MANAGING FRESHWATER DISCHARGE TO THE SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY: THE SCIENTIFIC BASIS FOR AN ESTUARINE STANDARD
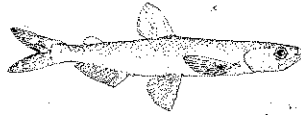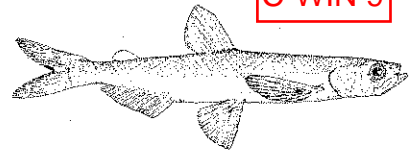
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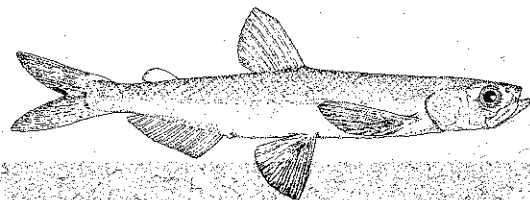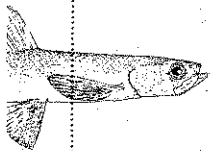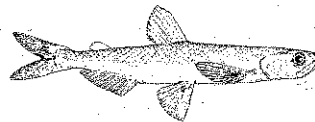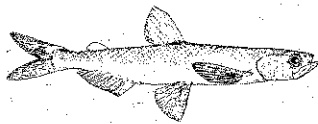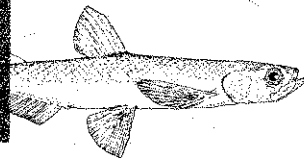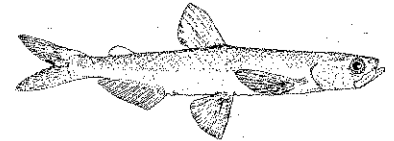
Conclusions and Recommendations of Members of the Scientific, Policy, and Management Communities of the Bay/Delta Estuary

Table 2. Flow requirements for steady-state X_2 values from 60 to 110 km from the Golden Gate, based on regression in Figure 13.

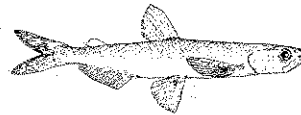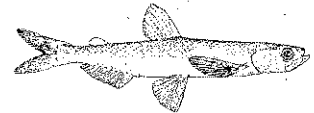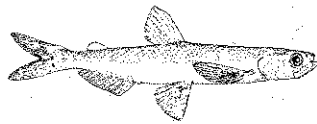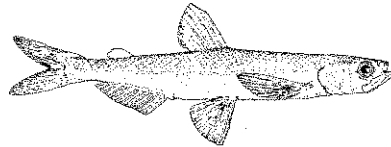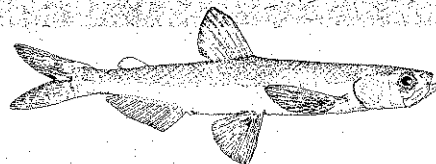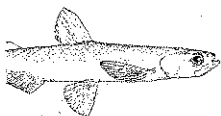| X_2	Outflow, cfs	Water required, million acre feet/month
60	43000	2.60
65	28000	1.67
70	18000	1.08
75	12000	0.70
80	7500	0.45
85	4800	0.29
90	3100	0.19
95	2000	0.12
100	1300	0.08
105	840	0.05
110	540	0.03

An important consequence of the nonlinear relationship of X_2 to delta outflow is the asymmetry in water requirement implied by Table 2. A change in X_2 takes the same proportional change in flow at any initial position, but the actual quantity of flow can vary. For example, it takes 18,000 acre-feet of water per month to move X_2 downstream from 110 to 105 km, and 921,000 acre-feet per month to move it from 65 to 60 km. This has serious implications for management: keeping X_2 at precisely the position set by the standard will always cost less water than allowing it to move about that position. Since one of the recommendations of the workshop is to allow for variability, it is important that the standard be set in such a way as to prevent constancy of position.

REFERENCES

Williams, P.B. and J.T. Hollibaugh. 1987. A salinity standard to maximize phytoplankton abundance by positioning the entrapment zone in Suisun Bay. Phillip Williams & Associates Report No. 412-4