

Sacramento Habitat Projects Presented as Part of Voluntary Agreement Framework

(All projects listed may have been identified in multiple lists/documents, this spreadsheet is intended only for illustrative purposes)

Project	Description	Targeted Habitat	Benefits	Years	Timeline without VSA	Life Stage	Possible Funding Source(s)	Implementation Lead	Contingency	Planning/CEQA Status	Construction/Action Started?
Spawning Habitat Keswick to Red Bluff Diversion Dam; Objective – Annually place 40,000 to 55,000 tons of gravel at the Keswick and/or Salt Creek injection site(s). Create at least three site-specific gravel restoration projects upstream of Bonnyview Bridge within 5 years.											
Salt Creek Gravel Injection	Improve substrate conditions for spawning salmonids at key riffles	up to 25,000 CY	increase existing suitable spawning habitat area	Bi-Annually (1-10 years)	unknown	S	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Market Street	Improve substrate conditions for spawning salmonids at key riffles	up to 12,000 CY	increase existing suitable spawning habitat area	Tri-Annually	unknown	S	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	N/A	Year by Year
Turtle Bay Island Side Channels and Gravel	Improve substrate conditions for spawning salmonids at key riffles and side channel	place and shape 25,000 CY	increase existing suitable spawning habitat area	Tri-Annually	unknown	S,R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Keswick Dam Gravel Injection	Improve substrate conditions for spawning salmonids at key riffles	up to 25,000 CY	increase existing suitable spawning habitat area	Annually (1-15 years)	Yes currently (but annual funds are not assured)	S	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	N/A	Year by Year
Rearing Habitat Keswick to Red Bluff Diversion Dam; Objective – Create a total of 40 to 60 acres of side channel habitat at no fewer than 10 sites in Shasta and Tehama County											
South Shea Levee	Creation and improvement of side channel habitat	TBD	increase existing suitable spawning habitat area; improve of natural river morphology; increase floodplain habitat, riparian habitat, and instream cover	0-5 years	unknown	S,R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Shea Levee	Creation and improvement of side channel habitat	TBD	increase existing suitable spawning habitat area; improve natural river morphology and connection to historic side channel habitat	0-5 years	unknown	S,R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Tobiasson Island - Side Channel/South Bank	Creation and improvement of side channel habitat	TBD	increase existing suitable spawning habitat area; improve of natural river morphology; increase floodplain habitat, riparian habitat, and instream cover	0-5 years	unknown	S,R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Side Channel Habitat - Cypress Ave. Bridge Downstream	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	0-5 years	Potentially in 2019	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Shea Island Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	0-5 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Anderson River Park Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	0-5 years	Potentially in 2020 but need permits	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Kutras Lake Project	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	6-10 years	Potentially 2020	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Tobiasson Island Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	6-10 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Kapusta Island and River Right Bank Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	6-10 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Reading Island Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	6-10 years	Potentially in 2020 but need permits	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Rancho Briesgau Channel/Rearing	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	11-15 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
China Gardens Side Channel	Creation and improvement of side channel habitat	TBD	increase existing suitable spawning habitat area; improve of natural river morphology; increase floodplain habitat, riparian habitat, and instream cover	11-15 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Rio Vista	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	11-15 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
East Sand Slough	Creation and improvement of side channel habitat	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	11-15 years	unknown	R	Upper Sac AFHRP, Bond, Science Fund	Potentially USBR, SRSC	No	No	No
Rearing Habitat Red Bluff Diversion Dam to Verona; Objective – Enhance ~ 2,000 acres of floodplain habitat in the Sutter Bypass within the term of the Voluntary Agreement. Provide fish passage and floodplain habitat at Tisdale Weir within 5 years and Colusa Weir within 10 - 15 years. Inventory historic oxbows and design fish passage and floodplain projects within 5 years and implement projects within 10 years.											
Off-Channel Rearing Habitat Restoration Projects - Side Channel/Oxbow/Floodplain on Lower Battle Creek (below Coleman Hatchery) on Lands Owned by BLM and CDFW	Study and Determine potential ox bow restoration sites	TBD	improve natural river morphology, riparian habitat, instream cover, and habitat complexity	6-10 years	No	R	Bond, DWR	SRSC, CDFW, BLM, USBR	No	No	No

Tisdale Weir and Bypass Multibenefit Project	Operable Weir	None, weir modification only but required to inundate Sutter bypass	operable weir to allow for adult passage for upstream migration, and out-migrating juveniles to access Sutter Bypass	0-5 years	No	AM, R, M	Bond, DWR	SRS/SVSRP	No	No	No
Tisdale Bypass into Sutter Bypass	Improve the bypass property into suitable habitat	500 acres	property already owned by CDFW and accessible, create habitat for outmigrating salmon	0-7 years	unknown	R, A	Bond, DWR, CDFW	SRSC/DWR/CDFW	No	No	No
Lower Colusa Basin Drain Floodplain	Flood lower basin lands through Knights Landing Outfall Gates (KLOG)	300 acres	operations of KLOG to allow passage of outmigrating salmon onto floodplain	0-5 years	No	R	Bond, DWR	SRSC/SVSRP/DWR	No	No	No
Sutter Bypass Area Multibenefit Project	Increase Suitable Habitat	2000 acres	increase suitable habitat for out-migrating juveniles to access Sutter Bypass	6-15 years	No	R, M	SRS	SRSC, CDFW, BLM, USBR	No	No	No
Setback Levee	Construct setback levee on existing Sac levees with willing landowners	200 acres	additional rearing habitat connected with Sac River	10-15 years	No	R	Bond, CDFW, DWR	SRSC, DWR, Corp	No	No	No
Colusa Weir Multibenefit Improvements	Operable Weir	None, weir modification only but required to inundate Sutter bypass	operable weir to allow for adult passage for upstream migration, and out-migrating juveniles to access Sutter Bypass	6-10 years	No	AM, R, M	Bond, DWR	SRS/SVSRP	No	No	No
Sutter Bypass Weir 1 - Rehabilitation of Weir Structure and Fish Ladder. Coupled with New Lower Butte/Sutter Bypass Water Management Plan	Operable Weir	None, weir modification to benefit migrating juveniles and adults	operable weir to allow for adult passage for upstream migration, and out-migrating juveniles to access Sutter Bypass	0-5 years	No	AM	Bond, DWR	SRS/SVSRP	No	No	No
Sutter Bypass Weir 2 Multibenefit Project	Operable Weir	None, weir modification to benefit migrating juveniles and adults	operable weir to allow for adult passage for upstream migration, and out-migrating juveniles to access Sutter Bypass	0-5 years	No	AM	Bond, DWR	SRS/SVSRP	No	No	No
Man Made Structures Keswick-Verona; Objective – Complete remaining high-priority fish screen projects. Reduce lighting to 3 lux or less at fish screens and bridges within 5 years. Incorporate ongoing redd dewatering coordination with Anderson Cottonwood Irrigation District into a Voluntary Agreement. Address fish passage issues at Weir 1 and Weir 2 within 5 years											
Reduced Lighting and Sacramento River Bridges	Perform study on bridges and lighting conditions and work with agencies to reduce lighting	TBD	increase survival of migrating fish by reducing predation risks	0-5 years	No	M	Upper Sac AFHRP	SRS/SVSRP	No	No	No
Screen Meridian Farms Water Company	Install fish screen	N/A	fish screen, benefits based on the Sac Valley fish screen program	0-5 years	No	M	AFRP	USBR, SRSC	No	No	No
Screen Natomas Mutual Water Company	Install fish screen	N/A	fish screen, benefits based on the Sac Valley fish screen program	0-5 years	No	M	AFRP	USBR, SRSC	No	No	No
Anderson Cottonwood Irrigation District Dam Operations to Project Salmon Redds	Weir and bypass operations	TBD	increase existing suitable spawning habitat area	0-5 years	No	I	AFRP	USBR, SRSC	No	No	No
Study, Design, and Implement Modifications to Known Redd Dewatering Locations	Perform study on redd locations and water elevations based on river stages	TBD	increase existing suitable spawning habitat area	0-10 years (annual)	No	I	AFRP	USBR, SRSC, CDFW	No	No	No
Program for Identification of Predation Hot Spots. Adaptively Manage for the Reduction/Improvement of Predator Contract Points at Man-Made Structures Where Predator Interactions Have Been Observed	Perform Study	TBD	study only, currently occurring	0-2 years	Yes	M	AFRP, CDFW, SRSC, NCWA	CDFW	No	No	Yes
Study Route-Specific Survival at Key Diversion Facilities and Implement Appropriate Devices that Reduce Route Selection Into Lower Survival Areas	Perform Study	TBD	study only	0-10 years; Annual plan within one year	No	M	AFRP	USBR, SRSC	No	No	No

Tons	CY	Acres Per Depth (in)		
		36	24	18
40,000	28,571	5.9	8.9	11.8
55,000	39,286	8.1	12.2	16.2