

Appendix E: National Marine Fisheries Service's Concurrence Memorandum

RECEIVED
BUREAU OF RECLAMATION
SCCAD
FPLSHQ CA

2008 OCT -3 A 11:15



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

September 30, 2008

In response refer to:
2007/05948

OFFICIAL FILE COPY

CODE	ACTION	SURNAME & DATE
420	JK	
424	SM	
422	PC	

DATE ACTION TAKEN

COPIES TO 424 rca. 10/3/08.
420

Michael Kinsey
Supervisory Wildlife Biologist
U. S. Department of the Interior
Bureau of Reclamation, South-Central California Area Office
1243 N Street
Fresno, California 93721-1813

Dear Mr. Kinsey:

Thank you for your February 29, 2008, letter requesting initiation of consultation pursuant to section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This response also serves as consultation under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended. These consultations pertain to the U.S. Department of the Interior's Bureau of Reclamation's (Reclamation) proposed Pacheco and Santa Clara Conduits/Tunnels Pipeline Maintenance Program (PMP) located mostly in Santa Clara County, California (Reclamation File No. SCC-424 ENV 7.00 San Felipe). We received your request on March 10, 2008, which included Reclamation's *Biological Assessment, Santa Clara Valley Water District-Pipeline Maintenance Program for the Pacheco and Santa Clara Conduits and Tunnels, EA-06-110*, and the June 2007 *Santa Clara Valley Water District Pipeline Maintenance Program*, prepared for Santa Clara Valley Water District (District) and Reclamation.

The proposed action is Reclamation's long-term (10-years plus) authorization of the District to perform 11 activities, which are listed below, on the Pacheco and Santa Clara Conduits/Tunnels. These activities are necessary to maintain proper function of the pipelines. Both pipelines and tunnels are owned by Reclamation, but are operated and maintained by the District. The District, designated by Reclamation as the non-federal representative (50 CFR 402.08) for the Pacheco and Santa Clara Conduits/Tunnels PMP, is also proposing to implement the District PMP on 21 pipelines owned by the District. Reclamation's February 29, 2008, letter requesting initiation states they have no authority over the maintenance or operation of those pipelines and therefore are not requesting consultation on District-owned facilities. Although Reclamation has no authority over the District's pipelines, once consultation is triggered (by Reclamation taking a discretionary action), NOAA's National Marine Fisheries Service (NMFS) is required to assess the effects of interrelated and interdependent actions as well (50 CFR 402.02, and 402.14). Given that the maintenance program for the pipeline system maintained by the District depends



ENV-7.00
Project CVP-0A
Control No. 08070784
Folder ID. 1054388-1

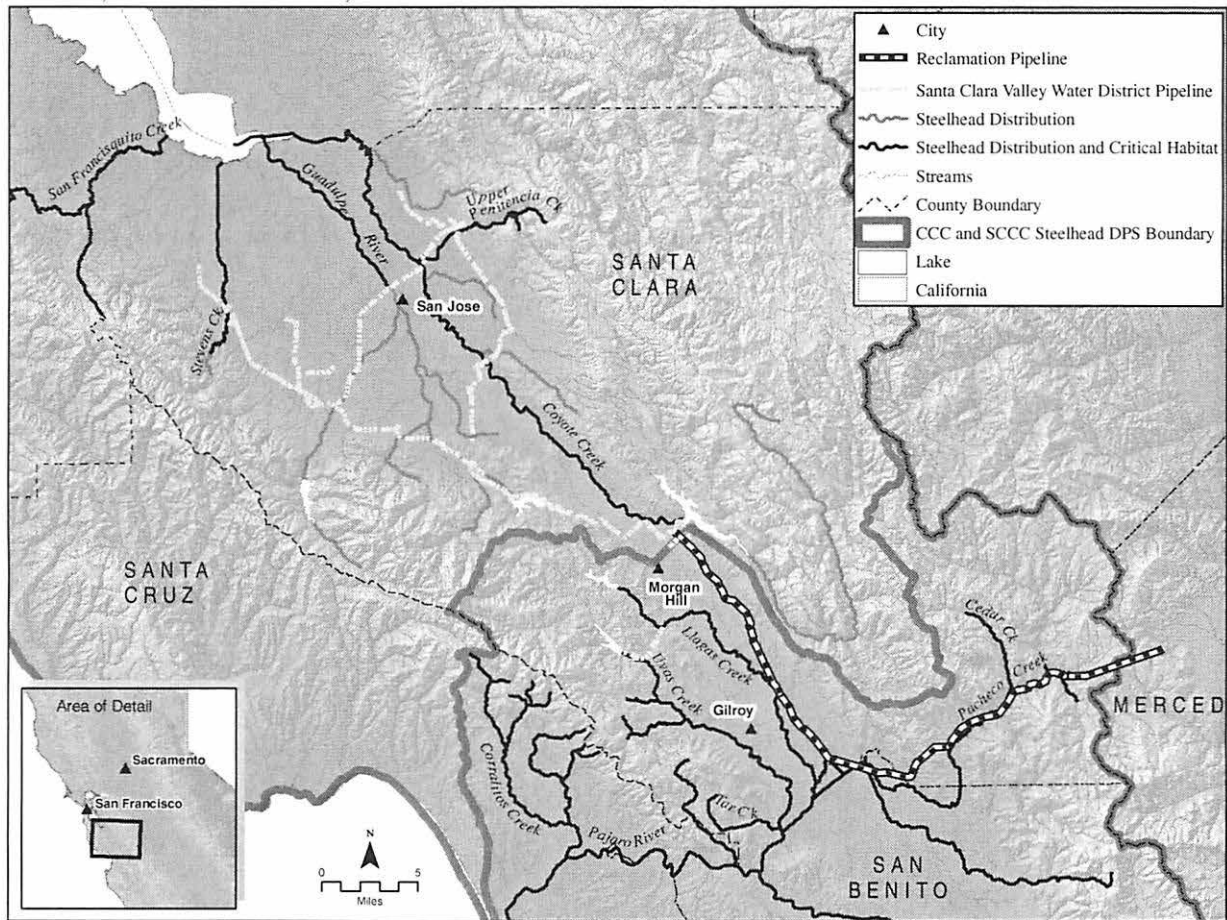


ENTERED OCT - 3 2008

on the Pacheco and Santa Clara Conduits/Tunnels PMP as an integral part, NMFS has determined that the District PMP is an interdependent action with the Pacheco and Santa Clara Conduits/Tunnels PMP for purposes of this consultation. Thus, we must analyze the effects of the entire maintenance project (*i.e.*, the Pacheco and Santa Clara Conduits/Tunnels PMP and the District PMP).

For this consultation, we are not analyzing water operations because they have been, or will be, subject to ESA section 7 or section 10 processes. The Pacheco Conduit and Tunnel is 15 miles long and the Santa Clara Conduit and Tunnel is 22.1 miles long. The Pacheco and Santa Clara Conduits/Tunnels lie mostly within Santa Clara County, but part of the Pacheco Conduit is in western Merced County and part of the Santa Clara Conduit is in northern San Benito County (Figure 1).

Figure 1. Map of Bureau of Reclamation and Santa Clara Valley Water District Pipelines, Santa Clara, San Benito, and Merced Counties, California.



Reclamation has determined the Pacheco and Santa Clara Conduits/Tunnels PMP will not affect the following species or their designated critical habitat: Central California Coast (CCC) Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*), Central Valley DPS steelhead, Central Valley spring-run Evolutionarily Significant Unit (ESU) Chinook salmon (*O. tshawytscha*), or Sacramento River winter-run ESU Chinook salmon. Reclamation has

determined five of the activities' subtasks identified in the PMP may affect Federally threatened South-Central California Coast (S-CCC) DPS steelhead and their critical habitat.

Reclamation's pipelines are only in watersheds supporting S-CCC steelhead (a portion of the Pacheco Tunnel is located in western Merced County which lies outside of any DPS or ESU). Reclamation's pipelines are located in rural environments and cross several creeks and drainage systems. The Pacheco Conduit is crossed by Pacheco Creek and Elephant Head Creek. The conduit has two isolatable sections and water can be drained from the pipeline at 21 different points along the pipeline into either Pacheco Creek or Elephant Head Creek.

The following 11 activities were included in Reclamation's request for consultation:

1. Air Release Valve Maintenance
2. Leak Repair
3. Cathodic Protection/Corrosion Control and Monitoring
4. Internal Inspection
5. Replacement/Repair of Buried Service Valves (including valves within creek embankments)
6. Replacement/Repair of pipeline segments
7. Replacement/Repair of appurtenances, fittings, manholes and meters
8. Vault maintenance
9. Telemetry Cable/Supervisory Control and Data Acquisition (SCADA)
10. Access Road Repairs
11. Bank Stabilization

Each of these activities is comprised of subtasks, which are the individual steps involved in completing the overall activity. Subtasks are common to several of the 11 activities, but only five subtasks – Staging and Access, Draining, Excavation, Repair, and Bank Stabilization (discussed below) – may affect S-CCC steelhead and their critical habitat.

The PMP is anticipated to begin in January 2009 and activities could occur throughout any given year. As described below, Reclamation has proposed minimization measures and best management practices (BMPs) applicable to S-CCC steelhead and critical habitat that may be affected by the proposed action. Because the proposed action is long-term (10-years plus) we have listed the minimization measures and BMPs for easy reference.

1. Maintenance staging and access

Staging areas are project-specific. The District will use previously disturbed areas for staging, such as paved or gravel parking lots and roads, to the greatest extent possible. Site preparation is not usually required, although vegetation may be need to be cut back from existing roads or gravel may be reapplied to the road base.

Excavations of various sizes may be needed to maintain the access roads. This could range from filling pot holes to drainage and erosion control, shoulder and slope repair, or regravelling of existing private access roads. Access road excavations could be very small (*e.g.*, to repair a pot

hole or shoulder slump), or involve larger, linear excavations to install or replace culverts or drainage ditches, or non-specific larger excavations to repair slope failures for elevated access road fills.

Off-road vehicle access is sometimes necessary (*e.g.*, to reach pipes, vaults, blow-offs and pipeline structures not located along existing road or access trails). Off-road vehicle access is planned in advance of operations and the route is defined to avoid sensitive resources. A qualified biologist stakes the route in areas of sensitive resources.

Access and staging activities could result in erosion thereby affecting primary constituent elements (PCEs) of critical habitat, including freshwater spawning, rearing and migration habitat. Reclamation proposes the following BMPs and minimization measures to avoid and minimize impacts to S-CCC steelhead and their critical habitat.

- **BMP Geology – 1.** In considering access routes, slopes of greater than 20 percent will generally be avoided if possible. Subsequent to access, any sloped area will be examined for evidence of instability and either revegetated or filled as necessary to prevent future landslide or erosion.
- **Minimization Measure Hydrology – 1.** For all exposed earthen areas, once the maintenance activity is complete or during the appropriate time of year, an erosion control seed mix shall be used, compatible with the surrounding environment, consisting of California native grasses; a sterile form of ‘Zorro’ Annual Fescue, or another sterile form of a quick growing species may be added to the mix where slopes are steeper (*e.g.*, 2:1).
- **Minimization Measure Biology – 8.** For any staging and access and/or excavation in any critical habitat area, a biological monitor will be present to oversee work and will have the authority to stop operations if any threat to critical habitat is presented. This measure will be implemented to avoid or minimize any potential erosion or sedimentation from staging and access and would avoid critical habitat from those subtasks.
- **BMP Hydrology – 1.** Access shall be provided as close to the work area as possible, using existing ramps where available and planning work site access so as to minimize disturbance to the creek bed, creek banks, and the surrounding land uses.
- **BMP Hydrology – 3.** Erosion control matting or fabric shall be installed if necessary.
- **BMP Hydrology – 4.** Temporary fills, such as for temporary roads, access ramps, diversion structures, or cofferdams, shall be removed upon finishing the work.
- **BMP Hydrology – 12.** Existing access ramps and roads to streams shall be used where possible. If temporary access points are necessary, they shall be constructed in a manner that minimizes impacts to streams.

- **BMP Hydrology – 13.** Where practicable, a vegetated buffer strip will be maintained between staging/excavation areas and receiving waters.
- **BMP Hydrology – 14.** Erosion control measures shall be utilized throughout all phases of the operation where sediment runoff from exposed slopes threatens to enter waters of the State. At no time shall silt laden runoff be allowed to enter water of the State.
- **BMP Hazards – 4.** Measures shall be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means. Prior to entering the work site, all field personnel shall know how to respond when toxic materials are discovered. The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations shall be conducted in accordance with applicable State and federal regulations.
- **BMP Hazards – 5.** Spill prevention kits shall always be in close proximity when using hazardous materials (*e.g.*, crew trucks and other logical locations). Prior to entering the work site, all field personnel shall know the location of spill kits on crew trucks and at other locations within District facilities. All field personnel shall be advised of these locations and trained in their appropriate use.
- **BMP Hazards – 6.** All equipment will be properly maintained and inspected for leaks daily before start of work. No fueling shall be done in a stream channel or immediate floodplain, unless equipment stationed in these locations is not readily relocated (*i.e.*, pumps, generators). For stationary equipment that must be refueled on-site, containment shall be provided in such a manner that any accidental spill of fuel shall not be able to enter the water or contaminate sediments that may come in contact with water. Any equipment that is readily moved out of the channel shall not be fueled in the channel or immediate floodplain. All fueling done at the job site shall provide containment to the degree that any spill shall be unable to enter any channel or damage stream vegetation.
- **BMP Hazards – 7.** The District shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels. District vehicles shall be washed only at the approved area in the corporation yard. Field personnel shall be appropriately trained in spill prevention, hazardous material control, and clean up of accidental spills. No fueling, repair, cleaning, maintenance, or vehicle washing shall be performed in a creek channel or in areas at the top of a channel bank that may flow into a creek channel.
- **BMP Hazards – 8.** No washing of vehicles shall occur at job sites.
- **BMP Hazards – 9.** Debris, soil, silt, rubbish, creosote-treated wood, raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic life, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials placed within or where they may enter a stream or lake shall be removed immediately.

- **BMP Hazards – 10.** All equipment shall be stored in a secure area away from the channel. Quantities greater than 55 gallons will be provided with a secondary containment capable of containing 110 percent of the primary container. During the period between October 15 and April 15 (and depending on rain patterns, could include before and after these dates as well), all equipment fluid storage areas will be provided with an impermeable cover to prevent contact with storm water.

2. Draining (Discharge)

The District conveyance systems were designed with vaults, turnout piping, and blow-offs to allow drainage of sections of the pipelines. Valves are closed to divert water from the main pipeline into blow-offs that eventually flow to a surface discharge point. Surface discharge points all vary in design and structure as well as discharge site. The procedure for discharge depends on the area of discharge.

Discharge into Turnouts. Waters from within the pipeline is initially discharged into turnouts where possible. Turnouts are locations where customers receive water or locations that discharge into percolation ponds. According to Reclamation's biological assessment, discharge into percolation ponds is conditionally exempt under the Municipal Stormwater National Pollution Discharge Elimination System (NPDES) permit (Order No. 01-124) for Santa Clara County and planned and unplanned discharges from potable water sources are allowable under the District's Water Utility Discharge Pollution Prevention Plan, Provision C.8.a.

Discharge into Local Waterways. Discharge into local waterways occurs after discharge to turnouts, such as groundwater recharge facilities (*i.e.*, percolation ponds). A number of discharge blow-off structures have been installed near natural waterways. Discharge into waterways is accomplished first by gravity flow out of blow-off points, then by actively pumping out residual water. Approximately 80 percent of water can be discharged by gravity flow through blow-off points. Once gravity flow is complete, submersible pumps are used to completely empty the pipelines. Pump-out locations are geographically located between gravity flow blow-off locations, although pump-out also occurs at the blow-off locations once water levels become low enough that gravity flow halts. Maximum pump capacities range from 3.3 cubic feet per second (cfs) to 11 cfs.

The amount of discharge depends on the season, length of pipe isolated, the topography of the pipeline, and the amount of water that can be discharged into recharge facilities or turnouts. Flow rates are pulsed (valves are opened and closed to limit the amount of water flowing out) so as to minimize scouring and effects of rapid water level increase and decrease. Flow rates can be controlled manually to between 0-20 cfs out of gravity flow blow-offs by manipulating valves. Discharge water passes through underground and above-ground energy dissipaters in order to further reduce velocity. The discharge rate is ramped up slowly such that the buildup of water in any streams or rivers is gradual and scouring of the channel bed and ground surface does not occur.

Discharge into Open Fields and Wetlands. Discharge can occur onto open areas (such as fields) and to seasonal wetlands (under conditions of the Environmental Impact Report, Regional Water

Quality Control Board [RWQCB], and California Department of Fish and Game [DFG]). Discharged water recharges into the groundwater supply or flows to the closest stream to the point of release. Although sometimes necessary, discharge to dry soil is mostly discouraged and is not common for large volumes of water. Small amounts of water, particularly for pipeline gradient drips under roads or other structures, are sometimes drained through pumping out of water by removing air release valves or blind flanges.

Water Quality Testing. Turbidity testing is performed for all discharges into streams or other water channels. The turbidity analysis is conducted within 100 feet upstream and downstream of the discharge location according to the following protocol (with some permitted exceptions in which this may be relaxed, such as during overnight discharge):

- Discharge through 60 minutes – turbidity reading every 15 minutes.
- Greater than one hour – turbidity reading every hour

If readings downstream of the discharge point are over five nephelometric turbidity units (NTUs) above background levels measured upstream of the discharge point, discharge flow velocity and/or volume is reduced to lower readings or discharge is discontinued by closing the blow-off valves and notifying supervisors. In situations where upstream turbidity is already above 50 NTUs, downstream readings should be within 10 percent of the upstream reading.

Drainage schedule. Total drainage time is a function of the discharge water volume and the flow rate at which it is expelled. Discharge can last from a few hours to a few days. Flow rates are pulsed so as to minimize scouring and effects of rapid water level increase and decrease. The discharge rate is ramped up slowly such that the buildup of water in the channel is gradual and scouring of the channel bed or ground surfaces, or flooding of stormwater drains does not occur. Occasionally, active pump-out may be necessary throughout the inspection process if any isolation valves have leaks in order to maintain safe working conditions within the pipeline. Discharge would preferentially be performed during the winter months.

Draining could affect steelhead and PCEs of critical habitat, including freshwater spawning, rearing and migration habitat. Reclamation proposes the following BMPs and minimization measures to avoid and minimize impacts to S-CCC steelhead and their critical habitat.

- **Minimization Measure Biology – 16.** Pipeline discharge for maintenance work would preferentially be performed during winter months, when storm events are more common and when stream flow is naturally highest. Discharge flows are then a minimal portion of overall stream or river flow. If draining must occur during the summer or fall, a slow release is mandatory to ensure receiving waters do not experience a temperature change greater than two degrees Fahrenheit in either direction, and overall receiving water does not exceed 68 degrees Fahrenheit in streams supporting steelhead.
- **BMP Hydrology – 15.** Regional Water Quality Control Board objectives for temperature change in receiving waters (measured 100 feet downstream of discharge point) shall not be exceeded. Receiving water and discharge water will be monitored for temperature

changes if a comparison of ambient temperature to pipeline water temperature suggests the potential for change.

- **BMP Hydrology – 6.** Discharge rates will be ramped up slowly (estimated ramping rate of 0.25-0.50 cfs) such that the increase in flow rate in the receiving water is gradual and scouring of the channel bed and banks does not occur.¹
- **Minimization Measure Hydrology – 3.** The discharge location and receiving water will be observed by an individual trained to detect signs of erosion. If erosion is evident, flow rates will be reduced. If erosion continues to occur, discharges will be terminated until appropriate erosion BMPs are installed. Monitoring will be conducted just prior to the start of the discharge and regularly (*i.e.*, every hour, every four hours, every eight hours) during the discharge. Monitoring frequency will depend on the nature of the discharge and the erosion in the area.
- **Minimization Measure Biology – 17.** Temporary fish screens shall be applied to any primary or secondary or side channel that could receive pipeline flows, causing attractant flows that will subside once draining is complete. Screen designs will be approved by a qualified biologist to ensure that appropriate material is used so as not to injure fish. Screen design and construction will depend upon the channel and available technology/techniques, but could consist of nylon mesh in a wooden frame, a triangular frame with a soft nylon or wire mesh placed in the water, *etc.* Screens will be periodically monitored for debris and removed after project completion and stabilization of water levels.
- **BMP Hydrology – 9.** Velocity dissipation devices can be installed at frequently used discharge sites to reduce flow velocities and capture sediment. These devices typically combine planting of willows with placement of angular stone riprap on top of filter fabric to create an apron at the discharge point. Where this BMP is recommended for permanent stabilization of existing erosion, minor grading may be necessary. Design and layout recommendations in the Construction Volume of the California Stormwater BMP Handbook² will be followed to the extent possible. Preference will be given to use of bioengineered devices whenever possible. Gabions shall not be used in salmonid streams.
- **BMP Hydrology – 10.** Temporary flow path check filters can be placed at single or multiple locations along the flow path to remove sediment from discharges and slow the rate of flow. Check filters are constructed of rock, sandbags, fiber rolls, or equivalent materials, and will be installed following recommendations in the Water Utility Discharge Pollution Prevention Plan (WUDPPP) and the California Stormwater BMP Handbook. Each check filter will be modified with a notch or low spot to direct the flow path and prevent discharges from flowing around the sides of the check filter. Sediment

¹ As a general rule, initial discharge rates are 1 cfs. Discharge rates are then ramped up 0.25-0.50 cfs every 10 minutes. Discharge rates are not expected to reach 10 cfs where the bed or bank is not armored with a concrete apron or a similar protection measure.

² California Stormwater Quality Association. 2003. <http://www.cabmphandbooks.com/Construction.asp>.

that becomes trapped behind the check filters will be carefully removed to avoid disturbing the channel or swale and disposed of appropriately. Flow path check filters are typically applied where discharges to upland areas are planned. In channel settings, the temporary installation of flow path check filters will likely require a Streambed Alteration Agreement from California Department of Fish and Game and a Section 401 Clean Water Act certification, both likely requiring that certain provisions are followed (*i.e.*, use of check path filters restricted to use when there is no flow in a creek).

- **BMP Hydrology – 5.** Discharge volume reduction options (such as performing maintenance activities with partially full pipelines, employing sectioning valves, and/or opportunities for reuse of water) will be considered prior to draining the pipeline.
- **BMP Hydrology – 20.** An individual trained in monitoring water levels will observe flows in the receiving waters. If it appears that discharges are approaching channel capacity in the channel or any structure within the channel, discharge rates will be reduced.
- **Minimization Measure Biology – 18.** In areas where temporary velocity dissipators are proposed for installation, the area will first be surveyed by a qualified biologist to ensure that no steelhead fry or eggs are present with 500 feet upstream and downstream of the proposed structure. If fry or eggs are found and could be impacted by placement of flow dissipation BMPs, then the discharge point would either not be used, be redirected upstream in a cleared area (such as with a hose), or discharge will not occur until the eggs and/or fry have moved from the area.
- **Minimization Measure Hydrology – 2.** The WUDPPP Guidance Manual shall be followed for all discharges as appropriate. To minimize erosion, the Erosion Control BMPs shall be implemented as directed by the WUDPPP.
- **Minimization Measure Hydrology – 4.** An environmental monitor will walk along each discharge drainage to the termination of the drainage or 500 feet downstream to inspect for erosion after a draining is complete. If erosion is detected, restoration measures will be taken to correct the erosion. Correction measures shall include recontouring the land to its previous state and revegetating with the appropriate native grass species in the area, if necessary.
- **BMP Hydrology – 7.** Flows will be diverted around sensitive, actively eroding, or extremely steep areas to prevent erosion. Flow diversion methods might include use of flexible piping and/or placement of sandbags to alter flow direction, or equivalent measures. The new flow path and discharge point will be monitored for signs of erosion.
- **BMP Hydrology – 8.** To protect exposed soil and vegetated surfaces from erosion, erosion control blankets, mats, or geotextiles will be placed over the erodible surface. A number of materials are available ranging from straw blankets to synthetic fiber with netting. The blanket can be removed following completion of the discharge or left in

place to provide a more permanent means of erosion control. If netted material is used, it would be removed immediately after use.

- **Minimization Measure Hazards – 1.** The District uses herbicides as part of their Stream Maintenance Program. During the planning phase for activities that involve discharge, project coordinators shall contact the group implementing the pesticide application to verify that no temporal or spatial overlap in discharge and pesticide application would occur. Information on pesticide application will be included in the project-specific plan.
- **Minimization Measure Biology – 20.** During pipeline draining, wedge wire screens will be placed over the discharge openings of gravity drain gates and on the suction and discharge piping of any submersible pumps used for pipeline discharge to minimize discharge of non-native species.
- **“New BMP”.** In cases where sections of stream that would receive discharge are dry, receiving waters will be monitored to quantify distance of re-watering. In order to avoid steelhead stranding, discharge rates will be implemented to avoid hydrologic connectivity; monitoring will be conducted to ensure there is no connectivity.

3. Excavation

Steelhead and their habitat could be affected by excavation activities that cause sedimentation in nearby waterways. Reclamation proposes the following minimization measures and BMPs to avoid and minimize impacts to S-CCC steelhead and their critical habitat.

- **Minimization Measure Geology – 1.** Excavation plans shall identify any areas where slope stability may be impacted by excavation activities. In areas of potential slope stability problems, measures to stabilize the slope during excavation shall be taken, such as cutting benches instead of large slopes, and using temporary reinforcement materials. After excavation is complete, the area shall be revegetated and repaired to ensure slope stability.
- **Minimization Measure Hydrology – 5.** Prior to any ground disturbing work, the District shall prepare an Erosion Control Plan to be included in the Excavation Plan. At a minimum, the plan shall include: a proposed schedule of grading activities; identification of any critical areas of high erodibility potential and/or unstable slopes; contour and spot elevations indicating runoff patterns before and after grading; identification of erosion control measures on slopes, lots, and streets (measures will be based on recommendations contained in the 2002 “Erosion and Sediment Control Field Manual” published by the San Francisco RWQCB. Erosion control measures such as placement of silt fencing or straw wattles shall be utilized to prevent sedimentation from runoff from graded surfaces into any waterways or wetlands); soil stabilization techniques such as short-term biodegradable erosion control blankets and hydroseeding; and post excavation inspection and cleaning of drainage facilities for accumulated sediment.

- BMP Hydrology – 18. Receiving water will be monitored for dissolved oxygen and pH to ensure that relevant Basin Plan standards are not violated for at least the initial release in each receiving water body or as required in NPDES permits issued by RWQCB. Data shall be reported to the RWQCB as required.
- BMP Hydrology – 11. Streambank stabilization measures (such as biostabilization with willow plantings, hydroseeding, and placement of riprap) will be employed where excavation projects disturb stream channels and their associated riparian areas. Streambank stabilization measures will be site specific and may be described in the DFG Streambed Alteration Agreement. Design and installation recommendations for several methods are described in the California Stormwater BMP Handbook. Preference will be given to use bioengineered techniques whenever possible.

4. Repair

Repair work will only occur within the pipelines themselves or in excavated areas. Steelhead and their habitat could be affected by repair activities that cause sedimentation in nearby waterways. Reclamation proposes the minimization measures listed above under 3. *Excavation* to avoid and minimize impacts to S-CCC steelhead and their critical habitat.

5. Bank Stabilization

Bank stabilization activities will be conducted pursuant to NMFS' February 14, 2007, concurrence letter to the U.S. Army Corps of Engineers (Corps) for eight categories of actions regularly permitted by the Corps (NMFS File No. 151422SWR2007PR00054). The requirements listed below are expected to avoid and minimize impacts to steelhead and critical habitat.

- **General Requirements:** In general, the streambed within the work area and access routes must be outside of flowing or standing water. With prior NMFS approval (see special notification requirements), projects that are proposed to occur in flowing or standing water in streams where listed salmonids are likely to be absent during the construction period may proceed if the project area can be isolated by placing silt fences and sand bags between the repair and live stream in order to prevent sediment input to the stream. Operations shall cease if flows rise above the silt fence levels. Dewatering shall not be used to obtain dry conditions. Except for project footprint and access routes, the bed and banks shall be undisturbed.
- **New Bank Stabilization:** New bank stabilization refers to areas that did not previously contain any type of manmade structure designed to stabilize the bank or protect against erosion. Projects shall not exceed 200 linear feet of stream bank or 1,000 square feet in area.
 - i. **Work Window:** June 15 through October 15

ii. **Specific Requirements:** Only bioengineering techniques intended to create shaded riverine aquatic habitat, accumulate sediments, and increase in-stream habitat complexity may be used. Bio-technical projects emphasize the use of live plant material in the construction of durable erosion control structures. Projects should be designed to begin the process of naturally restoring the streambank's plant and animal community. Approaches that widen the floodplain area or the margin of the river channel near the low flow water surface and at the toe of the bank are encouraged. Design should emphasize the use of natural and local building materials, *e.g.*, stone, gravel, sand, soil, wood, branched logs, and native plants. Rock rip rap may be used in limited and discrete areas such as fill in a toe trench at the base of the bank and further up the bank where shear stress during high stream flow events are greatest (not to exceed bankfull level). Any rock used should have as small a diameter as possible, be used sparingly, and be capped with sediment and native vegetation as part of the design. Projects that rely solely on rock rip rap for bank protection are not allowed. Gabions, concrete mats, tires, and rubble may not be used. Cables may be used to anchor large woody debris. Natural drainage patterns should be considered and incorporated into the design where appropriate.

iii. **Special Notification/Assistance:** Projects that are proposed to occur in flowing or standing water based on the absence of listed salmonids must provide the rationale for species' absence and to obtain concurrence from NMFS.

If grade control structures on salmonid streams are included, technical assistance from NMFS is required.

- **Repair, Replacement, or Maintenance of Existing Bank Stabilization:** Replacement of failing or damaged bank stabilization with rip-rap (no grouting or concrete mats) is allowed. Replacement with gabions, grouted rip-rap, debris (car bodies, pipe and tire revetments, *etc.*) is not allowed. The footprint of the repaired, replaced, or maintained bank stabilization must not exceed existing footprint.

i. **Work Window:** June 15 through October 15

ii. **Specific Requirements:** Replacement with bioengineering techniques is encouraged. Rock rip-rap may be replaced with ungrouted rip-rap only. No new gabions, concrete mats, tire walls, car bodies, *etc.* are allowed. Rock rip-rap must include planting of native vegetation. Willow cuttings or other native plants shall be placed in spaces between rocks/boulders – an average of one plant per square meter of bank stabilization. Rip-rap must be adequately sized for a 100-year flow event. Toe trenches may be used.

iii. **Special Notification/Assistance:** If grade control structures on salmonid streams are included, technical assistance from NMFS is required.

District PMP

The District's pipelines are located in watersheds supporting CCC and S-CCC steelhead and their respective critical habitat. The District maintains 14 raw water pipelines and 9 treated water pipelines, which includes the 2 raw water pipelines under ownership of Reclamation. The District's pipelines are located in Santa Clara County.

The District conducts routine maintenance on several different water conveyance pipeline systems. The District's PMP identifies the range of maintenance activities and provides protocols and procedures for carrying out these activities; including conveyance system inspection, repair, and preventative and corrective maintenance.

The PMP is designed to provide long-term (10-year) guidance to the District staff to implement routine and preventative maintenance on its water conveyance systems. The maintenance is required to meet the District's obligations of reliable water service and delivery. The routine and preventative maintenance activities addressed in the PMP address both raw and treated water conveyance systems. Treated water includes chlorinated, post-process water from treatment facilities that is distributed to retailers at turnouts. Raw water sourced from reservoirs is transferred to water treatment facilities and is also transported to groundwater recharge facilities (such as percolation ponds) throughout Santa Clara County.

Age, wear, corrosion, leaks, and integrity loss due to seismic activity and other geologic processes all contribute to the degradation of the systems as time progresses. Preventative and corrective maintenance is performed to maintain adequate system functionality and to ensure safe, reliable water delivery. A number of different maintenance activities must be performed on the facilities, both on a defined schedule as preventative maintenance and on an as-needed basis as corrective maintenance. Maintenance can include inspections, replacement of pipeline or other components, leak repairs, replacement of appurtenances, and often requires isolation and draining of sections of pipeline to allow for this work. Pipelines were designed with special blow-off structures to allow for draining in order to do maintenance work. The discharge structures vary from location to location but usually occur near an existing waterway or drainage facility (such as a storm drain).

Under the District's PMP, they will be conducting the same 11 activities, with the same subtasks, on their pipelines as they would be conducting on Reclamation's pipelines (see above). The District's BMPs and minimization measures applicable to CCC and S-CCC steelhead and their critical habitat are the same as Reclamation's and include treated water pipelines.

Treated water pipelines carry potable water that has been disinfected with chloramines. Discharge of water from treated water pipelines could introduce chloramines, chlorine, ammonia or trihalomethanes (THMs) into waterways if proper procedures are not used. THMs form when water high in organic carbon is treated with chlorine; use of chloramines reduces the potential for THMs to form.

The District uses either sodium bisulfite or calcium thiosulfate to dechlorinate discharges from treated water pipelines. If applied in too high concentrations, these chemicals could deplete

dissolved oxygen or alter pH levels in receiving waters and cause violations of standards. Effects to fish and other aquatic species could result from depleted dissolved oxygen or large changes in pH. The District proposes to implement the following measures to reduce or avoid potential impacts to water quality during the draining of treated water pipelines:

- District BMP Hyrdology – 16. To control chlorine in discharges of potable water, neutralization chemicals will be added to the discharged water prior to release to the storm drain or creek. Guidelines pertaining to the amount of neutralization chemical required are provided in the PMP and in the WUDPPP. A Refilling Plan that includes procedures for disinfection will be developed prior to conducting maintenance activities on treated water pipelines.
- District BMP Hydrology – 17. Chlorine and ammonia levels in both the discharge water and receiving water will be monitored by a trained individual to verify that no residual disinfection chemicals remain in excess of standards established in the San Francisco Bay Basin Plan. Monitoring will be performed in the receiving water 100 feet downstream of the project site in streams and 50 feet downstream in lakes. It will take place immediately prior to the discharge and periodically through the discharge. If at any time monitoring indicates standards are being exceeded, discharge would be halted to determine the reason for exceedance and adjustments would be made to ensure that standards are not exceeded.
- District BMP Hydrology – 18. Receiving water will be monitored for dissolved oxygen and pH to ensure that relevant Basin Plan standards are not violated in each receiving water body or as required in NPDES permits issued by RWQCB. Data shall be reported to the RWQCB as required.

Conclusion

Reclamation proposes a long-term (10-years plus) authorization of the District to perform 11 activities on the Pacheco and Santa Clara Conduits/Tunnels which are owned by Reclamation, but are operated and maintained by the District. The District also proposes a PMP that is designed to provide long-term (10-year) guidance to the District staff to implement routine and preventative maintenance on its water conveyance systems. We have analyzed the effects of Reclamation's PMP and the interdependent District's PMP on listed species and critical habitat.

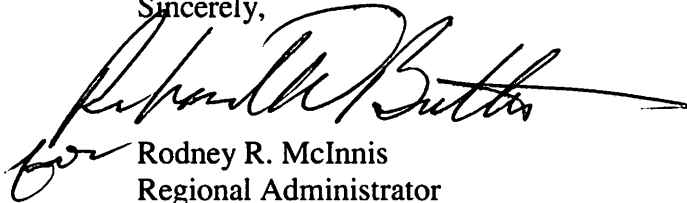
Primary constituent elements of designated critical habitat in the project area include freshwater spawning and rearing sites, water quality and quantity, cover, shelter, and migration corridors free of obstruction. Potential effects to designated critical habitat include short-term disturbance to the bed and bank resulting in erosion, changes in stream temperatures, turbidity and sedimentation. Based on BMPs and minimization measures that will be implemented (*e.g.*, flows will be diverted around sensitive, actively eroding, or extremely steep areas to prevent erosion), the level of disturbance to the streambed, bank and water quality is expected to be minor and the project is not expected to degrade PCEs of critical habitat.

Adult and juvenile steelhead may be present during project activities. Based on BMPs and minimization measures that will be implemented (*e.g.*, to protect exposed soil and vegetated surfaces from erosion, erosion control blankets, mats, or geotextiles will be placed over the erodible surface), turbidity and sedimentation that may be caused by this project are expected to have insignificant impacts to steelhead. Any changes in stream temperature are expected to be minor and temporary and are expected to have insignificant impacts to steelhead (*e.g.*, if draining must occur during the summer or fall, a slow release is mandatory to ensure receiving waters do not experience a temperature change greater than two degrees Fahrenheit in either direction, and overall receiving water does not exceed 68 degrees Fahrenheit in streams supporting steelhead).

Based on the best available scientific information, and considering the effects of the Reclamation's Pipeline Maintenance Program together with the effects of the interdependent District Pipeline Maintenance Program, NMFS has determined Reclamation's Pipeline Maintenance Program and the District's Pipeline Maintenance Program are not likely to adversely affect threatened S-CCC and CCC steelhead or their designated critical habitat. This concludes consultation in accordance with 50 CFR 402.13(a) for the proposed Pacheco and Santa Clara Conduits/Tunnels Pipeline Maintenance Program. Further consultation regarding the proposed project may be required if: (1) new information becomes available indicating that listed species may be adversely affected by the project in a manner or to an extent not previously considered, (2) current project plans change in a manner that affects listed species or critical habitat that was not previously considered, or (3) a new species is listed or critical habitat designated that may be affected by the action. Pursuant to FWCA, NMFS has no comments to provide.

Please contact Mr. Bill Stevens at (707) 575-6066, or via e-mail at William.Stevens@noaa.gov, if you have any questions concerning this consultation.

Sincerely,



Rodney R. McInnis
Regional Administrator

cc: Russ Strach, NMFS, Sacramento
Shauna McDonald, Reclamation, Fresno
David Matthews, Santa Clara Valley Water District, San Jose
Ryan Olah, U.S. Fish and Wildlife Service, Sacramento
Chuck Armor, California Department of Fish and Game, Yountville
Copy to File - ARN 151422SWR2007SR00416