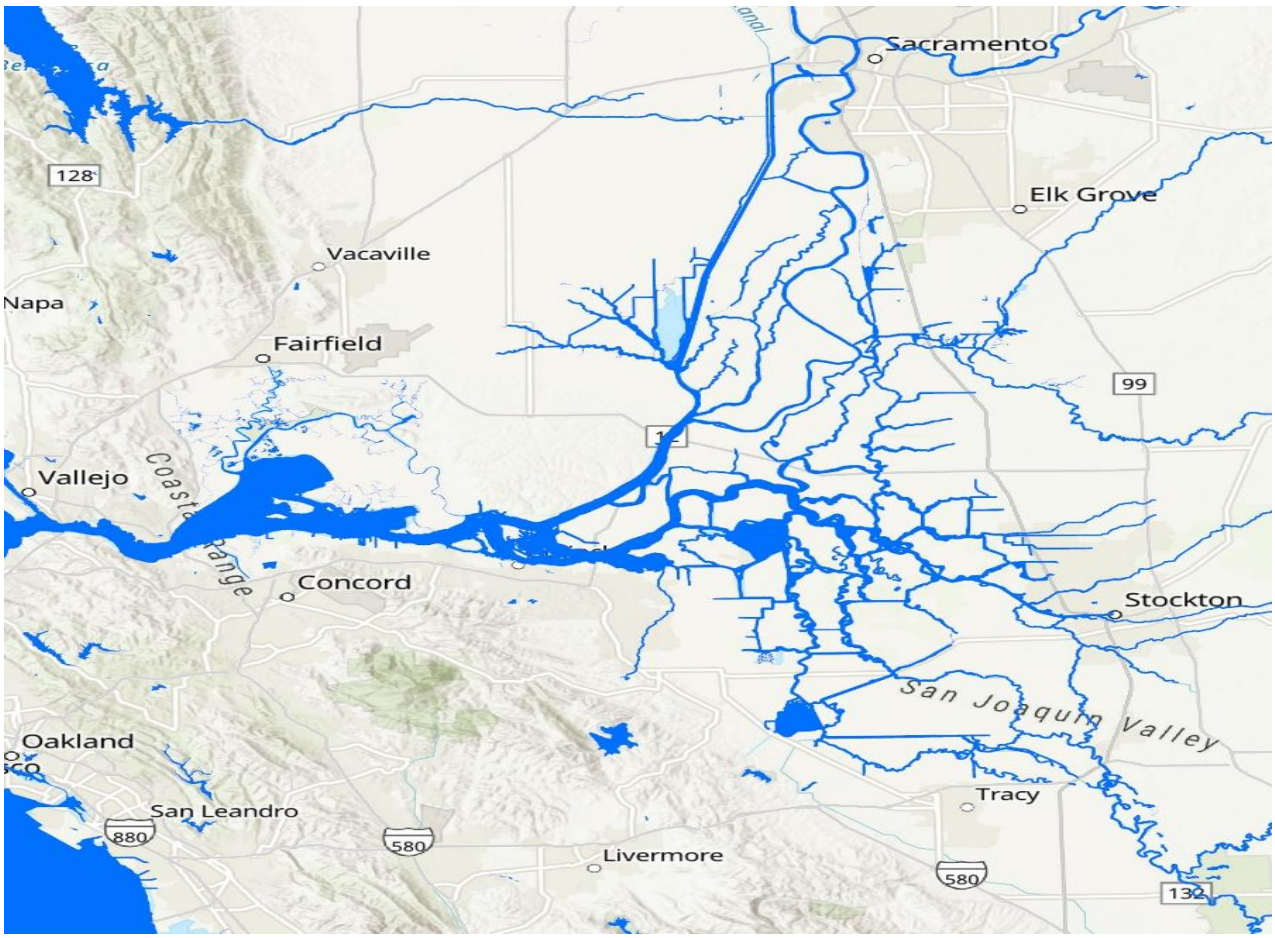
BUREAU OF RECLAMATION

FOIA EXEMPT – DELIBERATIVE PRIVILEGE

FY 2022 Draft Finance Plan

Central Valley Project, California California-Great Basin Region



U.S. Department of the Interior **February 2022**

Mission Statements

The Department of the Interior (DOI) conserves and manages the Nation's natural resources and cultural heritage for the benefit and enjoyment of the American people, provides scientific and other information about natural resources and natural hazards to address societal challenges and create opportunities for the American people, and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities to help them prosper.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

FY 2022 Finance Plan

Central Valley Project, California
California-Great Basin Region

prepared by

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Introduction

Reclamation is investing in new science and addressing the status of species listed pursuant to the Endangered Species Act (ESA) to secure more reliable water and power operations, and to augment operational flexibility. The February 19, 2020, Record of Decision (ROD) on the coordinated Long-Term Operation (LTO) of the Central Valley Project (CVP) and State Water Project (SWP) adopted new Biological Opinions from the U.S. Fish and Wildlife Service and National Marine Fisheries Service. The LTO represents the culmination of water contractor, regulatory agency, and stakeholder coordination pursuant to the Water Infrastructure Improvements for the Nation (WIIN) Act. In 2024 and 2028, Reclamation will request an independent science review on the Biological Opinions and independent panels will review the implementation of the ROD and potentially recommend changes.

This Finance Plan summarizes Reclamation's funding strategy to implement the ROD pursuant to the terms and conditions of the Biological Opinions, preparing for independent panels that will review and potentially modify actions, leveraging federal resources with the expertise and talents of partner agencies and stakeholders, and using competition to solicit the best and brightest approaches to meeting our needs. The prior consultations focused on the operation of the CVP and SWP and determined additional needs for listed species. The resulting jeopardy opinions and Reasonable and Prudent Alternatives (RPAs) in 2008 and 2009 identified the needs for listed fish but required actions that were difficult to implement and rigidly restricted operations without clearly improving the status of species. For the LTO, Reclamation and DWR worked with the fishery agencies and stakeholders to review the biological goals, incorporate decades of operational experience, and find innovative ways to address listed species. While the performance of the 2008 and 2009 RPAs relied heavily upon the fish agencies, the performance of the LTO will rest upon Reclamation, DWR, and our water contractors. A major component of our ability to achieve acceptable performance will be obtaining reliable and sufficient funding.

Reclamation applies the following approaches when managing programs and awarding contracts and agreements to ensure the best use of our financial resources and maximize the benefits from federal funding. These approaches will contribute to the success of meeting our commitments for the ROD on the LTO.

"Reclamation's funding strategy is to implement the ROD pursuant to the terms and conditions of the Biological Opinions, prepare for independent panels that will review and potentially modify actions, leverage federal resources with the expertise and talents of partner agencies and stakeholders, and use competition to solicit the best and brightest approaches to meeting our needs"

- Cost Share: Agreements with the state or local partners to meet statutory requirements under CVPIA for repayment (Sharing of Costs Agreement for Mitigation Projects and Improvements, "SCAMPI"), negotiations in the Biological Opinion Coordination Team (BOCT) agreement for costs under the LTO, and weighting of local involvement in funding decisions.

- Partnerships: using other organizations with specialized expertise that improves the quality and reliability of deliverables (e.g., Dela Plan Interagency Implementation Committee for coordinating planning and collecting financial data from federal, state, and local agencies, US Geological Survey for stream gage and water quality data, and fish agencies for biological monitoring).

- Competitive Awards: promoting an element of competition to solicit the best and brightest approaches from the broadest range of agencies, academia, stakeholders, non-governmental organizations, and the private sector (e.g. the Delta Science Program Proposal Solicitation Program, and Sacramento Notice of Funding Opportunity (NOFO)).

- Challenge Grants: benefiting from innovation in other sectors and non-traditional approaches through prize competitions (e.g. Reclamation's Research Office).

- Structured Decision Making: formal proven processes for developing science-based frameworks for informing decision makers on tradeoffs through explicit hypotheses creation and repeatable testing.

- Interest Statements: outline of Reclamation specific interests focused on goals, objectives, and limitations for collaborative partnerships to provide sideboards for empowering program and project managers under collaborative and facilitated processes.

- Facilitation: funding professional facilitators (currently Kerns and West) to help align and garner support by improving collaboration, staying focused and on schedule, and reducing costly and time-consuming conflict.

- Independent Panels: unbiased recommendation in areas when parties have a vested interest in the outcome either through water supply, funding objectives, or staffing (e.g., the LaTour review of Delta trawls and an Independent Science Board review of Delta monitoring). Independent panels assist in adopting new methods and information while bringing in additional perspectives. As a result of using independent panels, Reclamation has modified contracts to incorporate recommendations and is revising actions to improve monitoring of fish communities in the Delta.

- Science Programs: hiring additional Reclamation biology staff to lead and take authorship roles for projects or programs of critical significance to water and power operations (e.g. real-time operations, Incidental Take development, etc.).

- Auditing Program: conducting regular financial audits for tracking expenditures to ensure proper use of funding.

The implementation strategy for the LTO requires preparing to support new science and improved decision-making frameworks during the independent panels in 2024 and 2028.

Benefits

The LTO incorporates the following scientific advancements developed in collaborative forums with partner agencies, water contractors, and other interested parties to meet biological objectives for listed species while addressing key operational challenges.

Shasta Cold Water Pool Management on the Sacramento River – a suite of actions to improve the reliability of the available cold-water pool; a science-based strategy for when cold water is limited; and toolkits for drought conditions that incorporate senior water users and hatcheries. Overarching performance metrics support non-flow investments that improve the number of salmon eggs that survive to migrate downstream. Reclamation can reliably provide an initial allocation and drought-year protections without the adverse impacts of carryover storage requirements.

Updated science to solve operational challenges from the 2008 and 2009 Biological Opinions:

- Shasta Reservoir cold water pool management on the Sacramento River for timely allocation and improved survival of winter-run Chinook salmon eggs.
- Old and Middle River entrainment management in the Delta focuses on protective restriction on exports when required and proactively supports migration of salmonids rather than responding after entrainment has occurred.
- Delta Smelt Summer-Fall Habitat creates more efficient lower salinity zone habitat and habitat elements.
- Folsom Minimum Flow Management Standard on the American River provides more effective management of cold water to support salmonids.
- New Melones Stepped Release Plan on the Stanislaus River provides a sustainable approach to reservoir management that does not exceed the yield of the watershed.

Non-flow measures comply with the ESA in lieu of additional restrictions on reservoir releases, restrictions on exports, and bypasses on power generation.

Old and Middle River Entrainment Management in the Delta – working in close coordination with fish agencies, this is a protective restriction on exports with real-time monitoring and analysis, requiring additional restrictions when necessary and providing flexibility during storm-related events. Performance metrics incentivize proactive measures that support successful migration of juvenile salmonids before entrainment into the south Delta rather than responding after fish enter areas of poor survival. This allows for exports based on real-time conditions rather than restrictions based on calendar date and hydrological year type.

Delta Smelt Summer-Fall Habitat – a strategy to support the critical habitat for Delta Smelt in various hydrologic year types through salinity and nutrient management. This largely occurs through the operation of the Suisun Marsh Salinity Control Gates to create more low salinity zone habitat in

critical areas. The LTO incorporates food web dynamics and studies methods to create additional cover through turbidity. This action relieves costly impacts on water supply and impacts to storage in the event the following year is dry.

Folsom Minimum Flow Management Standard on the American River – adjustments to minimum flows that better preserve cold water for the critical fall period and reduce the need for bypassing power generation. Measures include a planning minimum flow providing additional drought protections for the municipal and industrial water contractors that rely upon Folsom Reservoir.

New Melones Stepped Release Plan on the Stanislaus River – adjustments based on the competing demands on New Melones that require more releases than the average annual inflow to the reservoir. Adjustments to the year-type classification support a sustainable operation of all New Melones purposes and are expected to improve temperature management.

Drought and Dry Year Actions – a voluntary toolkit implemented at the discretion of Reclamation, DWR, other agencies, participating water users, and/or others for the operation of Shasta Reservoir during critical hydrologic year types. These include actions beyond the discretion of Reclamation to better protect incubating winter-run Chinook salmon eggs.

In addition to the additional restrictions on reservoir releases and exports, and bypasses of power generation, the LTO adopts non-flow measures to comply with ESA obligations. Some of these non-flow measures consist of annual programs for tributary spawning and rearing habitat restoration, installing fish screens on small diversion structures, or improving fish passage to allow fish to reach areas higher in the headwaters of the Central Valley. Other actions are discrete large-scale investments in habitat, facilities, and studies to inform decisionmakers. Key developments required by Incidental Take Statements in the NMFS Biological Opinion include development and incorporation of a steelhead juvenile production estimate and spring-run Chinook salmon performance measures for Delta entrainment. Reclamation's objectives include further incorporation of habitat restoration in the assessment of Shasta operations and the development of a hydrodynamic-based conceptual model in the Delta to focus on survival rather than salvage.

Federal Appropriations and Cost Share

Reclamation currently uses annual appropriations through the Bay-Delta Fund created by CALFED, collections from the CVP Restoration Fund created by the CVPIA, and annual and supplemental appropriations from the Reclamation-wide Water and Related Resources Fund for the operation of the CVP. The LTO takes advantage of existing programs and funding where available.

Appropriations sources for the LTO include:

- Water and Related: Operation and maintenance of the CVP.
- CVP Restoration: fish, wildlife, and habitat restoration of the CVPIA.
- CalFed Bay-Delta: co-equal goals of water supply and ecosystem restoration; and
- WIIN Act: real-time operations, hatchery, and habitat restoration. temporary projects and operations.

Reclamation balances authorizations and needs across the available funds.

CALFED appropriations are primarily authorized to support the broad benefits under the co-equal goals of the Bay-Delta Program for water storage and conveyance studies, water conservation, water quality, and ecosystem restoration. Where actions are more narrowly focused on the operation of the CVP, Reclamation uses the CVP Restoration Fund or the Water and Related Resources Fund. In addition to listed species, the use of the CVP Restoration Fund includes other requirements of the CVPIA (e.g. refuge water supply and terrestrial species as well as non-CVP streams, non-listed species, and Fish and Wildlife Service initiatives).

The Water and Related Resources Fund contains line items that support a portion of the actions predating the CVPIA. However, the funding provided in Water and Related Resources has decreased, requiring Reclamation to rely on CVPIA and CALFED to make up the difference. These programs include: production hatchery mitigation for the effects of constructing the CVP on the commercial and sport fishing industry; Delta monitoring for compliance with water quality control plans and other decisions by the State Water Resources Control Board (e.g. D-1641 and 90-5); operation of the Tracy Fish Salvage Facility; operation of some meteorology, flow, and water quality stations; and some fishery monitoring.

The Water Infrastructure Improvements for the Nation (WIIN) Act requires operations or temporary projects to provide additional water supplies as quickly as possible, and actions to benefit threatened and endangered species and other wildlife. Currently, Reclamation relies upon WIIN Act Environmental supplemental funding to address Biological Opinion and WIIN Act requirements. Supplemental funding requests are formulated in the previous year and reprioritized and adjusted throughout the year to adapt to emerging initiatives, priorities, and partnership opportunities. Supplemental funding is generally made available in March/April, or later in the fiscal year, and requires the rapid execution of contracts and agreements by September. While awarding contracts

and agreements, recipient cost estimates, partner capabilities, and interests change, requiring us to further adjust scopes and budgets.

Implementation

Actions for fish and wildlife grew over time with initiatives and legislation creating new programs or supplementing and amending previously authorized programs. The LTO was developed in consideration of the different, but overlapping, and sometimes competing elements of existing Reclamation programs and in consideration of Recovery Plans, State of California initiatives, and local initiatives including:

- Hatcheries – The 1935 authorization of the CVP anticipated impacts to salmonids and incorporated the construction of production hatcheries to support the commercial and sport fishing industry. The U.S. Fish and Wildlife Service manages Coleman National Fish Hatchery on Battle Creek and the California Department of Fish and Wildlife manages the Nimbus Fish Hatchery on the American River. Hatchery management requires minimizing the adverse effects of cultured stocks on the natural populations.

- Water Rights – Reclamation collects data on the effects of the Central Valley Project and State Water Project to implement its obligations under D-1485 and WRO-90-5. In 1999, the California State Water Resources Control Board issued D-1641 to adopt the 1995 Bay-Delta Plan, which imposed new obligations on both the CVP and SWP to protect water quality for beneficial uses, including fish and wildlife.

- Suisun Marsh Preservation - Continues Reclamation participation with DWR to ensure a dependable water supply of adequate quantity and quality to protect wildlife habitat in the Suisun Marsh for the protection and preservation of fish and wildlife in accordance with P.L. 99-546, State Water Resources Control Board Decision 1641, and the Revised Suisun Marsh Preservation Agreement.

- CVPIA – The 1992 passage of the CVPIA, expressly modified the hierarchy of purposes for the CVP to achieve a reasonable balance among competing demands for CVP water by identifying fish and wildlife as a co-equal purpose with irrigation and municipal and industrial uses. Congress directed Reclamation to operate the CVP first for the primary purposes of river regulation, navigation, and flood control; then for the secondary purposes of water supply for irrigation and domestic uses and fish and wildlife mitigation, protection, and restoration; and finally, for the tertiary purposes of power and fish and wildlife enhancement.

- CalFed Bay-Delta – Subsumed much of D1641 needs and created an appropriations source to achieve the co-equal goals of water supply and ecosystem health in the Delta. California replaced CalFed with the Delta Stewardship Council while Reclamation continues to rely on these authorities for Delta collaboration and requirements.

- Biological Opinion – The Service listed Delta Smelt as threatened in 1993 and NMFS listed winter-run Chinook salmon as threatened in 1989 and then updated to endangered in 1994; listed spring-run Chinook salmon as threatened in 1999; listed California Central Valley steelhead as threatened in 1998; and listed the southern Distinct Population Segment of Green Sturgeon as threatened in 2006. In 2009, NMFS set specific requirements for meeting the needs of listed salmon, steelhead, and sturgeon with a combination of restrictions on operations and mitigation requirements. In 2014, NMFS released a Recovery Plan for

Central Valley salmon and steelhead that sets goals and prioritizes actions based on updated science.

- CSAMP (Collaborative Science and Adaptive Management Program) – formed in 2013 under a court order during the 2008 and 2009 Biological Opinion litigation, CSAMP and its technical Collaborative Science and Adaptive Management Team (CAMT) provide a unique forum for agencies, water users and NGOs to discuss controversial issues and develop shared science.

- WIIN (Water Infrastructure Investment for the Nation) provided Congressional direction to maximize water supplies within the constraints of the ESA and provide specific authorities for various programs and projects as well as a supplemental funding source.

- State Initiatives – Proposition Funding from State Bonds, Delta Stewardship Council budgets, and the Incidental Take Permit for the SWP are impose requirements that overlap Reclamation needs.

Consultations are structured around operational effects to fish behavior during spawning, foraging, sheltering, and migration that change the successful growth, survival, and recruitment of subsequent generations. Reclamation considered the fact that the status of listed species has been driven by many factors beyond Reclamation's control to address through operations, including dam and levee construction, urbanization, invasive species, and other land and water use changes. Although baseline conditions are not an effect of project operations, addressing these baseline stressors allows for greater operational flexibility. The LTO identifies scientific uncertainties and knowledge gaps that require conservative assumptions where more information could better focus protections and allow more flexibility at other times.

For salmonids in tributaries to the Delta, LTO programs and projects start with efforts to identify the timing, abundance, and distribution of returning adults and the nest where the females place their eggs (redds). The management of egg incubation and emergence primarily relies upon sufficiently cold-water temperatures and the careful management of scarce cold water behind reservoirs. Once juvenile salmon emerge as fry, they migrate downstream into the Delta and then out to the ocean as smolts where they grow into adults and return, typically in about 3 years. The LTO uses updated science that places a greater emphasis on the early life stages of the salmonid life cycle and refines the role of exports in route selection and survival through the Delta. The conceptual models in the LTO show poor habitat for spawning, foraging, and sheltering in the baseline; and an operational need to manage exports in a manner that promotes successful migration and avoids entrainment into the south Delta.

The LTO considers updated tools developed to manage how adult Delta Smelt distribute prior to spawning, limitations on the entrainment of Delta Smelt larvae and juveniles, and an approach to meet Delta Smelt rearing habitat needs through adjusting the operation of Suisun Marsh. Allee effects from low populations during the drought will require hatchery supplementation.

Categories of Actions

The improvements in the LTO rely upon five categories: real-time operations, status and trend monitoring, habitat and facility improvements, interventions, and special studies. This Finance Plan follows the LTO categories of:

Real-Time Operation - Monitoring, coordination, and reporting necessary for the day-to-day and seasonal operation of the CVP and SWP. Monitoring includes carcass and redd surveys for adult escapement; rotary screw traps for juvenile migration timing and production; trawls, seines, electrofishing, and rapid genetic testing for managing Delta entrainment risks; and coded-wire and acoustic tagging on CVP tributaries and in the Delta for migration and survival. Coordination consists of watershed-specific teams and the Smelt Monitoring Team, Salmon Monitoring Team, and Water Operations Management Team. Reporting addresses seasonal and annual incidental take statement requirements as well as programmatic cost-share. These activities allow the CVP and SWP more flexibility when possible and to focus restrictions based on field conditions.

Categories of actions in the LTO to improve water supply, power generation, and fisheries include:

- Real-Time Operation: actions for the daily and seasonal operation of the CVP and SWP.
- Status and Trend: long-term datasets and analyses to assess performance and detect changes.
- Habitat and Facility: changes to the physical environment that improve conditions for species or reduce adverse effects from infrastructure
- Intervention: hatchery supplementation and other measures to address extreme environmental conditions
- Special Studies: scientific advancement to increase operational flexibility by addressing uncertainties.

This Finance Plan separates funding for annual programs from investments in large-scale projects.

Status and Trend Monitoring and Synthesis - Multi-year measurement to develop long-term data for the evaluation of the physical, chemical, and biological properties of the ecosystem to track performance and detect changes in conditions. Measurement includes surveys and sampling of topography, substrate, flows, water quality, nutrient fluxes, phytoplankton, zooplankton and indices of the relative abundance and composition of fish communities (including species listed as threatened or endangered under the ESA). Evaluation efforts include decision support models to scientifically develop, test, and refine hypotheses on ecosystem drivers; and synthesis of findings across datasets to address management questions. These measurements support science-based decision making and allow Reclamation to address its water rights and Biological Opinions.

Habitat and Facility Improvements - Changes to the physical environment that improve conditions for species or reduce adverse effects from existing infrastructure. These include programs

for annual spawning and rearing habitat construction, facility improvements, and the planning and development of major habitat restoration and infrastructure projects.

Intervention - Measures to address drought and dry years and prepare contingencies for when and where conditions do not sufficiently meet the needs for volitional natural production. Key programs include improving the Livingston-Stone National Fish Hatchery for refugial and supplemental winter-run Chinook salmon populations; reintroduction efforts for the Battle Creek Restoration Program; refugial population and supplementation of Delta Smelt; fish rescues; and potential trap and haul operations for responding droughts.

Special Studies - Applied research to increase operational flexibility for all project purposes by reducing areas where scientific uncertainty increases regulatory restrictions. Key programs include temperature modeling refinement; Steelhead lifecycle population and production estimates; Steelhead telemetry study; spring-run Chinook salmon juvenile production estimates; Directed Outflow Project; food web augmentation; and sediment supplementation for turbidity as Delta Smelt cover, among others. The LTO includes an independent panel in 2024 and in 2028 to review performance, update science, and recommend changes to the actions where warranted.

Large-Scale Investments

This Finance Plan differentiates between annual programs of activities that support operation of the CVP and make incremental progress that accumulates over time versus larger investments that require unique multi-year approaches to funding. The large-scale efforts include:

- Battle Creek Winter-Run Reintroduction: Reclamation will provide funding for ten years towards reintroduction of Winter-run Chinook Salmon to Battle Creek. Reclamation will accelerate implementation of the Battle Creek Salmon and Steelhead Restoration Project, which is intended to reestablish approximately 42 miles of prime salmon and Steelhead habitat on Battle Creek, and an additional 6 miles on its tributaries.
- Delta Cross Channel Gate Improvement Project: evaluate improvements to automate and streamline operation of the Delta Cross-Channel gates. Reclamation would modernize DCC's gate materials and mechanics to include adding industrial control systems and improve physical and biological monitoring associated with the DCC daily and/or tidal operations as necessary to maximize water supply deliveries.
- Delta Smelt Supplementation Strategy: a two-phase process that would lead to annual supplementation of the wild Delta Smelt population with propagated fish within 3-5 years from issuance of the biological opinion.
- Head of Old River Scour Hole Improvement Project: Plan and implement measures to reduce the predation intensity at the scour hole in the San Joaquin River at the Head of Old River through modifications to the channel geometry and associated habitats.
- Spring-Run Performance Metric: a set of CWT-tagged juvenile Chinook salmon releases during winter and spring to provide increased information on presence and loss of Sacramento basin natural and hatchery spring run Chinook salmon through recovery in

fishery and fish collection facility monitoring surveys for use during independent panels to update incidental take statements.

- Steelhead Juvenile Production Estimate: implement steelhead research and monitoring actions to develop a juvenile production estimate for steelhead-producing tributaries with CVP or SWP facilities and to coordinate regarding juvenile production estimates on non-project tributaries.

- Sutter Bypass Weir 1 Passage: providing spring-run Chinook salmon and Central Valley steelhead with improved upstream access to spawning, rearing, and holding stream habitat.

- Tidal Habitat Restoration: Completing, by 2030, the remaining approximately 6,000 acres of tidal habitat restoration in the Delta of the 8,000 acres DWR has begun.

- Tracy Salvage Facility Improvements: improvements to the TFCF to reduce loss.

- Wilkins Slough Drought Year Flow Criteria Relief: consider grants to senior water right holders within this area to install new diversions and screens that would operate at the lower flows, which would allow Reclamation to have greater flexibility in managing Sacramento River flows and temperatures for both water users and wildlife, including listed salmonids

- Yellow-Billed Cuckoo: surveys under the Habitat Restoration Program.

- Yolo Bypass Salmonid Habitat Restoration and Fish Passage - The Yolo Bypass Salmonid Habitat Restoration and Fish Passage project provides up to 20,000 acres of fish rearing habitat in the Lower Sacramento River area and fish passage improvements in the Yolo Bypass to route juveniles into the bypass and away from entrainment routes to the export facilities.

The LTO includes additional efforts that have a future financial burden that requires development to plan the course of action and determine costs. Costs will need to be incorporated once the efforts are planned out and the actions better known.

- Nimbus Hatchery Genetic Management Plans (HGMPs): complete HGMPs for Central Valley Steelhead and Fall-run Chinook Salmon for use in Nimbus Fish Hatchery management to describe hatchery operations and associated monitoring to reduce genetic introgression from the out-of-basin Nimbus Hatchery broodstock, implement practices to reduce straying and eliminate inter-basin transfers from Nimbus hatchery, and promote a CV steelhead DPS population in the American River.

- Temperature management studies and facility improvements on the Sacramento, American, and Stanislaus Rivers.

- Predator hot spot reduction: Reclamation would coordinate with water users to remove predator hot spots in the Bay- Delta. This includes minimizing lighting at fish screens and bridges, and possibly removing abandoned structures.

- Livingston Stone National Fish Hatchery: coordinate with USFWS and NMFS as part of the "Drought and Dry Year Actions" under the "Governance" section of this PA to determine the need to improve the facility and associate collection facilities. Improvements may include permanent chillers, additional tanks, and other features.

Reclamation will undertake annual independent reviews, if required to evaluate the effectiveness of the performance measures and develop the plan for the 2024 and 2028 comprehensive reviews that are anticipated to match the scope and scale of the National Academy of Science reviews in 2011.

Annual Programs Summary

Table 1 establishes annual budget needs through the 2024 Independent Review but remains incomplete. Refining the budget projections will require additional time; however, there is an immediate need to build a shared understanding between program staff, management, leadership, and stakeholders. To provide more detailed information, Table 1 subdivides the five categories (i.e., Real-time operations, status and trend, habitat and facilities, intervention, and special studies) into the following functional areas.

- Watershed Groups: local expertise for evaluating data and informing operations as well as projects to improve conditions or reduce scientific uncertainty.
- Decision Support Models: organized approaches to develop and refine hypotheses while providing scientific information to decision makers.
- Environmental Drivers: physical parameters for climate, flow, and water quality.
- Adult Salmonid Carcass and Redd Surveys: characterizations of adult returns and needs to support egg incubation and emergence.
- Juvenile Salmonid Production and Migration: characterization of juvenile salmonid behavior, growth, and survival.
- Delta Smelt Recruitment: surveys of Delta Smelt populations throughout the year with different equipment and methods for different life stages.
- Ecosystem Function: broad measures of ecosystem dynamics including primary production, lower trophic levels, fish communities, predation, and other stressors.

Core functions are those not associated with an individual watershed. A more detailed list with individual programs and projects is included as Exhibit 1, similar to the FY2020 Obligation Plan for CVPIA Authorities based on tasks and subtasks within contracts and agreements.

Table 1 – Annual Programs Summary

Category and Subcategory	FY 2022 President's Budget	FY 2022 Estimated Need
Real-Time Operation	**$30,944,000**	**$23,951,509**
Watershed Facilitation		$1,950,000
Environmental Drivers		$4,191,862
Adult Salmonid Carcass and Redd Surveys		$3,120,140
Juvenile Salmonid Production and Migration		$8,863,409
Delta Smelt Recruitment		$4,011,589
Decision Support Systems		$1,814,509
Status and Trend	**$10,688,000**	**$13,926,748**
Environmental Drivers		$3,798,982

Category and Subcategory	FY 2022 President's Budget	FY 2022 Estimated Need
Adult Salmonid Carcass and Redd Surveys		$2,658,867
Juvenile Salmonid Production and Migration		$463,500
Delta Smelt Recruitment		$260,471
Ecosystem Function		$4,967,954
Decision Support Systems		$1,776,974
Habitat and Facility	**$18,881,000**	**$25,281,979**
Juvenile Salmonid Production and Migration		$22,718,056
Adult Salmonid Carcass and Redd Surveys		$957,200
Ecosystem Function		$141,096
Decision Support Systems		$265,627
Suisun Marsh Preservation Agreement		$1,200,000
Intervention	**$1,000,000**	**$4,803,413**
Juvenile Salmonid Production and Migration		$582,818
Delta Smelt Recruitment		$4,220,595
Special Study	**$6,029,000**	**$13,754,017**
Juvenile Salmonid Production and Migration		$6,428,497
Delta Smelt Recruitment		$3,699,316
Ecosystem Function		$1,568,832
Decision Support Systems		$1,232,016
Sturgeon		$825,356
Refuge Water Supply	**$38,918,000**	**$46,840,364**
Refuge Construction Level 2		$13,358,162
Refuge Construction Level 4		$4,798,478
Refuge Conveyance Level 2		$17,212,485
Refuge Conveyance Level 4		$2,621,239
Refuge Acquisition		$8,850,000
Independent Programs	**$54,841,000**	**$55,499,925**
Battle Creek Restoration		$2,158,925
Habitat Restoration Program (Other CVP Impacts)		$1,500,000
San Joaquin River Restoration Program		$36,100,000
Trinity River Restoration Program		$11,491,000
San Joaquin River Salinity Management		$1,000,000
Water Conservation Projects		$2,250,000
Program to Meet Standards		$750,000
Delta Conveyance		$250,000
Central Valley Habitat Restoration Projects		**$40,000,000**
Coleman Hatchery Trap and Sorter		**$12,000,000**
Delta Cross Channel Gate Improvement		**$250,000**
Head of Old River Scour Hole		**$250,000**

Category and Subcategory	FY 2022 President's Budget	FY 2022 Estimated Need
Meridian Farms Pump Replacement & Fish Screen Installation (Phase 2)		**$2,570,000**
Reinitiation of Consultation on the LTO of the CVP and SWP		**$20,000,000**
Tracy Fish Salvage Facility Improvements		**$6,038,500**
Yolo Bypass Habitat and Passage	**$7,688,000**	**$7,400,000**
USFWS Labor	**$1,521,000**	**$4,219,995**
Reclamation Labor	**$2,679,000**	**$6,242,281**
Grand Total	**$173,169,000**	**$283,028,731**

The estimated need is based on historical expenditures for similar tasks and estimates on the level of effort. These tables currently show activities managed by the Bay-Delta Office. If useful, the approach would be expanded to include regional division and other area offices.

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Reimbursability

Water contractors and power customers are concerned about the cost recovery of activities relying upon CVPIA authorities. The authority relied upon to undertake an action determines the reimbursability of the action. Where more than one authority is potentially applicable, appropriations law principles would require selecting the law and provision most specific to the action. Most cases for LTO actions, the most applicable provision is within the CVPIA, some of which are non-reimbursable or partially reimbursable. Funding an activity authorized by the CVPIA may generate a reimbursable obligation for water contractors and power customers. Fish and Wildlife Coordination Act or other provisions of reclamation law are generally fully reimbursable.

Payments into the Restoration Fund offset the reimbursable obligations from CVPIA authorities. The Mitigation and Restoration payments authorized by the CVPIA are capped at a total of $30 million (October 1992 Price Levels), $6 per acre foot for agricultural water, and $12 per acre foot for municipal and industrial water. The CVPIA anticipated other charges (that never substantially materialized) and the potential for other appropriations to accomplish the purposes of the Act. While collections for Mitigation and Restoration Charges are capped, Endangered Species Act requirements are not limited by the Mitigation and Restoration Charges.

Table 2 – Reimbursability Summary

Category	**FY 2022 Reimbursability**
Real-Time Operation*	$8,164,303
Status and Trend	$4,728,371
Habitat and Facility	$13,651,094
Intervention	$2,081,149
Special Study*	$4,395,885
Refuge Water Supply	$26,144,017
Independent Programs*	$11,357,000
Central Valley Habitat Restoration Projects	$34,208,000
Delta Cross Channel Gate Improvement*	TBD
Head of Old River Scour Hole	$93,750
Reinitiation of Consultation on the LTO of the CVP and SWP*	TBD
Tracy Fish Salvage Facility Improvements	$2,264,438
Yolo Bypass Habitat and Passage	$2,775,000
USFWS Labor	$2,840,185
Reclamation Labor	$1,543,985
Grand Total	**$114,247,177**

* Costs associated with at least one action in the category are reimbursable in accordance with current CVP cost allocation guidelines and are to be determined.

Outreach

Historically, Reclamation and the Fish and Wildlife Service prepared an Annual Workplan disclosing use of the CVP Restoration Fund in order to solicit feedback and support the interagency agreement ("split agreement") that transfers funds to the Fish and Wildlife Service for their activities. With the new ROD, in March of 2020, Reclamation modified the process to disclose all anticipated actions relying upon CVPIA authorities, regardless of funding source, and replaced the Annual Workplan with an "Obligation Plan". This plan relies upon multi-agency and stakeholder priorities developed through structured science-based processes and year-long efforts to integrate with state, local, and private efforts.

The Obligation plan is the capstone of planning activities throughout the year that are accessible to water contractors, power customers, and, in many cases, stakeholders and interested parties. Development occurs in the Science Integration Team for the CVPIA Anadromous Fish Resource Area, Project Work Teams under the IEP, the limited membership CSAMP groups, and public workshops.

Few places bring all the efforts together. Initiatives like the ROC are large infrequent undertakings. There is a need for more regular programmatic engagement on the financial management. Proposed forums include:

- Association of California Water Agencies (ACWA) fall and spring conferences – Reclamation has successfully used side-meetings to work with specific water user sub-groups interested topics.
- CVP Water User Forum – a LTO specific meeting focused on Reclamation initiatives. Participation has been limited in recent months due to Voluntary Agreement sessions.
- WAPA Customer Meeting and/or HPOC – opportunities to address power customer specific questions that largely focus on costs.
- Tributary Specific Forums – individual groups within each basin that plan and execute work, some of which are dependent upon the funding covered by this Finance Plan.
- Annual Obligation Plan consistent with the CVPIA open house
- Annual and Seasonal Reports as required under Incidental Take Statements

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Exhibit 1 Detailed Finance Plan

Exhibit 1 details the known activities within agreements and contracts for project implementation, including labor, and the corresponding funding amounts planned for Fiscal Year 2022. Out-year budgets are embargoed until release by the President, typically around February of the preceding year. Estimates for project specific competitive awards are redacted to avoid interfering with competitive bids that may propose more cost-effective innovative approaches.