NMFS ROC on LTO Draft BiOp Preparation Schedule

| Date | Day | Task | Assumptions |
|-------------|---------|-----------------------------------|----------------------------------|
| February 1 | 1 | BA received: Formal Consultation | Initiation date not affected by |
| | | Initiated | BA re-issuance on 2/5/19 |
| March 1 | 29 | - Sufficiency Review Complete | 2/5/2019 BA revisions are not |
| | | - Draft Sections completed | significant and that Reclamation |
| | | through Analytical Approach | itemized the changes to support |
| | | | sufficiency review |
| March 4-8 | 32-36 | NMFS Southwest Fisheries Science | N/A |
| | | Center (SFWSC) Reviews Analytical | |
| | | Approach/Methods | |
| April 15-19 | 74-78 | - Internal Program Manager and | - Supplemental biological |
| | | Lead Biologist Review of Draft | modeling runs completed by |
| | | Effects and Integration and | March 15 (need to double |
| | | Synthesis | check this with Cathy) |
| | | - Drafting ITS | - Assumes SWFSC has no |
| | | | major comments on |
| | | | Analytical Approach that |
| | | | would affect schedule of |
| | | | Effects Analysis |
| May 6-10 | 95-99 | Section 7, NOAA GC, ARA | - Schedule holding |
| | | concurrent reviews | <u> </u> |
| May 20-31 | 109-120 | Peer Review of Effects Analysis | - Contracting options work |
| | | | out |
| May 27-31 | 116-120 | BOR, DWR, Water Contractor | - External review completed |
| | | review per WIIN Act 4004 | within schedule |
| June 3-7 | 123 | Address comments received from | - No significant changes result |
| | | peer review, BOR, DWR, Water | from peer and external |
| | | Contractors | reviews |
| June 10-12 | 130-132 | Final Section 7 and NOAA GC | - Short final review based on |
| | | review and clearance | ongoing coordination and |
| | | | minor changes from initial |
| | 422.424 | 5: 18: | review |
| June 13-14 | 133-134 | Prepare Final Biop | - Minor changes from final |
| | | | section 7 and NOAA GC |
| | 105 | Tr. Inio i | review |
| June 15 | 135 | Final BiOp issued | - No Jeopardy conclusion with |
| | | | no RPA |

Analytical Methods Requested for NMFS Consultation on the Reinitiation of Consultation on the Long-Term Operations of the CVP and SWP

All requests required ASAP for targeted mid-March effects analysis completion.

Highest Priority Analytical Needs

• SWFSC Winter-Run Life Cycle Model (SWFSC)

Supports evaluation of long-term population effects and jeopardy analysis.

• SWFSC Enhanced Particle Tracking Modeling (ePTM) (SWFSC)

Supports evaluation of through Delta survival and salvage risk.

• SWFSC RAFT/CVTemp Temperature Modeling (SWFSC)

Supports evaluation of temperature effects and potential take surrogate.

• Salvage-Density Analysis (ICF/CH2M)

Supports evaluation of entrainment loss and take determination.

DSM2-HYDRO (CH2M)

Additional analyses to support evaluation of entrainment risk to species and inform take determination.

• **DPM** (ICF/Cramer) **or USGS Flow-Survival** (USGS)

Supports evaluation of flow effects on through-Delta survival to inform take determination.

Medium Priority Analytical Needs

• **OBAN** (QEDA) **or IOS** (ICF/Cramer)

Supports analysis of long-term population effects and jeopardy analysis.

• USGS Entrainment (USGS)

Supports analysis of entrainment risk and determination of take.

• SalSim (ICF)

Supports survival analysis of San Joaquin basin for determination of take.

Rearing WUA in Tributaries (ICF)

Combines multiple habitat characteristics to support productivity analysis and develop possible surrogate for take.

Spawning WUA in Tributaries (ICF)

Combines multiple habitat characteristics to support productivity analysis and possible develop surrogate for take.

DSM2 Fingerprinting Analysis (CH2M)

Supports evaluation of adult straying and entrainment risk.

SALMOD (ICF)

Supports analysis of temperature effects, dewatering risk, and habitat suitability that could be used as take surrogates for Sacramento River.

ICF Loss Analysis Update (ICF)

Provides context for loss estimates and determination of take.