

# 2024 BIOLOGICAL OPINION

## APPENDIX 1: EFFECTS TRACKING TABLE

REINITIATION OF CONSULTATION ON THE  
COORDINATED LONG-TERM OPERATION OF THE  
CENTRAL VALLEY PROJECT AND STATE WATER

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## LTO Effects Tracking Table

This table lists all of the PA elements, the consultation type utilized for each element, and the species under our jurisdiction that may be affected by each element. If no species or critical habitat may be affected by a PA element, then “Not applicable” is used.

PA Element	Consultation Approach Type	FWS Species and Critical Habitat That May Be Affected
<b>3.1 Sacramento River</b>		
3.1.1 Seasonal Operations	Standard	Valley elderberry longhorn beetle, Western yellow-billed cuckoo, Western yellow-billed cuckoo critical habitat
3.1.2 Sacramento River and Shasta Reservoir Coordination Forums	Standard	Not applicable
3.1.3 Ramping Rates	Standard	Not applicable
3.1.4 Fall and Winter Baseflows for Shasta Refill and Redd Maintenance	Standard	Not applicable
3.1.5 Minimum Instream Flows	Standard	Valley elderberry longhorn beetle, Western yellow-billed cuckoo, Western yellow-billed cuckoo critical habitat
3.1.6 Rice Decomposition Smoothing	Standard	Giant garter snake
3.1.7 Sacramento River Pulse Flows	Standard	Valley elderberry longhorn beetle, Western yellow-billed cuckoo, Western yellow-billed cuckoo critical habitat
3.1.8 Adult Migration and Holding Temperature Objectives	Standard	Not applicable
3.1.9 Water Temperature and Storage Management	Standard	Not applicable
3.1.10 Water Temperature and Storage Framework	Standard	Not applicable
<b>3.2 Framework Approach</b>		
3.2.1 Bin 1 – Enhance – ~80% of years	Standard	Giant garter snake
3.2.2 Bin 2 – Recover and Maintain - ~11.5% of years	Standard	Giant garter snake
3.2.3 Bin 3 – Protect - ~8.5% of years	Standard	Giant garter snake
<b>3.3 Egg Incubation and Emergence Temperature Objectives</b>		
3.3.1 Temperature Management Plan	Standard	Not applicable
3.3.2 Temperature Profile Tracking	Standard	Not applicable
3.3.3 Annual Winter-run Chinook Salmon Broodyear Assessment	Standard	Not applicable
<b>3.4 Sacramento River Settlement Contractor Resolution</b>		
3.4.1 Monthly SHOT Planning and Actions	Standard	Not applicable
3.4.2 Drought Operations Priority Framework	Standard	Not applicable
<b>3.5 Clear Creek</b>		
3.5.1 Seasonal Operations	Standard	Not applicable
3.5.2 Ramping Rates	Standard	Not applicable
3.5.3 Minimum Instream Flows (Seasonally Variable Hydrograph)	Standard	Not applicable
3.5.4 Pulse Flows	Standard	Not applicable
3.5.5 Water Temperature Management	Standard	Not applicable
3.5.6 Segregation Weir	Standard	Not applicable
<b>3.6 American River</b>		
3.6.1 Seasonal Operations	Standard	Valley elderberry longhorn beetle
3.6.2 Ramping Rates	Standard	Not applicable
3.6.3 Minimum Instream Flows (Minimum Release Requirements)	Standard	Valley elderberry longhorn beetle
3.6.4 Spring Pulse Flows	Standard	Valley elderberry longhorn beetle
3.6.5 Redd Dewatering Protective Adjustments	Standard	Not applicable
3.6.6 Water Temperature Management	Standard	Not applicable
<b>3.7 Delta</b>		
3.7.1 Seasonal Operations	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.2 Delta Cross Channel Gate Closures	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.3 Maintenance and Repair	Standard	Delta smelt, delta smelt critical habitat, longfin smelt, northwestern pond turtle
3.7.4 Old and Middle River Flow Management	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.1 Winter-Run Early Season Migration	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.2 Spring-Run Chinook Salmon Assessment	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.3 Start of OMR Management	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.4 Real-time Adjustments	Standard	Delta smelt, delta smelt critical habitat, longfin smelt

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3.7.4.5 Adult Delta Smelt Entrainment Protection Action (Turbidity Bridge)	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.5.1 Adult Longfin Smelt Entrainment Protection Action	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6 Larval and Juvenile Delta Smelt Protection Action	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.1 Larval and Juvenile Longfin Smelt Protection Action	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.2 High-flow offramps for Larval and Juvenile Delta Smelt and Longfin Smelt	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.3 Winter-Run Chinook Salmon Annual Loss Threshold	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.4 Winter-Run Chinook Salmon Weekly Distributed Loss Threshold	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.5 Steelhead Annual Threshold	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.6 Steelhead Weekly Distributed Loss Threshold	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.6.7 Spring-Run Chinook Salmon and Surrogate Thresholds	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.7 Storm-Flex	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.8 End of OMR Management Season	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.4.9 End of Year Evaluation	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.5 Spring Delta Outflow	Standard and Framework programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.6 Delta Smelt Summer and Fall Habitat	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.6.1 Fall X2	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.6.2 Suisun Marsh Salinity Control Gate	Standard	California least tern, California Ridgway's rail, delta smelt, delta smelt critical habitat, longfin smelt, salt marsh harvest mouse, soft bird's beak, soft bird's beak critical habitat, Suisun thistle, Suisun thistle critical habitat, western snowy plover
3.7.7 Tracy Fish Collection Facility	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.7.1 Maintenance and Repair	Standard	Delta smelt, delta smelt critical habitat, longfin smelt, northwestern pond turtle
3.7.8 John E. Skinner Delta Fish Protective Facility	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.8.1 Maintenance and Repair	Standard	Delta smelt, delta smelt critical habitat, longfin smelt, northwestern pond turtle
3.7.8.2 Fish Protection Facility and Operations Manual	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.9 Tidal Habitat Restoration	Framework programmatic	California least tern, California Ridgway's rail, Delta smelt, delta smelt critical habitat, longfin smelt, salt marsh harvest mouse, soft bird's beak, soft bird's beak critical habitat, Suisun thistle, Suisun thistle critical habitat, western snowy plover
3.7.10 Delta Smelt Supplementation	Standard and Framework programmatic	Delta smelt, delta smelt critical habitat
3.7.11 Longfin Smelt Culture Program	Standard	Longfin smelt
3.7.12 Water Transfers	Standard	Giant garter snake
3.7.13 Operation of Agricultural Barriers	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.14 Barker Slough Pumping Plant	Standard	Delta smelt, delta smelt critical habitat, longfin smelt

PA Element	Consultation Approach Type	FWS Species and Critical Habitat That May Be Affected
3.7.14.1 Maximum Spring Diversions	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.14.1.1 Barker Slough Pumping Plant Protections for Larval Delta Smelt	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.14.1.2 Barker Slough Pumping Plant Conservation Measures	Standard	Delta smelt, delta smelt critical habitat, longfin smelt, northwestern pond turtle
3.7.14.1.3 Larval Longfin Smelt	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.14.1.4 Larval Delta Smelt	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.14.2 Maintenance	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.7.15 Clifton Court Forebay Weed Management	Standard	Delta smelt, delta smelt critical habitat, longfin smelt, northwestern pond turtle
3.7.16 B.F. Sisk Dam Raise and Reservoir Expansion	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
<b>3.8 Stanislaus River</b>		
3.8.1 Seasonal Operations	Standard	Foothill yellow-legged frog, Least Bell's vireo, Valley elderberry longhorn beetle, riparian brush rabbit, riparian woodrat
3.8.2 Ramping Rates	Standard	Foothill yellow-legged frog, Least Bell's vireo, riparian brush rabbit, riparian woodrat
3.8.3 Minimum Instream Flows	Standard	Foothill yellow-legged frog, least Bell's vireo, riparian brush rabbit, riparian woodrat
<b>3.9 San Joaquin River</b>	Standard	Least Bell's vireo, riparian brush rabbit, riparian woodrat
<b>3.10 Monitoring</b>	Framework programmatic	Delta smelt, longfin smelt
<b>3.11 Special Studies</b>	Stand-alone programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
3.11.1 Steelhead Juvenile Production Estimate	Stand-alone programmatic	Not applicable
3.11.2 Spring-Run Juvenile Production Estimate and Life Cycle Model	Stand-alone programmatic	Not applicable
3.11.3 Tidal Habitat Restoration Effectiveness	Stand-alone programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
3.11.4 Tributary Habitat Restoration Effectiveness	Stand-alone programmatic	Not applicable
3.11.5 Winter-Run Early Life Stage Studies	Stand-alone programmatic	Not applicable
3.11.6 Shasta Spring Pulse Studies	Stand-alone programmatic	Not applicable
3.11.7 Delta Route Selection and Survival	Stand-alone programmatic	Not applicable
3.11.8 Delta Smelt Summer and Fall Habitat	Stand-alone programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
3.11.9 Longfin Smelt Science Plan	Stand-alone programmatic	Delta smelt, longfin smelt
3.11.10 Management of Winter-run Spawning Location and Timing	Stand-alone programmatic	Not applicable
3.11.11 Alternative Loss Estimation Pilot Study	Stand-alone programmatic	Not applicable
3.11.12 Georgiana Slough Migratory Barrier Effectiveness	Stand-alone programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
<b>3.12 Drought</b>	Framework programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
<b>3.13 Governance</b>		
3.13.1 CVP/SWP Governance	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.13.2 Organizational Structure and Description of Collaborative Teams by Division	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.13.3 Chartering Teams	Standard	Delta smelt, delta smelt critical habitat, longfin smelt
3.13.4 Collaborative Decision Making	Standard	Delta smelt, delta smelt critical habitat, longfin smelt

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<b>3.14 Adaptive Management</b>	Stand-alone programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
<b>3.15 Framework Programmatic Outline for Sites Reservoir Project and Delta Conveyance Project</b>	Framework programmatic	Delta smelt, delta smelt critical habitat, longfin smelt
<b>3.16 Other Activities</b>		
3.16.1 Winter run action plan	Framework programmatic	Not applicable