
From: Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov>
Sent: Sunday, February 10, 2019 6:20 PM
To: paul_souza@fws.gov
Cc: Barry Thom - NOAA Federal; Garwin Yip; Howard Brown; Maria Rea; Allen, Kaylee (kaylee_allen@fws.gov); Jana Affonso
Subject: Descriptions for NMFS-Requested Analytical Methods for ROC on LTO

Paul --

On Friday afternoon's ROC on LTO call, you requested brief descriptions of the analytical methods that NMFS is requesting be completed to support the ROC on LTO consultation. Below is a sentence or two for each, as well as an indication of their use in the previous OCAP (2009) consultation and/or the California WaterFix consultation. I hope this is helpful for your conversations with folks in DC. Please let me know if you have any questions.

Thanks -
Cathy

Salvage-Density Model

A model of entrainment into the south Delta facilities as a function of flow based on historical salvage data. Used in USBR California WaterFix (CWF) BA and NMFS CWF BiOp.

DSM2-HYDRO Analysis

Additional analyses of existing one-dimensional hydraulic model results to support evaluation of entrainment risk to species and inform take determination. Used in NMFS CWF BiOp after being provided by USBR/ICF upon NMFS request.

Delta Passage Model (DPM)

Simulates migration and mortality of Chinook salmon smolts entering the Delta from the Sacramento, Mokelumne, and San Joaquin rivers through a simplified Delta channel network, and provides quantitative estimates of relative Chinook salmon smolt survival through the Delta to Chipps Island. Used in USBR CWF BA and NMFS CWF BiOp.

IOS

A stochastic life cycle model for winter-run Chinook salmon the Sacramento River. Used in USBR CWF BA and NMFS CWF BiOp.

SalSim

Total life history population simulation model for fall-run Chinook salmon originating from the San Joaquin River. Modules used in USBR CWF BA and NMFS CWF BiOp.

Spawning and Rearing Weighted Usable Area (WUA) in Tributaries

Combines multiple habitat characteristics to support productivity analysis and develop possible surrogate for take. Used in 2009 OCAP consultation and USBR CWF BA and NMFS CWF BiOp.

DSM2 Fingerprinting Analysis

Identifies proportion of water from different river sources at a point in space to supports evaluation of adult straying and juvenile entrainment risk. Used in 2009 OCAP consultation and USBR CWF BA and NMFS CWF BiOp.

SALMOD

Predicts effects of flows on habitat suitability and quantity for all races of Chinook salmon in the Sacramento River, considering temperature effects, water velocity, and dewatering risk. Used in 2009 OCAP consultation and USBR CWF BA and NMFS CWF BiOp.

ICF Loss Analysis Update

Analysis of historical loss data to provide context for loss estimates and determination of take. Used NMFS CWF BiOp .