CALFED BAY-DELTA CROSSCUT

The Calfed Bay-Delta program is a cooperative effort among the Federal Government, the State of California, local governments, and water users, to proactively address the water management and aquatic ecosystem needs of California's Central Valley. This valley, one of the most productive agricultural regions in the world, is drained by the Sacramento River in the north and the San Joaquin River in the south. The two rivers meet southwest of Sacramento, forming the Sacramento-San Joaquin Delta, and drain west into San Francisco Bay. The Bay-Delta is the hub of the Nation's largest water delivery system, providing drinking water to 25 million Californians. According to the State of California, it supports about $400 billion of annual economic activity, including a $28 billion agricultural industry and a robust and diverse recreational industry. The extensive development of the area's water resources has boosted agricultural production, but has also adversely affected the region's ecosystems. The program participants recognized the need to provide a high-quality, reliable and sustainable water supply for California, while at the same time restoring and maintaining the ecological integrity of the area and mitigating flood risks.

This recognition resulted in the 1994 Bay-Delta Accord, which laid the foundation in 2004 for the Calfed Bay-Delta Authorization Act (Title I of P.L. 108-361). That Act reflected a record of decision issued August 28, 2000, which directed federal agencies to coordinate activities with California state agencies. The program has since become broader and includes the Bay-Delta Conservation Plan, the Delta Science Program, and the Delta Plan, released in May of 2013. The Delta Plan was developed pursuant to California's Delta Reform Act, which called for the development of a plan to identify restoration efforts and goals in the San Francisco Bay Delta Watershed region. The implementation of the Delta Plan has been conducted by the Delta Plan Inter-agency Implementation Committee (DPIIC), which was created in 2013, and includes participation and leadership from federal agencies at the regional and Washington, DC headquarters levels and is primarily responsible for coordinating federal activities in the Delta.

Federal agencies contributing to the program include: the Department of the Interior's Bureau of Reclamation, U.S. Fish and Wildlife Service, and U.S. Geological Survey; the Department of Agriculture's Natural Resources Conservation Service; the Department of Defense's Army Corps of Engineers; the Department of Commerce's National Oceanic and Atmospheric Administration; and the Environmental Protection Agency. This crosscut provides an estimate of Federal funding by each of these participating agencies, in response to the reporting requirements of section 106(c) of P.L. 108-361.

Calfed Bay-Delta Crosscut

(in millions of dollars)	--- Actuals ---																									Pres. Bud.
Agency / / Fiscal Year	**98**	**99**	**00**	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09** [1]	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22** [3]	**23** [4]
Bureau of Reclamation	153	115	139	80	103	74	76	81	100	101	66	157	95	186	187	159	190	174	167	165	160	180	361	409	409	163
Corps of Engineers	101	103	94	54	58	58	73	52	91	87	51	141	73	98	45	54	86	57	148	85	86	129	148	123	123	388
USDA NRCS	0	15	13	17	39	38	49	36	35	27	41	44	40	56	56	45	52	53	46	34	81	54	56	87	64	64
NOAA Fisheries (NMFS)	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
Geological Survey	3	3	4	5	5	5	5	5	5	4	4	4	3	6	8	7	6	9	8	11	8	8	8	7	7	6
Fish and Wildlife Service	1	1	4	18	6	11	14	9	11	8	22	24	7	5	5	5	5	5	6	6	6	6	6	6	6	6
Environmental Protection Agency [2]	3	3	57	53	54	21	63	98	37	36	68	161	124	78	86	80	83	83	80	79	79	67	70	99	110	249
Totals:	**262**	**240**	**311**	**228**	**266**	**208**	**279**	**283**	**279**	**264**	**253**	**532**	**341**	**430**	**388**	**350**	**424**	**382**	**456**	**381**	**422**	**446**	**651**	**732**	**722**	**877**

[1] The 2009 column includes American Recovery and Reinvestment Act projects and activities.

[2] Starting in 2010, the EPA figures include estimated projections of California's total State Revolving Fund (SRF) allocations. Prior year columns do not.

[3] The 2022 figures are based on an annualized CR.

[4] In 2023, the EPA figures include funding from the Bipartisan Infrastructure Law.

Note: The 2012-2022 columns reflect categories in the Bay-Delta Interim Federal Action Plan. In some cases it may include different projects.

CALFED BAY-DELTA CROSSCUT

Fiscal Year 2023 Budget

Federal Programs contributing to the Environmental Restoration of California's Bay Delta

Disclaimer:

The numbers and descriptions included in this report are subject to change. They reflect estimates by the agencies at the time of the preparation of this report as to how they expect to allocate a FY 2022 annualized CR amount and the amount provided in the FY 2023 Budget.

BAY DELTA AGENCY SUMMARY TABLE

CALFED BAY-DELTA CROSSCUT
(in millions of dollars)

	--- Enacted ---											Pres Bud
	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Total, All Agencies	**379.50**	**328.57**	**375.07**	**365.45**	**356.83**	**381.20**	**422.14**	**445.69**	**651.49**	**732.38**	**721.79**	**877.48**
Renewed Federal Partnership	3.18	2.88	2.79	2.84	2.99	3.46	3.38	2.81	3.00	2.97	2.99	3.22
Smarter Water Supply and Use	72.92	73.64	69.79	86.17	81.16	69.94	112.25	85.44	68.77	111.42	117.72	157.60
Habitat Restoration	268.21	220.21	236.37	245.95	232.70	235.68	229.09	241.56	441.62	427.45	418.55	319.92
Drought Floodplain and Management	35.19	31.83	66.13	30.49	39.98	72.12	77.43	115.87	138.10	190.54	182.53	396.74
Bureau of Reclamation	**187.20**	**158.61**	**189.98**	**173.84**	**167.20**	**164.71**	**160.34**	**180.00**	**361.21**	**409.40**	**409.40**	**163.17**
Renewed Federal Partnership	*2.00*	*1.80*	*1.70*	*1.70*	*1.70*	*2.20*	*2.19*	*1.70*	*1.70*	*1.70*	*1.70*	*1.90*
Smarter Water Supply and Use		*11.05*	*14.85*	*7.95*	*7.20*	*5.81*	*5.27*	*3.85*	*2.25*	*32.10*	*32.10*	*2.25*
Habitat Restoration	*185.20*	*145.76*	*173.43*	*164.19*	*158.30*	*156.70*	*152.88*	*174.45*	*357.26*	*375.60*	*375.60*	*159.02*
Drought Floodplain and Management	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Corps of Engineers	**35.94**	**32.22**	**37.62**	**40.53**	**48.79**	**85.01**	**86.17**	**129.25**	**148.33**	**122.91**	**122.91**	**388.08**
Renewed Federal Partnership	*0.21*	*0.12*	*0.12*	*0.09*	*0.10*	*0.05*	*0.02*	*0.00*	*0.04*	*0.01*	*0.01*	*0.03*
Smarter Water Supply and Use	*0.00*	*0.02*	*0.25*	*0.00*	*0.00*	*0.00*	*0.01*	*0.17*	*0.00*	*0.02*	*0.02*	*0.00*
Habitat Restoration	*0.69*	*0.39*	*1.28*	*10.09*	*8.85*	*12.98*	*8.86*	*13.34*	*10.33*	*12.95*	*12.95*	*2.35*
Drought Floodplain and Management	*35.05*	*31.69*	*35.98*	*30.35*	*39.84*	*71.98*	*77.29*	*115.73*	*137.96*	*109.93*	*109.93*	*385.70*
USDA - NRCS	**56.08**	**44.91**	**52.16**	**52.97**	**46.01**	**33.79**	**80.58**	**53.69**	**55.99**	**86.60**	**64.31**	**64.31**
Renewed Federal Partnership	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Smarter Water Supply and Use	*35.59*	*27.50*	*17.67*	*41.10*	*38.64*	*29.11*	*72.01*	*46.15*	*33.49*	*36.55*	*34.88*	*34.88*
Habitat Restoration	*20.48*	*17.41*	*4.48*	*11.88*	*7.37*	*4.68*	*8.57*	*7.54*	*22.50*	*27.50*	*18.53*	*18.53*
Drought Floodplain and Management	*0.00*	*0.00*	*30.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*22.54*	*10.90*	*10.90*
NOAA Fisheries	**1.39**	**1.30**	**1.39**	**1.52**	**1.64**	**1.57**	**1.51**	**1.52**	**1.55**	**1.51**	**1.55**	**1.59**
Renewed Federal Partnership	*0.18*	*0.17*	*0.18*	*0.26*	*0.41*	*0.42*	*0.38*	*0.31*	*0.46*	*0.45*	*0.48*	*0.49*
Smarter Water Supply and Use	*1.00*	*0.94*	*1.00*	*1.18*	*1.11*	*1.03*	*0.98*	*1.06*	*0.89*	*0.94*	*0.90*	*0.92*
Habitat Restoration	*0.21*	*0.20*	*0.21*	*0.07*	*0.13*	*0.13*	*0.15*	*0.15*	*0.20*	*0.12*	*0.18*	*0.18*
Drought Floodplain and Management	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Geological Survey	**8.14**	**6.88**	**6.04**	**8.63**	**7.57**	**11.06**	**8.18**	**7.80**	**7.95**	**7.26**	**7.26**	**5.75**
Renewed Federal Partnership	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Smarter Water Supply and Use	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Habitat Restoration	*8.14*	*6.88*	*6.04*	*8.63*	*7.57*	*11.06*	*8.18*	*7.80*	*7.95*	*7.26*	*7.26*	*5.75*
Drought Floodplain and Management	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Fish & Wildlife Service	**4.86**	**4.86**	**4.86**	**4.86**	**5.96**	**5.96**	**5.94**	**5.97**	**5.97**	**5.94**	**5.94**	**5.94**
Renewed Federal Partnership	*0.79*	*0.79*	*0.79*	*0.79*	*0.79*	*0.79*	*0.79*	*0.80*	*0.80*	*0.80*	*0.80*	*0.80*
Smarter Water Supply and Use	*0.99*	*0.99*	*0.99*	*0.99*	*0.99*	*0.99*	*0.98*	*0.99*	*0.99*	*0.96*	*0.96*	*0.96*
Habitat Restoration	*2.94*	*2.94*	*2.94*	*2.94*	*4.04*	*4.04*	*4.02*	*4.04*	*4.04*	*4.04*	*4.04*	*4.04*
Drought Floodplain and Management	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*	*0.14*
EPA	**85.90**	**79.79**	**83.01**	**83.10**	**79.65**	**79.10**	**79.43**	**67.46**	**70.50**	**98.78**	**110.43**	**248.65**
Renewed Federal Partnership	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Smarter Water Supply and Use	*35.34*	*33.15*	*35.03*	*34.95*	*33.23*	*33.00*	*33.00*	*33.22*	*31.15*	*40.85*	*48.86*	*118.60*
Habitat Restoration	*50.56*	*46.63*	*47.99*	*48.15*	*46.43*	*46.10*	*46.43*	*34.24*	*39.34*	*0.00*	*0.00*	*130.05*
Drought Floodplain and Management	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*57.93*	*61.56*	*0.00*

FISCAL YEAR 2023

U.S. FISH AND WILDLIFE SERVICE

Renewed Federal State Partnership

Authority: Anadromous Fish Conservation Act, (P.L. 89-304), Endangered Species Act of 1973, as amended, (16 U.S.C. 1531-1544), Fish and Wildlife Act of 1956, as amended, (16 U.S.C. 742(a)-754), Fish and Wildlife Conservation Act, as amended, (16 U.S.C. 2901-2911), Fish and Wildlife Coordination Act, as amended, (16 U.S.C. 661-666(e)), and the Partners for Fish and Wildlife Act, (16 U.S.C. 3771 et. seq.).

FY 2023 Budget Request: $801,000

Description: The U.S. Fish and Wildlife Service (Service) is working to build and maintain Federal and State partnerships that are invested in restoring the California Bay-Delta. With support from our partners, the Service will identify water flow and habitat restoration actions to recover endangered and sensitive species and their habitats as well as address long-term critical water issues facing California.

Proposed Actions for FY 2023:

- Following the publication of the Supplemental Draft Environmental Impact Statement (SDEIS) on the BDCP and close of a formal public comment period, the Service will continue providing assistance to the State of California to facilitate the completion of a final BDCP as soon as feasible.
- Associated with the IFAP, the Service will work to align and function with new California State legislation focused on efforts to restore the Bay-Delta Estuary and better meet the State's water needs.
- The Service will continue to work with State and local interests to plan and implement activities under the IFAP.

Smarter Water Supply & Use

Authority: Endangered Species Act of 1973, as amended, (16 U.S.C. 1531-1544), Fish and Wildlife Act of 1956, as amended, (16 U.S.C. 742(a)-754), Fish and Wildlife Conservation Act, as amended, (16 U.S.C. 2901-2911), and the Fish and Wildlife Coordination Act, as amended, (16 U.S.C. 661-666(e)).

FY 2023 Budget Request: $987,000

Description: The Service will continue to collaborate with other Federal, State and local agencies to promote opportunities to maximize water supply for California. The Service will

provide the technical expertise and environmental reviews to improve water conservation and management.

Proposed Actions for FY 2023:

- The Service will participate in consideration and implementation of smart water supplies and its uses during BDCP planning and implementation efforts.
- Associated with the IFAP, Federal agencies will align their water conservation programs and focus efforts to help reduce demand in targeted regions. One of the most important features of the recently-enacted State legislation is the adoption of State-wide conservation strategies as a part of a comprehensive water supply plan for California's future. The Service will facilitate IFAP implementation by providing technical assistance and environmental review.

Habitat Restoration

Authority: Anadromous Fish Conservation Act, (P.L. 89-304), Endangered Species Act of 1973, as amended, (16 U.S.C. 1531-1544), Fish and Wildlife Act of 1956, as amended, (16 U.S.C. 742(a)-754), Fish and Wildlife Conservation Act, as amended, (16 U.S.C. 2901-2911), Fish and Wildlife Coordination Act, as amended, (16 U.S.C. 661-666(e)), Migratory Bird Conservation Act, (16 U.S.C. 715-715d), National Wildlife Refuge System Administration Act of 1966, as amended, (16 U.S.C. 668dd et. Seq.), The National Wildlife Refuge System Improvement Act of 1997, (P.L. 105-57), and the Partners for Fish and Wildlife Act, (16 U.S.C. 3771 et. seq.).

FY 2023 Budget Request: $4,037,000

Description: The Service is leading habitat restoration activities within the Bay-Delta Estuary. This includes working with other Federal, State, and local agencies to plan and implement numerous programs, including the Calfed Ecosystem Restoration Program, the Central Valley Joint Venture, the Cooperative Endangered Species Conservation Fund, Endangered Species Recovery Program, Partners for Fish and Wildlife Program, Land Acquisition Program, the North American Wetlands Conservation Fund, and the Interagency Ecological Program. This overall effort so far has resulted in thousands of acres of restored and conserved habitats, providing benefits to numerous fish and wildlife species and the American public.

Proposed Actions for FY 2023:

- The Service will continue to assist implementing Ecosystem Restoration Program restoration grants and to work to approve additional projects as funding and authorization allow.
- The Service will reinforce cross-agency collaboration in its Bay-Delta Non-Native Invasive Species (NIS) program. The program will focus on preventing the introduction of new invasives (ex., quagga mussels), limiting or eradicating existing invasives (ex., *Egeria densa*), and reducing adverse impacts from infestations.
- The Service's work on the BDCP will assist that effort to identify and implement a set of water flow and habitat restoration actions to contribute to recovery of endangered and sensitive species and their habitats in the Bay-Delta Estuary.

- The Service will continue to lead the Federal, State, and City partnership, to support development of a facility designed to support the propagation and restoration of Delta native fish species.
- The Service will participate in short-term habitat restoration efforts such as restoration of flows on the San Joaquin River from Friant Dam to the confluence of the Merced River, and in efforts to restore self-sustaining habitat in Battle Creek, Cache Slough, and the Yolo Bypass Floodplain.
- The Service estimates it will restore, enhance, and protect thousands of acres of Delta and Delta watershed wetland and waterfowl-friendly agricultural habitats and will secure full water supplies for Central Valley State and Federal refuges.
- The Service, working with numerous landowners, estimates it will restore thousands of acres of Delta and Delta watershed wetland, riparian, and instream habitat for numerous fish and wildlife species and will provide extensive technical assistance.

Drought & Floodplain Management

Authority: Endangered Species Act of 1973, as amended, (16 U.S.C. 1531-1544), Fish and Wildlife Act of 1956, as amended, (16 U.S.C. 742(a)-754), Fish and Wildlife Conservation Act, as amended, (16 U.S.C. 2901-2911), and the Fish and Wildlife Coordination Act, as amended, (16 U.S.C. 661-666(e)).

FY 2023 Budget Request: $143,000

Description: The Service is participating with other Federal and State agencies to provide drought protection and floodplain management in California's Central Valley and Bay-Delta Estuary region.

Proposed Actions for FY 2023:

- The Service will continue to participate in planning and rapid response for permitting actions associated with drought protection in the State of California.
- The Service will participate with California's flood management effort, including participation in the Department of Water Resource's Delta Levees Flood Protection Program, FloodSAFE California Program and Central Valley Flood Protection Plan; and will continue to participate with the U.S. Army Corps of Engineers in its efforts to provide flood protection in the Delta and Delta watershed area.

FISCAL YEAR 2023

NATURAL RESOURCES CONSERVATION SERVICE

Smarter Water Supply & Use

Authority: Environmental Quality Incentive Program, 16 U.S.C. 3839aa et seq.; Regional Conservation Partnership Program, 16 U.S.C. 3871 et seq.; the Soil Conservation and Domestic Allotment Act of 1935 and the Soil and Water Resources Conservation Act of 1977, Conservation Operations.

FY 2023 Budget Request:

Technical assistance funding is included in the base budget for Private Lands Conservation Operations.

Description: NRCS provides technical assistance for on-farm water conservation and water quality planning with owner/operators, assists non-industrial private forestland owners to reduce sediment for cleaner water supply, and assists tribal landowners and Tribes with water supply related conservation planning through its Conservation Operations authority, and provides technical assistance to agricultural producers and non-industrial private landowners (including Tribes) to assist with water conservation and other natural resource concerns through the Farm Bill authorities.

Proposed Actions for FY 2023:

NRCS provides Federal leadership for on-farm water conservation activities. The agency also provides technical and financial assistance to agricultural producers to assist with water conservation and other IFAP natural resource concerns. NRCS works closely with other Federal, State, local, and environmental constituents on water conservation issues through the State Technical Committee including tribes and water utilities. NRCS is partnering with the Bureau of Reclamation on IFAP water conservation opportunities.

Water Conservation and Water Quality Projects

Authority: Environmental Quality Incentives Program (EQIP), 16 U.S.C. 3839aa et seq.; Regional Conservation Partnership Program, 16 U.S.C. 3871 et seq.

FY 2023 Budget Request: $34,880,000

Financial assistance funding for this activity is available through the Agriculture Improvement Act of 2018 (Pub. L. 115-334).

Description: EQIP has on-farm water conservation as an eligible financial assistance project. Signups are held at local service centers located in the Bay Delta geographic area. Approved

projects optimize environmental benefits while addressing natural resource concerns and are awarded based on local ranking criteria consistent with the performance goals of NRCS EQIP and complementing the Water Supply category of IFAP. NRCS continues partnering with the Bureau of Reclamation on IFAP water conservation opportunities. Typical projects include improvements to on-farm water delivery systems and efficient management strategies for water conservation.

Habitat Restoration

Authority: Agricultural Conservation Easement Program, 16 U.S.C. 3865 et seq.; Environmental Quality Incentive Program, 16 U.S.C. 3839aa et seq.; Regional Conservation Partnership Program, 16 U.S.C. 3871 et seq.; the Soil Conservation and Domestic Allotment Act of 1935 and the Soil and Water Resources Conservation Act of 1977, Conservation Operations.

FY 2023 Budget Request:

Technical assistance funding is included in the base budget for Private Lands Conservation Operations.

Description: NRCS provides technical assistance for natural resource concerns with emphasis on conservation planning for on-farm owner/operators, non-industrial private forestland owners, and Tribes through its Conservation Operations authority, and provides technical assistance to producers to assist with their natural resource concerns through the Farm Bill.

Proposed Actions for FY 2023:

NRCS continues to provide Federal leadership for on-farm natural resources conservation activities and other natural resource concerns. Conservation of habitat through easement acquisition and on-farm projects restoring habitat connectivity.

Habitat Restoration Projects

Authority: Agricultural Conservation Easement Program, 16 U.S.C. 3865et seq.; Environmental Quality Incentive Program, 16 U.S.C. 3839aa et seq.; Regional Conservation Partnership Program, 16 U.S.C. 3871 et seq.; the Soil Conservation and Domestic Allotment Act of 1935 and the Soil and Water Resources Conservation Act of 1977, Conservation Operations.

FY 2023 Budget Request: $18,530,000

Financial assistance funding for this activity is available through the Agriculture Improvement Act of 2018 (Pub. L. 115-334).
Description: Continue to support existing Agricultural Conservation Easement Program (ACEP) projects that complement the objectives contained in the IFAP Habitat Restoration Program and the objectives of ACEP.

Continue to support existing EQIP projects that complement the objectives contained in the IFAP Habitat Restoration Program for riparian and aquatic ecosystem restoration while focusing on-farms. There are no specific funding targets for the Bay Delta region; however, funding is expected to continue near current levels within funding limitations.

Proposed Actions for FY 2023:

The California NRCS State office has expanded its field-based wetlands teams and expects ACEP-WRE applications to expand proportionately within the state, and also expects producer interest in habitat restoration to continue under EQIP.

Drought & Floodplain Management

Authority: Emergency Watershed Protection Program- Floodplain Easement Program (EWPP-FPE) is authorized by 16 U.S.C. 2203. Environmental Quality Incentive Program, 16 U.S.C. 3839aa et seq.; Public Law 74-46, the Soil Conservation and Domestic Allotment Act of 1935 and the Soil and Water Resources Conservation Act of 1977, Conservation Operations.

FY 2023 Budget Request: *$10,900,000*

Specific project funding through EWPP or EQIP is requested per event.

Description: Implement projects using the Floodplain Easement Program (FPE) funding as provided through the Emergency Watershed Protection Program (EWPP). EWPP provides for the purchase of floodplain easements as an emergency measure. Floodplain easements restore, protect, maintain, and enhance the functions of the floodplain; conserve natural values including fish and wildlife habitat, water quality, flood water retention, ground water recharge, and open space; reduce long-term Federal disaster assistance; and safeguard lives and property from floods, drought, and the products of erosion. FPE complements the objectives contained in the IFAP.

Proposed Actions for FY 2023:

When emergency conditions indicate a need for emergency assistance, requests are made for funding consideration. EQIP eligible conservation practices include water use efficiency on irrigated lands, providing conservation cover on highly erodible lands subject to severe windblown erosion if they are not irrigated, and assisting grazing lands with water supply for livestock. NRCS will request additional needed funding for emergencies as the magnitude and scale of a given emergency is defined.

FISCAL YEAR 2023

BUREAU OF RECLAMATION (RECLAMATION)

Renewed Federal State Partnership

Authority: Section 103(f)(4) of P.L. 108-361

FY 2023 Budget Request: $1,900,000

Description: Activities include Program support; program-wide tracking of schedules, finances, and performance; agency oversight and coordination of Program activities to ensure program balance and integration; development of agency crosscut budget; coordination of public outreach and involvement, including tribal, environmental justice, and public advisory activities; and Reclamation's administration of the storage, conveyance, water use efficiency, ecosystem restoration, science, and water transfer programs.

Proposed Actions for FY 2023:

Continues support for Reclamation's administration of storage, conveyance, water use efficiency, ecosystem restoration, science, and water quality. Consistent with P.L. 108-361, activities will also include: (1) Program support; (2) Program-wide tracking of schedules, finances, and performance; (3) oversight and coordination of Program activities with State agencies and other Federal agencies to ensure Program balance and integration, which includes participation in the Delta Plan Inter-agency Implementation Committee; (4) development of interagency cross-cut budgets and coordination with the Delta Stewardship Council on reporting requirements under Section 105 of the CALFED Act; (5) coordination of public outreach and involvement, including tribal and public advisory activities to include the flexibility to utilize external committees in accordance with the Federal Advisory Committee Act (5 U.S.C. App.); and (6) development of annual reports.

Smarter Water Supply & Use

Authority: Section 210 of P.L. 97-293; Section 3405 (e) of P.L. 102-575; and P.L. 111-11

FY 2023 Budget Request: $2,250,000

Description: Through Water and Energy Efficiency Grants, Reclamation provides 50/50 cost share funding to States, Tribes, irrigation districts, water districts, and other entities in the Bay-Delta service area with water or power delivery authority to undertake projects that result in quantifiable and sustained water savings and support broader water reliability benefits.

Each year Reclamation solicits proposals for water conservation projects through a competitive grant process via a Funding Opportunity Announcement (FOA) posted on grants.gov. The FOA enable Reclamation to encourage and match local funding of water conservation projects that implement Best Management Practices and the objectives of the CALFED Water Use Efficiency Program. Funded projects contribute to ecosystem restoration and increase both water supply reliability and water quality. Examples of water conservation projects include irrigation system evaluations, system retrofits and upgrades, installation of water measurement devices, canal lining and piping, leak detection, and canal delivery system automation.

Proposed Actions for FY 2023:

Solicit, evaluate, and fund water conservation and efficiency projects through the competitive water use efficiency FOA. The FOA funds projects that support local efforts to conserve water through more efficient delivery systems and better water management. Funds will also support outreach to water users and the public.

Habitat Restoration

Authority: P.L. 75-392, Rivers and Harbor Act of 1937; P.L. 108-361, CALFED Bay-Delta Authorization Act; P.L. 99-546, To Implement the Coordinated Operations Agreement, Suisun Marsh Preservation Agreement, and Small Reclamation Projects Act of 1956; P.L. 85-624, Fish and Wildlife Coordination Act; P.L. 102-575, Title XXXIV, Central Valley Project Improvement Act of 1992; P.L. 111-11, Title X, San Joaquin River Restoration Settlement Act of 2009; P.L. 86-488, San Luis Unit, Central Valley Project; and P.L. 114-322, Water Infrastructure Improvements for the Nation Act.

FY 2023 Budget Request: $159,015,000

Description: Habitat Restoration efforts investigate and mitigate the impacts of stressors on imperiled native species and the Bay-Delta ecosystem, advance construction and upgrade of facilities to restore Delta Smelt and other native aquatic species, construct facilities that reduce fish-water supply interactions, and identify and prioritize key ecosystem restoration projects that help ensure the viability of the Bay-Delta ecosystem, protect endangered species, and contribute to sustainable water supplies.

Proposed Actions for FY 2023:

Continue construction on Yolo Bypass Salmonid Habitat Restoration and Fish Passage project; Continue restoration of approximately 42 miles of habitat on Battle Creek for threatened and endangered Chinook salmon and Central Valley steelhead; Continue the Delta-Mendota Canal subsidence correction project; Real-time monitoring of salmonid, delta smelt, and other measures of fisheries performance that inform CVP and SWP operations for meeting the coequal goals of water supply and ecosystem health; Continue Reclamation's participation with the State to ensure a dependable water supply of adequate quantity and quality to protect wildlife habitat in the Suisun Marsh; Physical improvements and operational changes assessing fishery conditions and assessing salvage operations at the Tracy Fish Collecting Facility; Continue on-the-ground

projects that increase anadromous fish production; Continue implementation of the San Joaquin River settlement act that includes a variety of physical improvements within and near the San Joaquin River, within the Friant-Kern and Madera canals, and within the service areas of the Friant Division long-term contractors to achieve the Restoration and Water Management goals; Protection of habitats through purchase of fee title or conservation easements, restoration and management of habitats, and surveys and studies for federally listed species impacted by the CVP; Provide financial assistance to local districts to help implement the Westside Regional Drainage Plan that will improve water quality in the lower San Joaquin River and Delta; Gravel restoration and rearing habitat projects on the Upper Sacramento, American, and Stanislaus rivers; Acquire firm water supplies of suitable quality to maintain and improve wetland habitat areas on nineteen state, federal and privately-owned Central Valley wildlife refuges, and construct conveyance systems to deliver those water supplies; and Continues funding for status and trend monitoring and tracking of physical, chemical, and biological properties of the Sacramento-San Joaquin Delta and San Francisco Bay Estuary. This monitoring assesses the health of ESA species, develops hypothesis to help resolve the ESA issues constraining Reclamation's water operations, and informs real time water operations and management decisions. Continues funding for Special Studies to increase operational flexibility by reducing areas where scientific uncertainty increases regulatory restrictions; and continues 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.

Bureau of Reclamation's Bay-Delta Totals (in thousands of dollars)		
Functional Areas/Programs and Projects		**FY 2023 President's Budget**
Renewed Federal and State Partnership		**$1,900**
CA Bay-Delta Restoration	Program Management, Oversight, and Coordination	$1,900
Smarter Water Supply & Use		**$2,250**
CA Bay-Delta Restoration	Water Conservation Projects	$2,250
Habitat Restoration		**$159,015**
CA Bay-Delta Restoration	Yolo Bypass Salmonid Habitat Restoration and Fish Passage; Battle Creek Salmon and Steelhead Restoration Project; Real Time Operations; Special Studies; Status and Trend Monitoring and Synthesis; Delta Conveyance; Program to Meet Standards; and San Joaquin River Salinity Management	$28,850
CVP, Delta Division	Tracy Jones Pumping Plant Mitigation Program; Delta Mendota Canal Subsidence	$1,165
CVP, Friant Division	San Joaquin River Restoration Program	$20,500
CVP, Environmental Compliance and Ecosystem Development Program	Refuge Water Supply Program; Real-Time Operation; Status and Trend Monitoring and Synthesis; Habitat and Facility Improvement; Intervention; Suisun Marsh; and Special Studies	$48,920
CVP, Shasta Division	Clear Creek Restoration Program	$50
CVP, West San Joaquin Division	Drainage Management Program; and Grassland Bypass Project	$1,660
CVP, Restoration Fund	Habitat Restoration Program; Refuge Water Supply Program; Clear Creek Restoration; San Joaquin River Restoration Program; Habitat and Facility Improvements; Status and Trend Monitoring and Synthesis; Special Studies; and Real-Time Operations	$44,270
San Joaquin River Restoration Fund	San Joaquin River Restoration Program	$13,600
Reclamation Bay-Delta Total		**$163,165**

For additional detail, please reference Reclamation's FY 2023 Congressional Justification documents, available at https://www.usbr.gov/budget.

FISCAL YEAR 2023

ARMY CORPS OF ENGINEERS

Habitat Restoration

Yuba River

***Authority*:** Rivers and Harbors Acts of 1896 and 1902

FY 2023 Budget Request: $2,350,000

Description: The project consists of fish passage, a debris barrier, and Daguerre Point Dam, with dikes across overflow channels and protective works (groins) downstream to maintain the Yuba River in its confined channel to the junction with the Feather River at Marysville. The project is located in Yuba County. Daguerre Point Dam retains over 4 million cubic yards of contaminated sediment and hydraulic mining debris that would otherwise cause infilling and shoaling of the high and moderate use navigation channels of the San Francisco Bay-Delta.

Proposed Actions for FY 2023: The total FY 2023 budget request of $2,350,000 for navigation and environmental stewardship activities directly related to the Bay Delta Interim Federal Action Plan. The navigation funding provides for routine operation of Daguerre Point Dam, maintenance for navigation and for the fish ladders as well as activities such as gravel augmentation, sediment management, habitat oversight and monitoring, large woody material placement, and water quality monitoring identified in the 2014 Biological Opinion for Daguerre Point Dam.

Drought & Floodplain Management

American River, Common Features, Natomas Basin, CA

***Authority*:** Water Resources Reform and Development Act of 2014 (Public Law 113-121), Section 7002(2)

FY 2023 Budget Request (000's): $172,700,000

Project Description: The Water Resources Reform and Development Act of 2014 authorized the construction of modifications of the ring levee system protecting the Natomas Basin of the Sacramento Valley. Specific features of this authorization include construction of approximately 42 miles of levee widening, 35 miles of seepage cutoff wall and 8 miles of seepage berm. The ring levee protection of the Natomas Basin is a complete system of levees and therefore, the project is a complete system improvement.

Proposed Actions for FY 2023: Continue construction.

Black Butte Lake

Authority: Flood Control Act of 1944

FY 2023 Budget Request: $5,310,000
FY 2023 Infrastructure Investment and Jobs Act (IIJA) Workplan: $420,000

Description: The project is located on Stony Creek, a tributary of the Sacramento River, about 9 miles west of the town of Orland, California and consists of an earthen-fill dam with a maximum height of 140 feet, six dikes, an ungated spillway, and a reservoir with a gross storage capacity of 160,000 acre-feet. The project is located in Glenn and Tehama Counties. The Corps implements flood release protocols on this project in compliance with a 2008 Biological Opinion in an effort to minimize adverse effects of reservoir operations, including reducing the risk of delta island levee failure and saltwater intrusion. The project also provides irrigation water for central valley farming, reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 request is $5,310,000 for flood risk management, recreation, and environmental stewardship activities. Only $4,206,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action plan. The flood risk management funding provides for routine dam operation and maintenance and $2,456,000 to update the Drought Contingency Plan. The FY2023 IIJA Workplan includes $150,000 to replace and upgrade sump pumps, $100,000 to replace piezometers and accelerographs, and $170,000 to remove dam vegetation. Operation of the project includes gate operation, dam safety and post-earthquake inspections, emergency actions, instrumentation monitoring, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

Buchanan Dam, H.V. Eastman Lake

Authority: Flood Control Act of 1962

FY 2023 Budget Request: $2,553,000
FY 2023 IIJA Workplan: $455,000

Description: The project is about 16 miles northeast of the City of Chowchilla on the Chowchilla River. The project is located in Madera and Mariposa Counties. The project consists of an earthen-fill dam and a reservoir with gross storage capacity of 150,000 acre-feet. The project also includes about 2 miles of channel improvement work and levee construction on Ash and Berenda Sloughs, tributary channels of the river. The dam controls flows to the delta during flood events, reducing the risk of delta island levee failure and saltwater intrusion. The reservoir provides irrigation water for central valley farming, reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 budget request is $2,553,000 for flood risk management, recreation, and environmental stewardship activities. Only $1,635,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance. The FY

2023 IIJA Workplan includes $200,000 to develop the Buchanan Bridge and Weir Erosion repair plan, $100,000 to replace piezometers and accelerographs, and $155,000 to remove dam vegetation. Operation of the project includes gate operation, dam safety and post-earthquake inspections, bridge inspections, emergency actions, instrumentation monitoring, data collection, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

Farmington Dam

Authority: Flood Control Act of 1944

FY 2023 Budget Request: $575,000
FY 2023 IIJA Workplan: $150,000

Description: The project is located on Littlejohn Creek about 3½ miles upstream from Farmington and about 18 miles east of Stockton and consists of a 56-foot high earthen-fill dam, an ungated saddle spillway, and a reservoir with a gross storage capacity of 52,000 acre-feet. The project is located in San Joaquin and Stanislaus Counties. The dam controls flows to the delta during flood events, reducing the risk of delta island levee failure and saltwater intrusion. The reservoir provides irrigation water for central valley farming, reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 budget request is $575,000 for flood risk management activities directly related to the Bay Delta Interim Federal Action Plan. The flood risk funding provides for routine dam operation and maintenance. The FY 2023 IIJA Workplan includes $150,000 to remove dam vegetation. Operation of the project includes gate operation, dam safety and post-earthquake inspections, emergency actions, instrumentation monitoring, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

Hidden Dam, Hensley Lake

Authority: Flood Control Act of 1962

FY 2023 Budget Request: $2,532,000
FY 2023 IIJA Workplan: $300,000

Description: The project consists of a 163 feet high earthen-fill dam on the Fresno River about 15 miles northeast of Madera, with a reservoir with gross storage capacity of 90,500 acre-feet. The project is located in Madera County.

Proposed Actions for FY 2023: The total FY 2023 budget request is $2,532,000 for flood risk management, recreation, and environmental stewardship activities. Only $1,546,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance. The FY 2023 IIJA Workplan includes $150,000 to replace piezometers and accelerographs and $150,000

to remove dam vegetation. Operation of the project includes gate operation, dam safety and post-earthquake inspections, emergency actions, instrumentation monitoring, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

Inspection of Completed Works

Authority: Flood Control Act of 1944

FY 2023 Budget Request: $2,970,000 (Amount is unknown for California as Remaining Item funds are lump summed.)

Description: This program covers levees, floodwall systems and reservoirs throughout California. Upon completion, infrastructure built under this program is transferred to the sponsoring cities, towns, and special use districts that own and operate the projects. The projects require maintenance after construction in order to ensure the project will continue to function as intended. The priority of the ICW program has been levees because of public safety aspects. The basic objectives of the USACE Levee Safety Program are (1) to develop balanced and informed assessments of the nation's levees; (2) to evaluate, prioritize and justify levee safety decisions, and (3) to make recommendations to improve public safety associated with levee systems. One of the main activities is inspections of federally authorized projects operated and maintained by a non-federal sponsor. The purpose of the inspections is to determine if levee systems will perform as expected; identify deficiencies or areas which need monitoring or immediate repair; identify any changes over time; and collect information in order to be able to make informed decisions about future actions. Other activities include updating information in the National Levee Database; screening levees to begin ranking them in order of risk; coordinating Levee Safety Program efforts with public sponsors or stakeholders; and updating project operation and maintenance manuals.

Coordination between USACE and other federal, state, and local agencies is essential for proper accomplishment of this program. In addition to satisfying USACE requirements, the improved inspection results will be made available on the National Levee Database and will be of great value to federal, state, and local agencies tasked with the development and implementation of state and local Levee Safety Programs.

Los Angeles County Drainage Area

Authority: Flood Control Act of 1936, as amended in 1937, 1941, and 1950

FY 2023 Budget Request: $26,146,000
FY 2023 IIJA Workplan: $33,722,000

Description: The project is located in the County of Los Angeles, California. The project includes operation and maintenance of five large flood risk management dams (Whittier Narrows, Santa Fe, Lopez, Hansen, and Sepulveda), and Haines Canyon Debris Basin as well as about 34 miles of 517 total miles of flood control channels within Los Angeles County.

Proposed Actions for FY 2023: The total FY 2023 budget request is $26,146,000 for flood risk management, recreation, and environmental stewardship activities. Only $25,236,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance, $5,500,000 for sediment and vegetation management at Glendale Narrows, $4,200,000 to continue repair of the San Gabriel River Levee, $2,500,000 to replace electrical equipment at Santa Fe, and $1,142,000 to update the water control manuals at Whittier Narrows Dam and Lopez Dam. The FY 2023 IIJA Workplan includes $8,544,000 to repair/replace the Channel Toe Access Road at Los Angeles River #1-4; $22,450,000 for channel cleanout at LA River #5, #8, Compton Creek, Glendale Narrows, and Sepulveda Basin; $375,000 for an Earthen Embankment Assessment at Haines Canyon Dam; $90,000 to install Dam Flap Gates at Santa Fe Dam; $450,000 to install a trash rack at Compton Creek; $540,000 to repair embankment access at Santa Fe; $882,000 to replace piping at dam control houses; and $381,000 to repair/replace broken underground drains at LA River. Operation of the project includes dam safety, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

Merced County Streams

Authority: Flood Control Act of 1944

FY 2023 Budget Request: $1,267,000
FY 2023 IIJA Workplan: $500,000

Description: The project consists of the following flood control improvements:

1) Five flood retention dams:

Mariposa, 88 feet high (15,000 acre-feet), 18 miles east of Merced;
Owens 75 feet high (3,600 acre-feet), 16 miles east of Merced;
Bear, 92 feet high (7,700 acre-feet), 16 miles east of Merced;
Burns, 53 feet high (7,000 acre-feet), 13 miles NE of Merced; and
Castle, 40 feet high (6,400 acre-feet), 6 miles NW of Merced.

2) Black Rascal and Owens Diversion Canals.

3) Channel improvements on various streams in the vicinity of Merced.

The project is located in Mariposa and Merced Counties. The dams control flows to the delta during flood events, reducing the risk of delta island levee failure and saltwater intrusion. The dams and diversion canals provide irrigation water for central valley farming, thereby reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 budget request is $1,267,000 for flood risk management activities which are directly related to the Bay Delta Interim Federal Action Plan.

The flood risk management funding provides for routine dam operation and maintenance and $677,000 to update the water control manual. The FY 2023 IIJA Workplan includes $500,000 to remove sediment and debris from the intake structures. Operation of the project includes gate operation, dam safety and post-earthquake inspections, emergency actions, instrumentation monitoring, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data system modifications.

New Hogan Lake

Authority: Flood Control Act of 1962

FY 2023 Budget Request: $5,338,000

Description: The project is located on the Calaveras River, about 28 miles northeast of Stockton, and comprises a rock-fill dam with an impervious earth core and a maximum height of 200 feet together with four dikes with a maximum height of 18 feet, and a gated spillway creating a reservoir with a gross storage capacity of 325,000 acre-feet. The project is located in Calaveras County. The project controls flows to the delta during flood events, reducing the risk of delta island levee failure and saltwater intrusion. New Hogan Lake provides irrigation water for central valley farming, thereby reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 budget request is $5,338,000 for flood risk management, recreation, and environmental stewardship activities. Only $4,063,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance and $2,043,000 to update the water control manual. The FY 2023 IIJA Workplan includes $100,000 to replace piezometers and accelerographs and $150,000 to remove dam vegetation. Operation of the project includes gate operation, dam safety and post-earthquake inspections, emergency actions, instrumentation monitoring, water management, and real estate inspections. Maintenance includes repairs to major equipment, vegetation control, and water control data systems modifications.

New Melones Lake

Authority: Flood Control Act of 1962

FY 2023 Budget Request: $2,869,000

Description: The project extends along the Stanislaus River from Goodwin Dam to the confluence with the San Joaquin River. The project provides recreation access to the Lower Stanislaus River. The project is located in Calaveras, San Joaquin, Stanislaus, and Tuolumne counties. New Melones Dam controls flows to the delta during flood events, reducing the risk of delta island levee failure and saltwater intrusion. New Melones Lake provides irrigation water for central valley farming thereby reducing water consumption from the delta.

Proposed Actions for FY 2023: The total FY 2023 budget request is $2,869,000 for flood risk management, recreation, and environmental stewardship activities. Only $545,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance. Operation and maintenance include minimum channel operation and maintenance to prevent failure and maintain integrity of the project, reducing inspections and engineering consultations.

San Joaquin River Basin, Lower San Joaquin River

Authority: America's Water Infrastructure Act of 2018, Sec. 1401, Pub. L. 115-270

FY 2023 Budget Request: $40,000,000

Description: The project will consist of approximately 23 miles (up to 40 miles if including over-lap) of levee improvements to provide benefits to 162,000 residents by improving Federal and local levees that provide flood risk management. The project will also offer the area an estimated 83 percent reduction in expected annual property damage, while enhancing security at 486 critical infrastructure sites – 23 of which are essential to life-safety.

Proposed Actions for FY 2023: The total FY 2023 budget request is $40,000,000 and will be used for construction of the North Stockton and Delta Front Levees.

Santa Ana River Basin

Authority: Flood Control Act of 1936 (as amended 1938)

FY 2023 Budget Request: $7,327,000

Description: The project is located in the counties of Riverside, Los Angeles and Orange. The project includes routine operation and maintenance of five dams (San Antonio, Prado, Carbon Canyon, Brea, and Fullerton) with four recreational areas and about 15.7 miles of flood control channels along San Antonio and Chino Creeks within the Santa Ana River Basin.

Proposed Actions for FY 2023: The total FY 2023 budget request is $7,327,000 for flood risk management, recreation, and environmental stewardship activities. Only $6,714,000 for flood risk management activities is directly related to the Bay Delta Interim Federal Action Plan. The flood risk management funding provides for routine dam operation and maintenance, $200,000 for debris removal and vegetation management for dams, levees, and channels and $411,000 to update the water control manual for Fullerton Dam. The FY 2023 IIJA Workplan includes $1,000,000 to replace gates, $246,000 t inspect Fullerton Dam Toe Drain, $61,000 to replace the Flap Gate at San Antonio Creek, $170,000 to remove tree stumps at Chino Creek Levee, $340,000 to inspect, clean and repair Septic Systems, and $267,000 to repaint the bridge supports, girders and the utility lines underneath the bridge at Fullerton Dam. Operation of the project includes water management, dam safety, and real estate inspections. Maintenance

includes repairs to major equipment, vegetation control, and water control data systems modifications.

West Sacramento, CA

Authority: Water Infrastructure Improvements for the Nation (WIIN) Act of 2016, Pub. L. No. 114-322, Section 1401 (2) (8.) (2016).

FY 2023 Budget Request: $79,701,000

Description: The authorized project as described in the General Reevaluation Report (GRR) includes levee improvements to correct seepage/stability and erosion deficiencies in both the North and South basins of the City of West Sacramento in areas not covered by the formerly authorized project. The recommended project will utilize measures such as cut off walls, bank protection and includes a set-back levee along the southern portion of the Sacramento River as well as mitigation lands for riparian and upland habitat loss. The recommended project includes strengthening approximately 41.4 miles of existing levees along American River and Sacramento River and the Deep-Water Ship Channel levees, and the construction of 3.8 miles of the Southport setback levee along the Sacramento River.

Proposed Actions for FY 2023: Continue construction, including Sacramento River North design and construction, Yolo Bypass North Levee construction, and Lock Closure Levee design.

FISCAL YEAR 2023

U.S. GEOLOGICAL SURVEY

Habitat Restoration

FY 2023 Budget Request: $5,749,000

The California Bay-Delta Ecosystem (Delta) is recognized as one of the world's threatened treasures of biodiversity, supporting unique native species and their critical tidal and wetland habitats. Like other urban estuaries, this system has a history of anthropogenic changes involving multiple stressors including altered hydrodynamics, environmental contaminants, and invasive species that have degraded the ecosystem. Much of the Delta's tidal marshes have been eliminated or greatly altered. As well, the native fish fauna has been much reduced and key species are now protected by the Endangered Species Act. Among native species, Chinook Salmon, Delta Smelt, and Longfin Smelt most prominently impacts human decisions about the movement of water through the system. Restoration of natural habitat and the conservation of fish species while supporting human uses of Delta water, requires an improved understanding of habitat and ecosystem functions within the Delta. Over time and as the population of California increases and the climate continues to change, policymakers must plan for systemic changes that influence all stressors and parts of the system, including watersheds, rivers, deltas, bays, and the ocean. To assist water and ecosystem managers, U.S. Geological Survey (USGS) scientists have developed a network of real-time flow monitoring stations in the Delta. These stations are being continually improved to better monitor sediment movement and real-time turbidity dynamics in the Delta, which have important implications for efficient water project operations during the winter and spring months. The USGS has expanded its research efforts to understand how flow conditions, water quality, and fish behavior affect fish survival, including both native smelts and commercially important runs of Chinook salmon. USGS scientists are also addressing scientific uncertainties that affect wetland and tidal marsh habitat restoration and climate adaptation in both San Francisco Bay and the Delta. In doing so, the USGS is advancing its understanding of the practical implications of Delta water management and restoration efforts, including the interplay among the physical, chemical, biological, human factors and natural hazards associated with the Delta system. New USGS science informs crucial near- and long-term policy analysis and public investment decision making by Federal and State agencies, water users, academics, and other, non-governmental organizations, and others. The USGS is also working to make the data and findings more useable by all public and private parties, with improved support for access, visualization, and sharing of data and information about the Delta system. The 2023 budget reflects the continued focus on this important work.

Interagency Ecological Program

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2023 Budget Request: $2,115,000

Ecosystems - Environmental Health Program (000's): *$100*
Natural Hazards - Earthquake Hazards Program (000's): *$507*
Water Resources - WAUSP and GWSIP (000's): *$816*
Core Science Systems - National Cooperative Geologic Mapping Program (000's): *$692*

Description: In cooperation with other agencies in the Interagency Ecological Program (IEP: U.S. Fish & Wildlife Service, U.S. Bureau of Reclamation, USGS, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, CA Water Resources Control Board, CA Department of Water Resources, and CA Department of Fish & Game), the USGS is measuring within-Delta salt and water transfers and Delta outflow into the Bay, providing information needed for documenting salt transport mechanisms and managing freshwater flow and export pumping operations to meet salinity standards. These studies also include areas in Suisun Marsh and South San Francisco Bay, as well as measuring temperature and suspended sediment at the entrance of the San Joaquin River into the Delta and special scientific studies of flows and turbidity in the Cache Slough and Liberty Island area. The USGS is also continuing to map and evaluate geological resources in the Delta region, and to study the seismic hazards affecting Northern California that are presented by tectonic processes and the underlying fault systems in the region.

Added in 2010 was the addition of 16 flow stations and 14 turbidity sensors, associated with some of the added flow stations, to monitor and assess turbidity patterns and intensities in the Delta. These data are also used to assess, in real-time, habitat conditions for trust fish species that reside or migrate through the Delta.

Proposed Actions for FY 2023:

The hydrodynamic flow and salinity stations funded by the IEP are an integral part of the entire flow network for the Delta. The data from this flow network are used in real-time decisions by water operators to manage export pumping from the Delta to other parts of California (south and parts of the greater San Francisco Bay area). More than 25 million Californians drink water originating from the Delta; as well, Delta water irrigates millions of acres of highly productive agricultural land. Deepening drought in both California and the Southwest as a whole are driving increasingly intense focus on understanding and efficiently managing limited water resources in California for human and environmental uses.

The monitoring network also plays a key role in ongoing monitoring and management of commercially important and threatened and endangered fish species in the Delta (salmon, steelhead, sturgeon, native smelts, etc.), and provides the framework for understanding the physical, chemical, and biological interactions that are key to informing long-term policy on the complex ecological and water supply issues in the Delta. Research to map and understand the geology and seismic hazards of the region are ongoing priorities because of the potential for seismic damage to critical water supply infrastructure in the Delta and the potential opportunities for energy and minerals development in California.

Delta Science Program Oversight (Lead Scientist)

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2023 Budget Request: $151,000

Description: The USGS provides support for the California Delta Science Program's Lead Scientist and a USGS staff Delta Liaison.

Public policy in the Delta is the product of a multi-decade, multi-billion-dollar cooperative effort of more than 20 State and Federal agencies working to improve the quality and reliability of California's water supplies and to conserve the Estuary's ecosystems. California's Delta Stewardship Council (DSC) is the agency primarily responsible for setting and implementing state policy for the Delta, which emphasizes the statutorily defined "co-equal goals" of water supply reliability and environmental conservation. The DSC houses a Delta Science Program to set policy for publicly supported science in the Delta and ensure that best-available, unbiased scientific information is developed and identified as a resource for policymakers. The Science Program is tasked with providing a comprehensive and integrated scientific context for Delta activities, ensuring the advancement of science needed to guide Bay-Delta decisions and water project operations, establishing a framework to identify and articulate relevant areas of scientific uncertainty, and developing strategies to reduce uncertainties and track progress toward Delta goals. This is carried out through funding research; synthesizing and communicating scientific information to policymakers and decision-makers; promoting disinterested, independent expert review; organizing and running public workshops on science topics of interest; and coordinating with management agencies to promote science-based adaptive management.

The Delta Science Program is led by a term-appointed Lead Scientist housed at the USGS. This important rotating leadership position is conferred upon a very senior external scientist who works to ensure the effectiveness and professionalism of publicly supported science in the upper Estuary. The Lead Scientist oversees the work of Delta Science Program staff and works with the Delta Independent Science Board, Delta implementing agency managers and scientists, and the scientific community at large to implement the DSC's Delta Science Plan and, in general, to promote the production of high-quality, peer-reviewed science to inform Bay-Delta management decisions.

The Delta Lead Scientist is by agreement housed at the USGS to ensure independence from State fish and wildlife and water management political discourse. The arrangement enhances the Lead Scientist's credibility to oversee technical review processes and provide unbiased scientific advice to policymakers, stakeholders, and the public. As well, the arrangement enhances and underscores scientific cooperation between the State and Federal governments to ensure that high-quality, agenda-free scientific information is developed or identified to support decision-making pertaining to water and environmental issues affecting the Delta.

Proposed Actions for FY 2023:

The Lead Scientist will continue to provide strategic leadership to the Delta science community, lead continuing implementation of sound fundamental science practices by all parties, and

facilitate the collaboration among all the Bay-Delta partners to ensure science expenditures in the system efficiently address issues identified by the partners.

Adaptive Management of San Francisco Bay

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2023 Budget Request: $2,213,000
Ecosystems – Species Management Research Program (000's): *$328*
Ecosystems – Land Management Research Program (000's): *$1,885*

Description: The objective of this work is to provide science in support of adaptive management of ecosystems and natural resources that have near-term societal concern and significant long-term societal value. These studies are designed to serve regional natural resource managers and to provide transferable knowledge and approaches. Efforts focus in areas where new integrated science approaches can be developed to address critical information of decision-makers who are challenged to address water supply and wetland management in a degraded urban estuary affected by California's increasing human population and ongoing climatic change. Activities require collaboration and integration of expertise to achieve a system-scale understanding of the natural and anthropogenic factors affecting ecosystems and to better understand the interactive nature of resources and the environment.

Proposed Actions for FY 2023:

This is primary support for interdisciplinary studies of fish, wildlife, and their habitats to understand the evolving state of the Estuary and its effects on California's crucial water delivery infrastructure, and to develop scientific tools to support Interior and State of California policy development. Current studies cover a range of activities from the watershed and Delta through Suisun Bay to South Bay and the Golden Gate dealing with climate forecasting, hydrodynamic processes, sediment budgets, and management-relevant contaminant and ecological processes. The program also currently supports efforts to characterize the potential seismic hazard to Delta infrastructure, including dikes and flood control levees that protect both human health and property and restored Delta marshes. The information and knowledge produced is integral to the understanding of water project effects, wetland management and restoration effectiveness and performance, salt pond reclamation, salinity control, and the success of native fish and their movements within and through the Delta.

Status and Trends of Water Quality in the Bay-Delta Watershed

Authority: Organic Act of March 3, 1879, as amended (43 U.S.C. 31 et seq.)

FY 2023 Budget Request: *$1,270,000*
Water Resources – National Water Quality Program (000's): *$1,270*

Description: The Bay-Delta Watershed includes nearly half the area of California and because of the State's highly engineered water system supplies drinking water to over 25 million people and

water for 7,000 square miles of irrigated agriculture. The USGS supports a wide range of work related to status and trends of water quality in the watershed. Key scientific components include: (1) real-time monitoring of selected constituents in surface water, (2) evaluating environmental occurrence and effects of pesticides, (3) comprehensive water-quality monitoring in surface water and groundwater for assessment of status and trends in water quality and understanding of processes affecting water quality, (4) integration of water-quality observations with numerical and statistical models to identify key governing processes and extrapolate impacts.

Proposed Actions for FY 2023:

Activities in the Bay-Delta Watershed will be focused primarily on continued data collection, analysis and modeling as part of ongoing and new USGS WMA studies. This will include efforts to conduct machine-learning statistical modeling to explain the spatial distribution of specific contaminants (such as nutrients and salinity) as well as the critical governing processes for the Nation's aquifers, including the Central Valley aquifer system. In addition, the USGS will continue intermittent and real-time water monitoring in the watershed designed to evaluate the time-scales over which water quality changes. Approximately biweekly sampling at two long-term sites on the Sacramento and San Joaquin Rivers will continue, as will the continuous monitoring of the concentration (and flux) of nitrate transported to the Delta from the Sacramento River in real time. Nutrient flux to the Delta is a key variable defining the ecosystem, and real-time monitoring will reduce uncertainty in the flux while shedding light on sources and causes of variability.

FISCAL YEAR 2023

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Renewed Federal State Partnership

General Oversight and Coordination

Authority: Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

FY 2023 Budget Request: $321,000

Description: Activities include participation at Calfed agency coordination meetings, Bay-Delta Public Advisory Committee meetings, California Bay-Delta Authority meetings, input into the development of and review of Calfed program plans, crosscut budgets, and annual reports.

Proposed Actions for FY 2023:

NOAA is coordinating with other state and Federal agencies to implement the Delta wide science and strategic plans developed by the Delta Stewardship Council, the entity to which Calfed evolved, and to further the multi-agency effort of the Collaborative Science and Adaptive Management Program. This coordination has focused on identifying existing governance structures and opportunities for integrating state and Federal agencies, Delta Plan implementation, and other planning efforts that are underway in the Delta, including supporting projects within the EcoRestore restoration program.

Interagency Ecological Program

Authority: Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

FY 2023 Budget Request: $169,000

Description: The Interagency Ecological Program (IEP) is an estuarine ecological monitoring and special study collaboration by three state and six federal agencies with management and/or regulatory responsibilities in the San Francisco Estuary and Sacramento-San Joaquin Delta, California. The three state agencies are the California Department of Fish and Wildlife (CDFW), California Department of Water Resources (DWR), and California State Water Resource Control Board (SWRCB); the federal agencies include the U.S. Fish and Wildlife Service (USFWS), U.S. Bureau of Reclamation (USBR), National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), U.S. Environmental Protection Agency (USEPA), and the U.S. Army Corps of Engineers (USACE). The purpose of this collaboration is to gather

in an efficient, coordinated and cooperative way the ecological information required by the agencies to effectively carry out their management and regulatory responsibilities.

The goals and objectives to address the mission of the IEP are (1) describe the status and trends of aquatic ecological factors of interest in the estuary; (2) develop an understanding of environmental factors that influence observed aquatic ecological status and trends; (3) use knowledge of the previous information in a collaboration process to support natural resource planning, management, and regulatory activities in the estuary; (4) continually reassess and enhance long-term monitoring and research activities that demonstrate scientific excellence; (5) provide scientific information about the estuary that is accurate, accessible, reliable, and timely; and (6) respond to management needs in a timely fashion.

Proposed Actions for FY 2023:

The IEP is comprised of long-term monitoring, water operations monitoring and special studies. The IEP is committed to conducting the mandated monitoring studies required by NOAA and FWS biological opinions and SWRCB Water Rights Decision D-1641. There is also a commitment to continue providing the "real-time" data needed to make water operation decisions. NOAA is one of nine agencies with IEP implementation responsibility. At present, the Assistant Regional Administrator represents NOAA as the IEP Director at quarterly meetings and staff participates on various work groups as needed. NOAA issued the IEP Scientific Collection permit.

Smarter Water Supply & Use

Water Operations Oversight and Coordination

Authority: Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)

FY 2023 Budget Request: $916,000

Description: On October 21, 2019, NOAA issued its biological opinion on the long-term operations of the CVP and SWP. USBR, USFWS, and NMFS are developing mechanisms for implementation.

Proposed Actions for FY 2023:

Pursuant to Executive Order 13990 (Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis), USBR, NMFS, and USFWS undertook a review of the 2019 Biological Opinions for the Long-term Operations of the CVP and SWP. This review resulted in the reinitiation of consultation for the Long-term Operation of the CVP and SWP, and development of the proposed Interim Operations Plan, which provides a temporary operation plan for water deliveries for water year 2022 while the Biological Opinions are in reinitiation. Subsequent interim operations plans are expected for future years while the project remains in

reinitiation. NMFS staff will be working closely with USBR on the reinitiation of the Biological Opinion, as well as the interim operations plans.

Habitat Restoration

Ecosystem Restoration Program Oversight and Coordination

Authority: Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), Magnuson-Steven Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.)

FY 2023 Budget Request: $107,000

Description: As an Ecosystem Restoration Program (ERP) implementing agency, NOAA will continue ERP planning efforts in collaboration with the FWS, CDFW and the California Bay-Delta Authority (CBDA). Activities include program planning and implementation, tracking schedules, finances, and performance; coordination of Program activities to ensure Program balance and integration with other Calfed Programs; coordination of public outreach and involvement, including tribal, environmental justice, and public advisory activities in accordance with the Federal Advisory Committee Act. NOAA, through an interagency process, is also involved in planning and developing the format and guidelines for preparing Action Specific Implementation Plans (ASIP) for all Calfed projects in order to meet the requirement of the ESA, California Endangered Species Act, and the Natural Community Conservation Planning Act (California).

Proposed Actions for FY 2023:

NOAA will continue management-level participation in Delta-wide coordination meetings, continue work on multi-year planning documents, work on defining and streamlining the adaptive management implementation plans, participate in Delta-wide collaborative science and restoration efforts such as CSAMP, participate in developing conceptual models to guide science and restoration, and contribute to proposal solicitation process planning and selection panels. Staff are highly engaged in the Yolo Bypass Fisheries Enhancement Project development and assessment and are reviewers of restoration proposals to state funding sources.

Screen Engineering and Review

Authority: Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), Magnuson-Steven Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

FY 2023 Budget Request: $72,000

Description: Activities include technical review and comment of proposed projects under the Anadromous Fish Screen Program (AFSP). The AFSP is to protect juvenile Chinook salmon (all runs), steelhead trout, green and white sturgeon, striped bass and American shad from

entrainment at priority diversions throughout the Central Valley. Section 3406(b)(21) of the Central Valley Project Improvement Act (CVPIA) requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin Rivers, their tributaries, the Delta, and the Suisun Marsh. Additionally, all AFSP projects meet Goal 3 of the Calfed Ecosystem Restoration Program's (ERP) Draft Stage 1 Implementation Plan (8/1/01, Page 22) which states that "the goal is to maintain and/or enhance populations of selected species for sustainable commercial and recreational harvest, consistent with the other ERP Strategic Goals."

Proposed Actions for FY 2023:

Staff continue to review fish screens and improvement projects as they develop for compliance with section 7 of the ESA and existing biological opinions. Specific issues for program staff include reviewing the State Water Project and Central Valley Project Fish Collection Facilities in the Delta. Staff participates on the Tracy Technical Advisory Team, South Delta Fish Facility Forum, and Central Valley Fish Facility Team, all of which are involved in developing new ways to salvage fish from water and debris and return them unharmed to the Delta. Staff review and comment on fish studies, research projects, facility evaluations, and operations and maintenance of the Delta fish facilities for compliance with current biological opinions. Staff have also coordinated with UC Davis on screen studies for CV native species.

Many of the research projects are funded by either CVPIA or Calfed. Staff works with our engineers in Sacramento and throughout the West Coast Region and at the Bureau of Reclamation to approve CVPIA funded fish screen projects.

FISCAL YEAR 2023

ENVIRONMENTAL PROTECTION AGENCY

EPA's support of the Bay Delta comprises four programs: San Francisco Bay-Delta Estuary Program, National Estuary Program, Clean Water State Revolving Fund, and Drinking Water State Revolving Fund.

The San Francisco Bay-Delta Estuary program is aimed at protecting and restoring water quality and ecological health of the estuary through partnerships, interagency coordination, and project grants. In FY 2023, the President's Budget includes an increase of more than $3 million over the FY 2021 enacted level for the San Francisco Bay Delta. The FY 2023 President's Budget also includes funding for the National Estuary Program consistent with FY 2021 levels.

EPA's State Revolving Funds (SRFs) will continue to provide capitalization grants for state loan programs for drinking water and wastewater infrastructure, with specific projects identified at the state and local levels. For the FY 2023 President's Budget amounts, EPA reported a projected distribution by straight lining FY 2022 data based on the FY 2021 Enacted for California's total SRF allocation based on land area in the Bay-Delta watershed.