

Model/Analysis	Model Run for ROC BA?	Model Used in CWF Consultation?	Utility and Notes	Model Implementors
CalSim-II	Yes	Yes	Included in BA suite. BA effects analysis includes some specific evaluations. NMFS expects to obtain modeling data files for further analysis of specific relevant results.	DWR/USBR/USFWS/ NMFS Contractors/CH2M
DSM2-HYDRO	Yes	Yes	Included in BA suite. BA effects analysis includes some specific evaluations; however, these deviate from the approach NMFS used in CWF BiOp. NMFS expects to obtain modeling data files for further analysis of specific relevant results, and may need assistance in processing that information.	DWR/USBR/CH2M
ePTM (SWFSC)	No	Yes	Not included in BA suite. Expected to be included in SWFSC Winter-Run Life Cycle Model results.	NMFS SWFSC
HEC-5Q	Yes	Yes	Included in BA suite. BA effects analysis includes some specific evaluations. NMFS expects to obtain modeling data files for further analysis of specific relevant results.	USBR
DSM2-QUAL	No	Yes	Not included in BA suite. NMFS needs to evaluate priority for this model after better understanding the PA.	DWR/USBR/CH2M
DSM2-QUAL Fingerprinting	No	Yes	Not included in BA suite. NMFS needs to evaluate priority for this model after better understanding the PA.	DWR/USBR/CH2M
SALMOD	No	Yes	Not included in BA suite. Used as additional line of evidence in CWF to predicts effects of flows on habitat suitability and quantity for all races of Chinook salmon.	USBR
OBAN	No	Yes	Not included in BA suite. Used as additional life-cycle model line of evidence in CWF to predicts effects of flows on outmigrant survival for Chinook salmon.	QEDA
DPM	No	Yes	Not included in BA suite. Used as additional line of evidence in CWF to predict effects of flows on through-Delta survival for Chinook salmon. NMFS worked extensively with DWR/Reclamation to increase confidence in this model since 2010.	Cramer Fish Sciences
IOS	No	Yes	Not included in BA suite. Used as additional life-cycle model line of evidence in CWF to predicts effects of flows on outmigrant survival for Chinook salmon.	Cramer Fish Sciences

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Salvage-density Analysis	No	Yes	Not included in BA suite. Used in CWF as evaluation of entrainment as a function of flow.	ICF
USGS Flow-survival Model	No	Yes	Not included in BA suite. Used in CWF to assess travel time and survival for different operational scenarios.	USGS
USGS Entrainment Model	No	Yes	Not included in BA suite. Used in CWF as evaluation of entrainment as a function of hydrodynamic variables in the Sacramento River.	USGS
SWFSC Temperature-Dependent Egg	Yes	Yes	Included in BA suite. BA effects analysis includes some specific evaluations. NMFS expects to obtain modeling data files for further analysis of specific relevant results.	USBR/SWFSC
SWFSC WRLCM	No	Yes	Not included in BA suite. Used in CWF as evaluation of cohort replacement rate and long-term species survival.	SWFSC
ICF Loss Analysis	No	Yes	Not included in BA suite. Used in CWF as additional line of evidence of effects of salvage and loss.	ICF
SWFSC RAFT/CVTemp	No	Yes	Not included in BA suite. Used in CWF as additional line of evidence of effects of operations on upstream conditions.	SWFSC