

stated that the Yolo and Sutter bypasses are a "net benefit" to the splittail in that without their existence, the species might not have persisted to the present day.

*Our Response:* We have determined, based on consideration of scientific data and information provided by respondents, that the Yolo and Sutter bypasses are not, in and of themselves, a threat to the splittail. Our reevaluation of this issue is discussed in Factor E of the section entitled Summary of Factors Affecting the Species.

*Peer Reviewer Comment 19:* A peer reviewer felt that our determination that the Sutter and Yolo bypasses would require inundation for at least 30 continuous days between March and April in order for them to be considered a beneficial splittail spawning habitat was inaccurate and could affect water supply and flood management.

*Our Response:* We have not proposed inundation of the bypasses for any specific interval, duration, or frequency. Rather, we have speculated that the bypasses would have their greatest benefits to splittail if they became inundated at a frequency and duration that as closely as possible mimics the natural, precipitation-driven hydrograph. The reference to 30 days is a statement regarding how the inundation patterns of the bypasses at times do not meet the life history requirements of the splittail. Inundation of bypasses in dry years would reduce the effects of drought on the splittail. We also speculate that if the bypasses were inundated at a frequency and duration that as closely as possible mimics the natural, precipitation-driven hydrograph, then the numbers of non-native fish would be reduced, as non-native fishes favor ponded and continuously inundated habitats.

*Peer Reviewer Comment 20:* A peer reviewer believed that full implementation of the CALFED Program would preclude the need to list the splittail and indicated that over \$10 million had been spent on actions that could improve conditions for splittail.

*Our Response:* We refer the peer reviewer to the section entitled Summary of Factors Affecting the Species.

*Peer Reviewer Comment 21:* A peer reviewer asserted that the age-based capture bias argues against combining data from different age groups.

*Our Response:* We assume this comment refers to the pooling of data series from all age classes for meta-level statistical evaluation. We believe that as long as the degree of age-based capture bias is constant over a survey period, all age classes should show about the same

trends, and that combining age classes for meta-level statistical analysis will not be a problem.

#### State Agencies

We received comments from the following California State agencies: Department of Fish and Game (CDFG) and Department of Water Resources (CDWR). Technical data provided by the CDFG and CDWR have been incorporated into or addressed in this document, while other issues raised by State agencies are addressed below:

*State Agency Comment 1:* CDFG submitted comments that included an analysis using a modified version of Meng and Moyle's (1995) pre-decline and post-decline method. CDFG also divided the data by year class and used data available from all years and requested we consider these analyses.

*Our Response:* As discussed earlier in this notice, we acknowledge that there are other methods by which to analyze the available data, but that we have now employed an analysis using the CDFG/USBR MLR Model data series to describe population trends of the splittail. We refer CDFG to our Abundance section for a discussion of our most recent statistical analysis of the species population trends.

*State Agency Comment 2:* CDFG reiterated their assessment that the statistical evidence for a declining trend in splittail abundance is weak. CDFG cited an analysis that asserted that evidence for a time trend in 7 of 20 data series is not a compelling factor in determining that declines exist. CDFG specifically cited Manly (2002) which states "The Service claims that lack of power to detect a trend gives a reason for using a 20 [percent] level of significance in assessing whether or not there is evidence of a trend with individual series. This then allows [the Service] to claim evidence for a trend for 7 of the 20 series. Although this sounds impressive, it is less so when it is realized that by chance alone 4 of the 20 series (*i.e.*, 20 [percent] of them) are expected to give a significant result if this level of significance is used." CDFG also asserted that the weak nature of the MLR Model regression coefficients will be demonstrated with the calculation of splittail abundance indices for 2000, 2001, and 2002 and their inclusion into the models.

*Our Response:* As we note in our earlier analysis we made a conscious decision to use the more conservative, nontraditional 0.20 alpha for analysis purposes.

*State Agency Comment 3:* CDWR claimed we ignored the "White Paper" published by Moyle *et al.* (2001).

*Our Response:* We agree with and use many of the various findings and hypotheses found in the draft and revised White Paper (Moyle *et al.* 2001) extensively throughout this document. We believe that the White Paper is a useful resource and contributes to the knowledge on splittail biology. The paper has been referenced throughout this document.

*State Agency Comment 4:* CDWR stated that the hypothetical analytical model presented at the January 29, 2001, CALFED Bay-Delta Program (CALFED Program) Splittail Science Conference and described in the White Paper (Moyle *et al.*, 2001) indicates that the splittail, even during severe and lengthy drought, is unlikely to be driven to extinction.

*Our Response:* We ultimately arrive at the same conclusion as Dr. Moyle, that the splittail is unlikely to be driven to extinction. However, at this point we are unwilling to accept that premise solely on the basis of the White Paper. To date, there remains no proven scientific method for determining the current splittail population size primarily because no extant survey was designed specifically to monitor splittail populations or to determine their absolute numbers. Further, the splittail exhibits relatively wide variation in annual abundance in response to prevailing hydrologic conditions; it is likely that the population size exhibits appreciable year to year variability which would confound size estimates.

Calculating the current population's risk of and/or time to extinction would require estimates of absolute population size, rate of decline, and minimum viable or sustainable population size, none of which currently exist in a scientifically defensible form. Moreover, it must also be noted that the statutory and regulatory standard for ascertaining threatened status is not to determine whether or why a species will become extinct in the near future, but if, pursuant to section 3(19) of the Act, it " \* \* \* is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range". An endangered species, pursuant to section 3(19) of the Act, is that " \* \* \* which is in danger of extinction throughout all or a significant portion of its range \* \* \*". Our analysis, including a nontraditional conservative approach to estimating population trends examines the factors identified in the Act and in fact we find that the splittail does not warrant listing at this time.

*State Agency Comment 5:* CDWR felt that we should not classify the Yolo and Sutter bypasses as a threat to the