most years. This is not too surprising since the Sacramento River consistently provides flows that can carry the larvae into Suisun Bay. The San Joaquin River has also had highest percentage of its flows diverted for a long time and the remaining water has been heavily contaminated.

The main effect of increased flows down the San Joaquin, including pulse flows, from the perspective of Delta smelt is likely to be to keep fish that have entered the central Delta from being captured/entrained by South Delta pumps. Reverse flows in the lower San Joaquin are not good for any fish but I would be hard pressed to say that "pulse flows... (are) are an important mechanism to move delta smelt from the San Joaquin River and its tributaries ... to suitable rearing habitat west of the Confluence (p. 21)." This may have been true at one time but probably not since regular sampling has been done.

I was somewhat surprised to read that one of the beneficial purposes of the additional flows is to dilute contaminants in the

San Joaquin River. This may be true, but my impression is that EPA has officially declared that this is not a good use of the water per se. It is bad policy. Perhaps USFWS needs to be reminded of this.

Also, for what it is worth, note that I never said that the "historical estuary probably offered relatively consistent spring transport flows that moved delta smelt juveniles and larvae to the mixing zone (p. 14)." What I have said is that in the historic delta shallow water spawning and rearing habitat must have been available every year, no matter what the flows, because the smelt has evolved a one year life cycle. During drought years the habitat might have been in the Sacramento Valley and in wet years in San Pablo Bay. Unfortunately, in the present era we have created a fairly rigid system where it appears that the only suitable rearing habitat is in Suisun Bay.

I should add that the increased flows, depending on timing, should be good for splittail, which spawn (as far as we know) on flooded vegetation along rivers, including the lower Tuolumne. Splittail are apparently less fussy as to where they rear than delta smelt, but Suisun Bay/Suisun Marsh do seem to provide near-optimal habitat for them, so splittail should benefit from transport flows for juveniles.

Hope this helps.

Sincerely,



Peter B. Moyle