Alternative	Max Total CVP/SWP Ex- ports in cfs	Barrier Upper Old River	Vernalis Flow	Index Values on San Joa- quin
EPA	4/15 to 5/15 1500 4/1 to 4/15 & 5/16 to 5/31 W ¹ 6000 AN 5000 BN 4000 D 3000 C 2000	4/15 to 5/15 All Year Types	4/15 to 5/5 Minimum CFS W 10000 AN 8000 BN 6000 D 4000 C 4000 Other flows from 4/1 to 5/31 same as DWRSIM run used by USFWS for D-1630	W .49 ² AN .35 BN .28 D .22 C .22 Avg = .33
USFWS	4/15 to 5/15 W 6000 AN 5000 BN 4000 D 3000 C 2000	4/1 to 5/31 All Year Types	4/15 to 5/15 Minimum CFS W 10000 AN 8000 BN 6000 D 4000 C 2000 Other flows from 4/1 to 5/31 same as DWRSIM run used by USFWS for D-1630	W .49 AN .41 BN .40 D .35 C .32 Avg = .41

TABLE 4.—SAN JOAQUIN MANAGEMENT MEASURES COMPAR

¹ Many of the management measures in Table 4 vary by the water year category. Those categories are wet (W), above normal (AN), below normal (BN), dry (D) and critically dry (C).

² For comparison purposes, both EPA and USFWS index values have been scaled by dividing by 1.8. The final EPA criteria have not been scaled.

Criteria index values. Having arrived at this set of management measures that would protect the Fish Migration designated use (and not adversely affect the Delta smelt), EPA used the USFWS survival index equations to develop criteria index values across the potential range of hydrological conditions.⁴¹ Note that, as distinguished from the Proposed Rule, EPA is including only the criteria index *values* as its final Fish Migration criteria. The Proposed Rule had also included the criteria index value *equations* in the criteria. By including only the goal or target index values in the final criteria, EPA is providing greater latitude to the State Board to develop a mix of management measures that attain the stated salmon survival.

Means of these modeled values for each water year type are shown in Table 4. To translate these discrete values into a continuous function (as discussed below), two lines of "best-fit" were created, one for the drier years (dry and critically dry) and one for the wetter years (wet, above normal, and below normal). By connecting these two lines, EPA created a continuous function to serve as the criteria index value line on the San Joaquin. This criteria index value line is shown in Figure 6.

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⁴¹ The final Fish Migration criteria on the San Joaquin River do not vary by temperature (as they do for the Sacramento River) because experimental data from releases near the upstream edge of the Delta did not show a significant statistical relationship between survival and temperature at release (P. Fox, Data summary presented at CUWA workshop on June 29, 1994). In other words, on the San Joaquin River, temperature should not be used as the *independent* variable in the criteria. Nevertheless, temperature at Jersey Point is one of the factors included in the revised USFWS San

Joaquin River model, and, as described above, that model was used in developing EPA's final criteria to gauge the probable effect of implementation measures on smolt survival. When computing modeled smolt survival, EPA assumed average water temperatures of 60 °F in April and 65 °F in May. These assumed values are averages from a set of temperature data at Jersey Point taken during the late 1950's and 1960's. The recent experimental release temperatures are within the range of this data.