



United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008



In Reply Refer to:
FWS-SB-16B0182-17F0387-R002

January 3, 2022
Sent Electronically

Ms. Lily Lee
Manager, Infrastructure Section
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105

Attention: Mimi Soo-Hoo

Subject: Re-initiation of Formal Section 7 Consultation on the Proposed Sterling Natural Resource Center, San Bernardino County, California

Dear Ms. Lee:

We are writing in response to your October 14, 2021, letter requesting reinitiation of consultation for the proposed Sterling Natural Resources Center (SNRC or Project) because of a change in the Project's location (*see paragraph* four) in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). Our original biological opinion (FWS-SB-16B0182-17F0387, 2017 Biological Opinion) for the Project addressed impacts to the federally endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR) and the federally threatened Santa Ana sucker (*Catostomus santaanae*; SAS) and their respective designated critical habitats and was issued on March 9, 2017. We also issued an amendment to our biological opinion on August 11, 2017 (FWS-SB-16B0182-17F0387-R001, 2017 Amendment) that addressed the roles and responsibilities of both the EPA and State Water Board associated with the implementation of the SNRC conservation measures.

On September 1, 2021, the Clean Water State Revolving Fund (CWSRF) informed the U.S. Environmental Protection Agency (USEPA) that the East Valley Water District (EVWD) in cooperation with the San Bernardino Valley Municipal Water District (Valley District) was modifying the Project. Specifically, Valley District added a new recharge basin, and removed from the Project the conveyance pipeline for discharge into City Creek, Santa Ana River pipeline, and Redlands Basins. These modifications are changes to the physical location of the proposed Project, and therefore changes the location of the action area. Correspondingly, the USEPA updated its findings of effects to listed species from the Project's new action area. On October 14, 2021, in light of changes to the proposed Project, the USEPA reinitiated consultation.

REVISED PROJECT DESCRIPTION

Valley District is proposing to construct the SNRC facility in the City of Highland to treat wastewater generated in the EVWD service area for groundwater recharge in the upper Santa Ana River watershed. EVWD currently conveys its wastewater to the City of San Bernardino for secondary treatment at the San Bernardino Water Reclamation Plant (SBWRP) and tertiary treatment at the Rapid Infiltration and Extraction (RIX) facility which discharges to the Santa Ana River. The proposed Project would instead treat, recycle and reuse the wastewater for multiple beneficial uses within the upper Santa Ana River watershed. Valley District proposes to divert up to six million gallons per day (MGD) of wastewater from the RIX facility. This wastewater would not be discharged into the Santa Ana River after treatment, as happens currently.

The diverted six MGD would be treated at the Sterling Natural Resource Center and then discharged into the newly proposed Weaver basins in the City of Highland, California. The originally proposed SNRC discharge was into City Creek and Redlands Basins. The original discharge locations had effects to SBKR. The Weaver basin modification does not. The proposed Project also includes a habitat conservation area in the southeastern portion of the Weaver Basin site. The conservation lands are in SBKR designated critical habitat which may provide suitable habitat for San Bernardino kangaroo rat and Santa Ana River woolly-star

There would be one emergency overflow discharge location into an outfall to Weaver Channel, which is located east of the Weaver Basin site. Overflow discharge would flow from Weaver Channel into Plunge Creek, and then City Creek, and ultimately the Santa Ana River. However, the Weaver Basins are being designed to eliminate the need to use the emergency overflow. Under an emergency shut down scenario, the basins and emergency overflow tank, should it be needed, would receive a transient surge of water. However, because no more than three of the five basins are expected to be in operation at the same time, there will always be capacity within the basins themselves. Inclusion of the tank and outlet is a requirement for emergency purposes and when localized high ground water conditions are present. Because there is sufficient capacity in the basins, and the water supply to Weaver could be shut down at the SNRC treatment plant in the case of an emergency, it is highly unlikely that use of the emergency overflow would ever be needed.

This amended biological opinion is based on information provided in the following documents and communications: biological assessment (ESA 2016a; BA), supplemental biological assessment (ESA 2021; supplemental BA), Habitat Maintenance and Monitoring Plan (ESA 2016c; HMMP) and an amendment to the HMMP (Valley District 2017), Reduced Flow Model (ESA 2015b), focused survey reports, trapping results, and conversations with Valley District.

Change in discharge location to the Weaver basins does not change Project effects on Sucker. The sucker analysis in the 2017 Biological Opinion remains valid. The change in discharge location to the Weaver basins does change effects to SBKR and its' designated critical habitat. The revised analysis is provided below. This amendment addresses the change in the project description (*above*), changes to the conservation measures for SBKR and Santa Ana River

Woolly Star, changes to the action area, changes to the effects of the action on SBKR, and changes to the incidental take statement for SBKR. All other portions of the 2017 Biological Opinion and the 2017 Amendment remain valid and in force.

CONSERVATION MEASURES

The general and species-specific conservation measures (CM) listed below have been included in the Project to avoid and minimize impacts to federally listed species and their designated critical habitats or to offset impacts that may otherwise adversely affect a listed species or designated critical habitat. The proposed modifications to the physical location of discharge locations and groundwater recharge areas have made some conservation measures from the 2017 Biological Opinion unnecessary and other measures have been revised. Conservation measures listed in this document are exhaustive and supersede any conservation measures listed in our 2017 Biological Opinion for the Project. Eliminated Conservation Measures include those intended to minimize effects to SBKR and Santa Ana River Woolly-Star. For comparison, the Conservation Measures are provided in Appendix B with the changes from our 2017 Biological Opinion indicated in bold and strikethrough text.

General Measures

- CM 1. Worker Environmental Awareness Program. A Worker Environmental Awareness Program (WEAP) will be provided to work crews by a qualified biologist(s) prior to the commencement of construction activities. Each worker will receive the WEAP training prior to beginning work on the Project. Training materials and briefings will include but not be limited to, discussion of the federal and state Endangered Species Acts, the consequences of noncompliance with Project permitting requirements, identification of special-status plant and wildlife species and sensitive natural plant community habitats present in or adjacent to the work areas, a contact person in the event of the discovery of dead or injured wildlife, and review of construction-related avoidance and minimization requirements. Maps showing the location of special-status plants and wildlife, exclusion areas, or other construction limitations (i.e., limited operating periods) will be provided to the environmental monitors and work crews prior to ground disturbance.
- CM 2. Limits of Disturbance. Prior to construction in or adjacent to sensitive habitat areas and under the direction of a qualified biologist, Valley District will clearly delineate the construction right-of-way (stake, flag, fence, etc.) that restricts the limits of construction to the minimum necessary to implement the Project.
- CM 3. Biological Monitoring. Prior to the start of construction, Valley District will retain a qualified biological monitor on site (Weaver Basins) during the initial ground disturbance and on an as-needed basis to ensure that construction activity is being confined to the delineated area and to verify that the barrier fencing (CM 6) is intact. The biological monitor will be a qualified biologist with species expertise appropriate for this project. The biological monitor will ensure compliance with

the Project description evaluated in the biological opinion, including all CMs and terms and conditions, and will have the authority to halt or suspend all activities until appropriate corrective measures have been taken. The biological monitor will report any non-compliance immediately to the USFWS.

CM 4. Construction Best Management Practices. The Contractor will implement the following Best Management Practices during construction of pipelines and discharge structures to protect any adjacent sensitive natural communities that provide habitat for special-status species.

- a. The following water quality protection measures will be implemented during construction:
 - i. Stationary engines, such as compressors, generators, light plants, etc., will have drip pans beneath them to prevent any leakage from entering runoff or receiving waters.
 - ii. All construction equipment will be inspected for leaks and maintained regularly to avoid soil contamination. Leaks and smears of petroleum products will be wiped clean prior to use.
 - iii. Any grout waste or spills will be cleaned up immediately and disposed of off-site.
 - iv. Spill kits capable of containing hazardous spills will be stored on-site.
- b. To prevent inadvertent entrapment of common and special-status wildlife during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered with tarp, plywood or similar materials at the close of each working day and will be inspected visually to confirm animals would be excluded, to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep walled trenches to allow for animals to escape, if necessary. Before such holes or trenches are backfilled, they should be thoroughly inspected for trapped animals. If trapped wildlife is observed, escape ramps or structures will be installed immediately to allow escape.

CM 5. On Site Overnight Storage. All construction pipes, culverts, or similar structures that are stored at a construction site for one or more overnight periods should be thoroughly inspected for birds and other wildlife before the pipe is subsequently buried, capped, or otherwise used or moved.

San Bernardino Kangaroo Rat

CM 6. For avoidance of SBKR at the Weaver Basin site barrier fencing will be erected between and suitable SBKR habitat located south of the Project site. The fencing configuration and materials do not need to meet the specifications found in Appendix

A. An alternative fence design or material may be used. Proposed fence installations may be submitted to the USFWS for review

- b. The integrity of the fencing will be maintained in good working order throughout the duration of the Project.
 - c. Construction access openings, if included within the barrier fence, will be closed and secured at the end of each work day using the at-grade fencing method.
 - d. The fence will remain in place for the duration of construction activities and removed at the completion of the relevant Project activity.
- CM 16. Nighttime construction and night lighting will not be allowed.
- CM 17. Valley District will prepare and implement a revegetation plan to replace temporarily impacted habitat in proposed impact areas located within designated SBKR critical habitat. The revegetation plan will be submitted to the USFWS a within 120 days of commencing construction activities in SBKR critical habitat. At minimum, the revegetation plan will include the following elements:
- a. Relevant conditions of Project permits and this biological opinion.
 - b. Clear guidelines and quantifiable success criteria to measure progress toward fulfilling relevant conditions and to determine that implementation has been successfully completed.
 - c. Performance standards to set appropriate quantitative and qualitative measurements of coverage and diversity of the scalebroom scrub vegetation and non-native vegetation to assure that the effort is progressing toward replacement of habitat to pre-Project levels of cover and diversity, or high quality as approved by the USFWS. Within 5 years after commencing revegetation efforts, cover and diversity should have progressed toward an intermediate phase of scalebroom scrub. Both early and intermediate stages of scalebroom scrub (native perennial plant cover 30 to 50 percent) and limited non-native plant species cover (less than 10 percent) provide suitable habitat for SBKR and woolly-star.
 - d. Guidelines and specifications for salvage and redistribution of topsoil, vegetative debris, and organic material (“duff”), as well as other pertinent planting specifications.
 - e. Guidelines for controlling and monitoring invasive, non-native plants.
 - f. Specifications for seed application including guidance for materials and source material, rates of application, and appropriate application methods and timing specifications, and methods will be based on locally successful SBKR habitat restoration Projects within the watershed.

- g. Descriptions of maintenance and monitoring methods to promote successful implementation of the plan.

CM 18. Permanent impacts to unoccupied designated critical habitat for SBKR-at Weaver Basins (approximately 16.93 acres), will be offset onsite through permanent conservation of approximately 17 acres of unoccupied designated SBKR critical habitat in the southeastern portion of the Weaver Basins site.-Temporary impacts to designated SBKR critical habitat at Weaver Basins will be-restored in place. All SBKR habitat temporarily impacted during construction will be restored in accordance with the approved revegetation plan. Santa Ana River Woolly-Star

Santa Ana Sucker

CM 21. The following measures will avoid, minimize, and offset Project-related impacts to SAS associated with up to 1.21 acres of permanent degradation of occupied designated critical habitat in the mainstem of the Santa Ana River from the RIX outfall downstream to approximately Mission Boulevard.

- a. Valley District will prepare and implement the HMMP which will identify habitat improvement actions and methods for implementation, monitoring, and maintenance. The diversion of wastewater flow from the RIX Facility to the SNRC will not occur until Valley District's Santa Ana Sucker HMMP has been approved by the USFWS and the actions proposed in this measure have been completed or show evidence of significant progress toward successful implementation such as engineering design(s) and/or other regulatory compliance such as the California Environmental Quality Act, or consultation with the USFWS will be reinitiated.
- b. The HMMP will include the measures listed below to offset direct and indirect impacts to SAS and its habitat resulting from the loss of up to 22.3 percent (6.43 MGD of 28.4 MGD calculated from the November 2014 to May 2016 discharge) discharge from the RIX outfall into the Santa Ana River. The HMMP will contain measures to increase the number of individual SAS in the Santa Ana River, increase the area of suitable and occupied habitat in this watershed, and establish two new populations in the watershed. It will be implemented by a contracted, qualified, and permitted entity in coordination with the USFWS. The HMMP will specify goals and performance criteria for each conservation measure and include the following elements:
 - i. Habitat Node Creation (microhabitat enhancements) to offset the potential reduction of suitable habitat available to sucker, including the above listed habitat features, resulting from decreased flow, decreased water velocity, and decreased sand transport.

Objective: Increase the total area of suitable habitat available to sucker, including riffles, small scour pools, and exposed patches of gravel/cobble

substrate by strategically placing a series of structures within the stream flow to manipulate water movement and create these microhabitat areas.

This measure is expected to enhance perennial stream habitat within at least 1.5 acres of occupied habitat along about 2.5 miles of river, as measured by the area of pools created, gravel/cobble substrates exposed, and other functional SAS habitat features created/enhanced. The creation of all 6 habitat nodes will occur prior to any water diversions. If future data suggests that impacts to the species are either greater than expected or habitat nodes cannot be created to functionally offset Project impacts, the Project will obtain technical assistance from the USFWS to develop a new or revised CM that will achieve the biological objective(s) as analyzed in this opinion, or consultation with the USFWS will be reinitiated.

The Project will implement microhabitat enhancements (habitat nodes) within ecologically valuable segments of the Santa Ana River downstream of the RIX discharge location to improve the abundance and distribution of the above mentioned SAS habitat features. Enhancements will include the use of natural materials to increase scour and pool formation. Substrate augmentation (e.g., river gravel and cobble) may also occur in the same area to enhance perennial stream habitat function. Examples may include placement of large boulders and/or large woody debris to increase velocity of flow and gravel bar patches as well as deep pool refugia areas. A minimum of six habitat nodes will be created.

One naturally occurring riffle/pool feature (natural node) in the Santa Ana River was observed to enhance the stream habitat for SAS for approximately 330 feet (100 meters, 0.25 acres). Between 2015 and 2016 the USGS Native Fishes Survey found that the relative abundance of exposed gravels increased in this area suggesting that the size of the affected area associated with the node is subject to fluctuate based upon environmental conditions and the abundance of fine sediment in the inset channel (SAS occupied stream) (Brown and May 2016, 2017). Although all nodes will be unique in design, each will serve to replicate the scale and provide similar ecological functions as the natural node discussed above.

The nodes will be located in the Santa Ana River mainstem between the RIX outfall and River Road Bridge. To maximize habitat value and function locations should be associated with mainstem tributaries (Evan's Lake, Arroyo Tequesquite, Sunnyslope Drain, Anza Drain, Hole Creek, etc.). Locations will need to be further refined by field survey data.

Habitat nodes will be monitored annually and the survey data will be used to assess the need for corrective measures. Annual monitoring will

include, at minimum, water quality, visual estimates of substrate cover types, and fish surveys. When the cumulative cover of boulder, cobble, and gravel is found to be less than 35 percent for any habitat node (mean cover measured over a 0.25 acre reach associated with a node), maintenance and/or reinstallation of nodes will be conducted to maintain a minimum of 0.25 acres of habitat enhancement for every node or a cumulative enhancement of 1.5 acres for all six nodes. All work conducted in the Santa Ana River will be done in coordination with the USFWS and CDFW.

If vegetation removal is required for ingress, egress, or other work areas associated with Habitat Node creation and maintenance it will be revegetated. Quantitative and qualitative performance standards addressing vegetation cover and diversity will be included in the HMMP. Within 3 and at most 5 years after commencing revegetation efforts, cover and diversity should have progressed toward pre-Project levels of cover and diversity, or higher quality for the benefit of vireo and SAS. It is not anticipated that maintenance work, requiring vegetation removal, will be needed more frequently than every 5 years.

- ii. Aquatic Predator Control Program to offset the potential increase in non-native predator habitat (pools or other microhabitats that provide relatively deep and slow velocity water flow) resulting from reduced discharge volume.

Objective: Reduce the abundance of non-native predators in the reach of river affected by the Project so as to maximize native fish survival. The non-native predator removal program will be focused on reducing the abundance of non-native aquatic predators immediately preceding the start of the sucker spawning season (approximately March 1). Species to be removed may include non-native fish, amphibians, and reptiles such as mosquitofish, largemouth bass, black bullhead catfish, green sunfish, red-eared slider, African clawed frog, and American bullfrog. This activity will occur at minimum of one time per year outside of the SAS spawning season (August 1 to February 28). The most recent fish and/or other surveys conducted upstream of Prado Basin in the Santa Ana River will provide the locations of where to conduct electroshocking.

Electroshocking will be carried out by a USFWS-approved SAS biologist authorized to use electroshock sampling methods. Pre-spawning predator removal will occur annually prior to February 15 in areas of highest ecological value to SAS reproduction, currently from Rialto Channel downstream to approximately Mission Boulevard and in mainstem tributaries. If aquatic predators are found in abundance after pre-spawning predator removal, a second predator removal will be conducted after August 1.

- iii. Exotic Weed Management Program to reduce competitive stress for native vegetation within the riparian community in order to offset the impacts associated with reduced water availability resulting from the Project.

Objective: Maintain a low abundance and cover of non-native vegetation along the Santa Ana River and in City Creek within the Project impact area (RIX outlet to Mission Boulevard and Boulder Avenue to Alabama Street, respectively), focusing on the removal of giant reed, tamarisk, and castor bean.

The exotic weed management program will be carried out by a qualified and experienced entity and will focus on controlling the non-native vegetation within the riparian corridor between the Rialto Channel and the Mission Boulevard Bridge (approximately 4.2 miles). This measure will establish and maintain weed control in one-third of the area (approximately 1.4 miles) per year, so as to complete the weeding of the entire area once every 3 years. Annual work plan meetings between the USFWS, Valley District staff, and contractor will identify areas of concern and focus work efforts on those areas. A successful program will maintain total cover of non-native riparian species to less than 25 percent and total cover of giant reed, tamarisk, and castor bean to less than 5 percent. Percent cover will be assessed relative the total area of the weeded riparian corridor for that year. Although they are native species, cattails (*Typha* spp.) and bulrush (*Schoenoplectus* spp.) may increase in abundance over time as their preferred habitat type (slow, shallow water or marsh) is expected to increase due to Project reductions of flow. These plant species may degrade sucker habitat by further reducing water velocity and trapping fine sediment. Problem areas will be identified as part of the Riverwalk survey (see below for more on Riverwalk survey) and if certain areas have become problematic they will be managed in coordination with the USFWS and CDFW.

- iv. Rialto Channel Water Temperature Management to offset the potential loss of suitable habitat downstream in the Project impact area during times of the year when habitat will be most affected from the cumulative impacts from reduced discharge and drought effects, particularly in summer and fall.

Objective: Reduce water temperatures in Rialto Channel to tolerable levels (less than 86 degrees Fahrenheit) during summer months.

In recent years the temperatures within the natural bottom reach of Rialto Channel (not concrete lined section) were found to be generally greater than 80 degrees Fahrenheit in summer and fall (USGS 2015) and often warm enough to be outside of the tolerable range for sucker (USFWS

2010b). In order to decrease the water temperature in Rialto Channel to tolerable levels for SAS relatively cool groundwater (67 – 70 degrees Fahrenheit, temperature range derived from local nearby well operators), from up to 4 wells or other water sources will be added to the flows in Rialto channel.

In order to implement this measure most effectively, two water quality monitoring stations will be established in Rialto Channel. An upstream, real-time gage will measure the water temperature at the well input location (plunge pool downstream of Agua Mansa Bridge). At 85 degrees Fahrenheit the groundwater wells will automatically turn on and release directly into the plunge pool. Another real-time gage will be installed downstream of the plunge pool Rialto Channel just before the confluence with the Santa Ana River and. Once the water temperature at this downstream gage is less than 82 degrees Fahrenheit the well input will be turned off. Initiation and cessation of well water input (discharge) will be phased over a period of time to reduce sudden changes in flow and temperature in Rialto Channel. The well input and controls will be constructed and tested prior to diversion of flows from the RIX facility to the SNRC. This program will be deemed successful if there are 5 or fewer days between June 22 and September 21 that the daily maximum water temperature exceeds 82 degrees Fahrenheit and SAS are present in the channel during the same period. Water temperature will be measured in Rialto Channel upstream of the RIX outfall. If success criteria are not met within 2 years of signing the biological opinion, the Project will obtain technical assistance from the USFWS to develop a new or revised CM that will achieve the biological objective(s) as analyzed in this opinion.

- v. Upper Watershed SAS Population Establishment to offset potential losses of suitable habitat in the Project's impact area, and to offset unknown and/or cumulative impacts to the species and its habitat that may be associated with the reduction of flow to the Santa Ana River.

Objective: Increase the abundance, distribution and resilience of the sucker population in the Santa Ana River Watershed by establishing redundant populations in upper watershed tributaries.

Subject to the availability of sufficient source fish, the Project will establish two new locations of sucker within City Creek and Hemlock Creek, or another suitable unoccupied location within the former range of the species within the Santa Ana River watershed as approved by the USFWS. Both City and Hemlock creeks have been analyzed as part of the Santa Ana Sucker Translocation Plan (Dudek 2016a, 2017). Valley District has assessed the habitat availability and appropriateness for SAS in City and Hemlock creeks (Dudek 2016b). These documents show that

portions of each of these streams have the necessary primary constituent elements (PCEs) to support SAS, as well as additional factors found to be important to SAS (Aspen 2016). The Translocation Plan is currently under review by the USFWS, CDFW, and U.S. Forest Service (USFS).

Prior to Project flow reduction to the Santa Ana River, at least one translocation of SAS will have occurred and Valley District will provide data indicating that the nascent population is healthy, reproducing, and appears to be successfully establishing. Successful establishment of SAS will have occurred when there are surviving and reproducing fish in at least two size classes, the population of SAS is stable or increasing in population as averaged over 5 years, and the translocated population is distributed throughout the appropriate habitat in the translocation stream¹.

If success criteria are not met in both translocation tributaries within 5 years of signing the biological opinion, the Project will obtain technical assistance from the USFWS to develop a new or revised CM that will achieve the biological objective(s) as analyzed in this opinion.

The HMMP will identify and further detail the goals and success criteria of SAS re-establishment and include the amount of financial assistance to be provided by Valley District for the regionally-beneficial population establishment program, including additional measures found below.

1. Valley District will contract with a USFWS-approved entity that can demonstrate the ability to re-introduce captive-bred SAS to a suitable unoccupied location with the intent of establishing a new self-sustaining population within the former range of the species on the Santa Ana River. The Contract requirements will include the following: (1) rearing and maintaining a sufficient number of breeding adults to support re-introduction of a minimum of 500 juvenile SAS into the target area per year (or alternate numbers agreed to by the USFWS); (2) annual relocations for the first 3 years, then as needed to maintain a stable population size and genetic diversity; and (3) monitoring, adaptive management, and annual reporting.
2. Valley District may reintroduce captive-bred SAS if (1) captive breeding documentation has been approved by the USFWS and CDFW and (2) the captive breeding facility has adequate numbers of appropriate sized SAS. If these conditions are not met or if additional fish are needed for translocation purposes SAS may be translocated from the Santa Ana River to the west fork of City Creek and one other historic tributary in the Santa Ana River watershed².

3. If, at any time, SAS are found located downstream Highland Avenue Bridge, Valley District will be responsible for relocating all SAS back upstream within the boundaries of the San Bernardino National Forest or out of locations that where their presence might affect other entities who do not have incidental take exemptions for this species. This measure will be implemented for the life of the Project or until another entity, such as the HCP, takes over this responsibility.
- vi. Annual Monitoring of the Santa Ana River to track the suitability and habitat for SAS following implementation of the Project and its conservation measures.

Objective: Identify any key effects to the hydrology or biology of the River that may result from reduced flow due to this Project.

The HMMP will outline a monitoring program to collect hydrology data in the segment of river between the RIX outlet and Mission Boulevard and within the habitat node creation reaches. Hydrology data will include water quality (flow velocity, temperature, and depth), visual observations of substrate, and other surface topography, and fish surveys. Annual reporting will include summaries of the non-native plant and aquatic predator removals and any adaptive management actions taken in the past year, and will be submitted to the USEPA, State Water Board, and USFWS by April 30 for review and comment. All long-term monitoring and management activities will be completed by the Project proponent per the commitments included in the HMMP and required by this biological opinion until the HCP is finalized and permitted or until incidental take associated with the Project becomes covered by another mechanism.

In order to make best use of the existing Riverwalk habitat survey dataset, (Riverwalk which has been conducted annually in the fall for the past 11 years), the Project will provide support to Riverwalk organizers, whether financial or in-kind services and develop the long-term monitoring methodology to be complementary to the Riverwalk survey data collection to provide a greater understanding of habitat availability throughout the entire system. The locations of the habitat nodes, as described above, will be added to the Riverwalk survey area as non-random transects. At least one year's worth of baseline data that captures the entire river corridor (Riverwalk points 9 to 118) will be recorded prior to a reduction in discharge flow from RIX.

Action Area

Regulations implementing the Act (50 CFR § 402.02) describe the action area as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. Revisions in the project description have resulted in a change in the action area from the 2017 BO. The Project will no longer discharge water into City Creek and Redlands Basins discharge locations. Instead, the new discharge location is at the new Weaver Basins site.

We have defined the action area to include the Sterling Natural Resource Center west of North Del Rosa Drive; the pipeline corridor along 6th Street, 5th Street, and Greenspot Road; the discharge location at Weaver Basin east of Merris Street; and the potential areas of direct and indirect effects to the listed species, including the Santa Ana River from Rialto Channel downstream to River Road Bridge; the area downstream of emergency overflow discharge from Weaver Channel into Plunge Creek, and then City Creek; and the receiver streams for the proposed translocation of SAS, Hemlock Creek in the San Bernardino National Forest and City Creek upstream of Highland Avenue bridge.

The Weaver Basin site is the only addition to the action area. The 68.4-acre site is vegetated by remnant alluvial fan sage scrub that has been heavily invaded by non-native annual grasses. It is not occupied by SBKR, but 38.6 of the site are within the Sant Anan River Unit (Unit 1) of designated SBKR critical habitat.

EFFECTS OF THE ACTION

You have requested our concurrence with your determination that the proposed Project as revised is not likely to adversely affect Southwestern willow flycatcher (*Empidonax traillii extimus*; flycatcher) and its designated critical habitat, Least Bell's vireo (*Vireo bellii pusillus*; vireo) and its designated critical habitat, and designated critical habitat for the San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR).

Flycatcher, Vireo, And Their Designated Critical Habitats

In our 2017 Biological Opinion we determined there would be beneficial effects to flycatcher and vireo from the development of approximately 8.2 acres of riparian woodland in City Creek which was expected to result from the discharge of treated water into City Creek from the SNRC. The anticipated woodland habitat would have offset any loss of riparian habitat in the mainstem of the Santa Ana River. Because Valley District has modified the project description, this beneficial effect will not occur, and we do not expect beneficial effects from the new Weaver basins site for flycatcher or vireo. Similarly, discharge from the emergency overflow at the Weaver basins will be rare, if at all, so we do not expect riparian woodland to develop downstream of the emergency overflow. The best available information indicates that up to 1.21 acres of wetted habitat will be permanently lost with Project related reduced discharge into the Santa Ana River downstream of RIX. However, we expect the associated loss of riparian habitat to be diffusely distributed along about 4.2 stream miles from the RIX outlet downstream to Mission Boulevard and will vary by location, depending on river depth. We do not expect a detectable change in the distribution of riparian woodland habitat downstream of the RIX outfall.

Conservation Measure 17b.i is included in the Project description to enhance portions of the perennial stream habitat for SAS in the mainstem of the Santa Ana River. This activity may temporarily remove riparian vegetation in ingress, egress, and work areas at six locations downstream of the Riverside County Flood Control and Water Conservation District-maintained Riverside Levee System but will be conducted in areas not occupied by flycatcher or vireo. Removal of riparian woodland vegetation will be minimized in coordination with the USFWS to avoid incidental take of flycatcher and vireo.

San Bernardino Kangaroo Rat Critical Habitat

The 68.4-acre Weaver basins site is currently unoccupied by SBKR, and approximately 38.6 acres of it are designated SBKR critical habitat. Construction of the basins will result in permanent loss of about 16.93 acres and temporary impacts to about 0.87 acres of designated SBKR critical habitat. The temporary impact area will be revegetated with native scrub. Valley District will permanently conserve approximately 17 acres of designated SBKR critical habitat within the Weaver basins site. The basins will eliminate 0.87 acres on the northern edge of designation. The 17-acre conservation area is contiguous to other SBKR critical habitat.

San Bernardino Kangaroo Rat

With the change in the project description, the proposed action will no longer result in effects to SBKR. The SBKR effects analysis in our 2017 Biological Opinion is therefore no longer valid, as the analyzed effects will not occur.

CONCLUSION

We concur with your determination that the proposed action is not likely to adversely affect flycatcher or vireo. We have made this determination because 1) the Project-induced reduction in discharge into the Rialto Channel and Santa Ana River downstream of RIX is not expected to detectably reduce the available flycatcher and vireo foraging or nesting habitat, 2) we do not expect the Project to reduce the amount of habitat in any specific location that would negatively affect an occupied territory or rise to the level of take, 3) the absence of vireo, flycatcher, and their respective designated critical habitat from the new Weaver Basin site, and 4) conservation measure 17b.i which the USEPA has included to avoid and minimize effects to vireo and flycatcher from removal of riparian vegetation.

We also concur with your determination that the proposed action is not likely to adversely affect SBKR designated critical habitat. We concur with your determination because 1) the loss of SBKR critical habitat is a small impact to SBKR critical habitat overall and discountable, 2) Valley District will conserve in perpetuity an approximately 17 acres of SBKR critical habitat (CM 14) that is contiguous with adjacent SBKR designated critical habitat, 3) Valley District will restore the small area of temporary impacts to SBKR critical habitat (CM 13), and 4) the SBKR designated critical habitat within the Weaver basins site is unoccupied.

The analysis and conclusion in our 2017 Biological Opinion for sucker remain valid.

INCIDENTAL TAKE STATEMENT

The incidental take statement in our 2017 Biological Opinion is amended as provided below. The Incidental Take Statement provided here supersedes the one provided in the 2017 Biological Opinion. For comparison, the Incidental Take Statement is provided in Appendix C with the changes from our 2017 Biological Opinion indicated in bold and strikethrough text.

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened animal species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. The Service further defines “harm” to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the proposed protective measures and the terms and conditions of an incidental take statement and occurs as a result of the action as proposed.

The measures described below are non-discretionary and must be undertaken by the USEPA so that they become binding conditions of any grant or permit issued to the EVWD, for the exemption in section 7(o)(2) to apply. The USEPA has a continuing duty to regulate the activity covered by this incidental take statement. If the USEPA: (1) fails to assume and implement the terms and conditions, or (2) fails to require the EVWD to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the USEPA or EVWD must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

Santa Ana Sucker

The regulations for section 7(a)(2) clarify that the Service may use surrogates to express the amount or extent of anticipated take when “exact numerical limits on the amount of anticipated incidental take may be difficult” (80 FR 26832). The implementing regulations [50 CFR § 402.14(i)(1)(i)] require that the Service meet three conditions for the use of a surrogate. To use a surrogate, the Service must:

- 1. Describe the causal link between the surrogate and take of the listed species:**

The growth and survival of individual fish in a population depends on the physical and biological features of their niche habitat. Therefore, the physical features of water quality, flow, substrate, and sediment transport can be related to take of the SAS. Consequently, we consider a long-term deviation from the typical water quality parameters generally found within the Santa Ana River to be a reasonable surrogate. It

is anticipated that the reduction of aquatic habitat, reduced depth, and lower velocities associated with the reduction of 6.43 MGD to the Santa Ana River will result in incremental effects of sand deposition that will reduce SAS egg development/survival, increase egg predation, reduce fitness of adults that may expend more energy finding suitable spawning habitat, and reduce survival of SAS at all life stages.

2. Describe why it is not practical to express the amount of anticipated take or to monitor take-related impacts in terms of individuals of the listed species:

We cannot express the amount of anticipated take or to monitor take-related impacts in terms of individuals of the listed species for several reasons. Since the SAS is small, cryptic, and aquatic, detection of taken individuals is not always possible. Larvae of SAS may be too small to detect if taken. Taken individuals may be swept downstream, obscured by turbid waters, buried, or consumed by predators or scavengers shortly after death. The presence of aquatic vegetation may also hinder visibility and detection. Santa Ana sucker have a boom-bust population demographic and their numbers can vary widely from year to year.

3. Set a clear standard to determine when the proposed action has exceeded the anticipated amount or extent of the taking:

Take of SAS may be exceeded if the amount of acres of habitat is exceeded, or if the amount of water diverted from SAS habitat is exceeded.

The exact distribution and population size of SAS is difficult to estimate due to the dynamic conditions associated with their habitat and biology. Some SAS may be injured or killed as a result of the capture and relocation efforts during habitat node creation, during long-term monitoring, during electroshocking activities for predator removal, or for the purposes of salvage in City Creek or another translocation stream. Because we do not have site-specific data regarding the density of SAS at the site of the proposed action, the precise number of animals that will be affected by the proposed action is difficult to quantify. Nevertheless, based on the best available information, we have established the following take exemptions for SAS:

- IT 1. Death or injury of adult and/or young SAS from displacement due to channel constriction and habitat loss of up to 1.21 acres resulting from up to 6.43 MGD of discharge flow reduction from the RIX facility. The amount or extent of incidental take will be exceeded if more than 1.21 acres of aquatic habitat is permanently lost from discharge flow reduction.
- IT 2. Capture and relocation of all SAS from within construction areas during construction and/or reconstruction of six habitat nodes in the mainstem of the Santa Ana River. Incidental take will be exceeded if more than six SAS are injured or killed during capture and relocation activities during construction and/or reconstruction of the six habitat nodes (1 fish per node) in any one calendar year.

- IT 3. Capture of SAS from the Santa Ana River for translocation to the upper watershed or to supplement the captive-population, for purposes of breeding and subsequent relocation. Incidental take will be exceeded if more than 25 percent of the Santa Ana River population or 400 SAS per year are removed for translocation/relocation purposes, per the programmatic consultation on SAS recovery permits (USFWS 2015a).
- IT 4. Capture and measurement of SAS from the mainstem of the Santa Ana River and from the two new populations created in the species' historic range for long-term monitoring and management. Incidental take will be exceeded if more than six SAS are injured or killed during long-term species monitoring in the Santa Ana River watershed per calendar year, or a mean of two (2) fish per metapopulation.
- IT 5. Capture and relocation of all SAS for the purpose of salvage from drying habitat or other threats that subject them to imminent mortality. There is no limit on the numbers of SAS that may be relocated during salvage efforts.

EFFECT OF THE TAKE

In this biological opinion, we have determined the level of anticipated take is not likely to result in jeopardy to SAS, or adversely modify SAS critical habitat.

CONCLUSION

After reviewing the current status of the SAS, environmental baseline for the action area, effects of the proposed action, and cumulative effects, it is the USFWS's biological opinion that the proposed action is not likely to jeopardize the continued existence of SAS, or adversely modify SAS critical habitat. Our conclusion is based on the following:

1. The permanent loss of designated SAS critical habitat will be offset by the creation and maintenance of habitat nodes and cooling of summer water temperature in Rialto Channel; thus, the ecological function and values of designated critical habitat will be maintained in this unit and within the overall designation;
2. The enhancement of Santa Ana River aquatic and riparian habitats, reintroduction to portions of its historic range, and long-term management of existing and new populations to offset the displacement of SAS in the river by the proposed action will support the range-wide conservation (recovery) of SAS.

REASONABLE AND PRUDENT MEASURES

We have determined that the following reasonable and prudent measures are necessary and appropriate to minimize the impact of the incidental take of ~~SBKR~~ and Santa Ana sucker:

- RPM 1. The USEPA and or EVWD will monitor and report on compliance with the established take threshold for federally listed wildlife species associated with the proposed action.
- RPM 2. The USEPA and or EVWD will monitor and report on compliance with, and the effectiveness of, the proposed conservation measures for the Project.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the USEPA must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline monitoring and reporting requirements. These terms and conditions are non-discretionary.

To implement reasonable and prudent measure number 1 (monitor and report on compliance with established take thresholds), the USEPA and or EVWD will:

- TC 1.1 Ensure the Authorized Biologist(s) or Biological Monitor(s) who will trap or handle federally listed species are qualified and have been pre-approved by PSFWO for work on this Project.
- TC 1.2 Implement the CMs as specified in the Project description evaluated in this biological opinion. If the Biological Monitor detects impacts to federally listed species from Project-related activities in excess of that described in the above incidental take statement, the USEPA, EVWD, or the Biological Monitor will contact the PSFWO within 24 hours. At that time, the PSFWO and the USEPA or EVWD must review the circumstances surrounding the incident to determine whether additional protective measures are required. Project activities may continue pending the outcome of the review, provided that the proposed protective measures and any appropriate terms and conditions of this biological opinion have been and continue to be fully implemented.
- TC 1.3 If the amount of authorized take for any federally listed species as defined in the Incidental Take Statement is exceeded, the USEPA must reinitiate consultation, pursuant to the implementing regulations for section 7(a)(2) of the Endangered Species Act at 50 CFR 402.16, on the proposed action.

To implement reasonable and prudent measure number 2 (monitor and report on compliance with, and the effectiveness of, the proposed conservation measures), the USEPA or Valley District will:

- TC 2.1 Within 45 days of the completion of the proposed action, the USEPA or Valley District must provide a report to the PSFWO that provides details on the effects of the action on the federally listed species. Specifically, the report must include information on any instances when federally listed species were killed, injured, or handled; the circumstances of such incidents; and any actions undertaken to prevent similar instances from re-occurring.

- TC 2.2 Ensure USFWS personnel have the right to access and inspect the Project site during Project implementation (with prior notification from us) for compliance with the Project description, conservation measures, and terms and conditions of this biological opinion.

Santa Ana sucker

To implement reasonable and prudent measure number 1 (monitor and report on compliance with established take thresholds), the USEPA and/or Valley District will:

1. In addition to the CMs outlined in this biological opinion, when capturing and releasing any SAS found in the construction area, the Qualified Biologist will implement the following measures:
 - a. Only the use of fine mesh (2 to 4 millimeter) knot-less seine nets, fine mesh (4 to 6 millimeter) knot-less hoop nets, modified hoop nets, or similar traps, or dip nets of 0.5 millimeter or finer mesh will be used for capturing SAS.
 - b. Survey methods will be selected to minimize potential injury or mortality to SAS and potential disturbance or damage to breeding areas.
 - c. If seines are used, particular care will be taken to avoid incidental injury or mortality to SAS that may be caught and suffocated in algal mats or sand.
 - d. Care will also be taken to keep SAS in river water as much as possible and they should be released as close to the point of capture as possible.
 - e. Use of non-conventional sampling gear must first be approved by the PSFWO.
 - f. Electrofishing may be employed with the following restrictions upon following under the following conditions:
 - i. Electrofishing activities will not be conducted from March 1 through July 31.
 - ii. A Qualified Biologist will be the crew leader during electrofishing. The crew leader must have at least 100 hours of electrofishing experience in the field using similar equipment.
 - iii. The crew leader will provide basic training in electrofishing for the crew consisting of:
 1. Definitions of basic terminology (e.g., galvanotaxis, narcosis, and tetany).
 2. An explanation of how electrofishing attracts fish.

3. An explanation of how gear can injure fish and how to recognize signs of injury.
 4. A review of these terms and conditions as well as the manufacturer's recommendations.
 5. A demonstration of the proper use of electrofishing equipment, the role each crew member performs, and basic gear maintenance.
 6. A review of safety considerations.
- iv. Prior to conducting electrofishing activities, visual surveys will be conducted to search for small, young SAS. If more than 100 small SAS (less than 30 millimeters in total length) occur within the sampling site, electrofishing activities will not be conducted.
 - v. To avoid potential suffocation of SAS, electrofishing will not occur in areas where algal mats are located.
 - vi. All captured suckers collected and retained will be placed in river water in insulated, aerated, and covered containers. Temperature, dissolved oxygen levels, and fish behavior (e.g., fish gulping at the surface indicating low dissolved oxygen levels) should be recorded to ensure that ambient river water quality levels are maintained.
 - vii. Valley District or the Qualified Biologist will coordinate research or long-term monitoring activities with fisheries personnel from other agencies to avoid duplication of effort and unnecessary stress to SAS. Specific stream reaches will be electrofished no more than once every 3 months.
 - viii. Only direct current or pulsed direct current will be used.
 - ix. Each session will begin with pulse width and rate set to the minimum needed to capture SAS. These settings will be gradually increased, if necessary, only to the point where SAS are immobilized and captured. Initial pulse width will be no more than 500 microseconds and is not to exceed 5 milliseconds. Care will be taken when exceeding a pulse rate of 30 Hertz. In general, exceeding 30 Hertz will injure more fish.
 - x. Fish will be netted and removed from the electric fields as quickly as possible.
 - xi. Sampling will be terminated if injuries or abnormally long recovery times are observed.

- xii. Prior to activities that may involve handling SAS, all biologists will ensure that hands are free of sunscreen, lotion, or insect repellent.
 - xiii. Handling may involve taking length and weight measurements to assess size and age classes of individuals and fish health, and will require minimal exposure out of water. Bagged portions of seines and nets will remain in that water until all SAS are removed, or SAS will be transferred to shallow containers of clean water, aerated if necessary, and placed in a location that will not result in exposure to extreme temperatures.
 - xiv. Any SAS exhibiting signs of physiological stress will be immediately released at the point of capture or as close to that location as possible. All fish will be returned in good condition to the point of capture unless an adverse disturbance is occurring, in which case they may be relocated away from disturbance areas and moved to the nearest part of the stream with appropriate habitat. Nets may be used to temporarily preclude individuals from returning to the immediate capture site.
 - xv. In the event that the number of individuals allowed to be incidentally injured or killed is exceeded during the performance of permitted activities, the Qualified Biologist must immediately cease the activity until reauthorized by the Carlsbad Fish and Wildlife Office (CFWO) or PSFWO.
2. In addition to the CMs outlined in this biological opinion, when capturing SAS for captive rearing and translocation purposes, the Qualified Biologist will implement the measures discussed in the Draft Captive Breeding and Translocation Plan for Santa Ana Sucker (Dudek 2016a) and in the programmatic consultation for SAS recovery permits (USFWS 2015a) including but not limited to:
- a. A survey will be conducted to determine the general health of the donor SAS population prior to attempting collection for translocation purposes;
 - b. To maximize genetic diversity within a collected population, SAS will be taken from multiple locations (e.g., pools/sampling areas) within a stream, as feasible;
 - c. SAS will be visually examined for disease and signs of spawning (e.g., tubercles and lateral stripes). SAS with signs of disease, spawning, or behavior issues such as flashing or lethargy will not be used for translocation. In addition, fish with physical abnormalities, such as fungal lesions, white spot, skin hemorrhage or lesions, darkened skin, eroded fins, or excessive mucus production will also not be used in translocation.

REINITIATION NOTICE

Reinitiation of consultation is required and will be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

1. If the amount or extent of taking specified in the incidental take statement is exceeded;
2. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
3. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; or
4. If a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions about this biological opinion, or the consultation process, please contact [William Sherwin](#) of the Palm Springs Fish and Wildlife Office, 777 E. Tahquitz Canyon Way, Suite 208, Palm Springs, California 92262 at 760-322-2070, extension 409.

Sincerely,

KARIN

CLEARY-ROSE

For

Rollie White

Assistant Field Supervisor

Digitally signed by
KARIN CLEARY-ROSE
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