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Mr. Tom Barnes
Environmental Science Associates
626 Wilshire Boulevard, Suite 1100
Los Angeles CA 90017



Submitted via email: tbarnes@esassoc.com

Re: Comment Letter in response to Notice of Preparation of EIR for San Juan Watershed Project

The Santa Margarita Water District (SMWD), in conjunction with South Coast Water District (SCWD), is proposing to implement a multi-phase San Juan Watershed Project (Project) that would develop facilities to manage surface water resources to enhance groundwater resources of the San Juan Basin. The first phase includes installation of three rubber dams within San Juan Creek and/or Arroyo Trabuco Creek to enhance in-stream groundwater recharge with captured stormwater. The San Juan Creek Watershed is located primarily within Orange County and covers 176 square miles and has a stream length of 29 miles (San Juan Creek Watershed Workplan 2013). Its major tributary is Trabuco Creek, which covers 54 square miles and extends 23 miles into the rugged Santa Ana mountains in the Cleveland National Forest.

This letter presents two main comments with specific points and background regarding scope and content of environmental information being requested for evaluation in the Environmental Impact Report (EIR) in response to the Project's potential negative impact on endangered Southern California steelhead and other native aquatic species in the San Juan Creek watershed.

Comment 1: The EIR and project design options should discuss and analyze potential impacts of the Project on the following: adequate juvenile (downstream) fish passage, adequate upstream passage for adult steelhead during the appropriate seasonal period and stream flow conditions, potential entrainment of juvenile fish in structures associated with the Project, potential for creation of habitat for invasive species (e.g. crayfish, bullfrog, bass) including those that prey on salmonids, suitable water temperature for native fish, and protection of other special status species such as southwestern pond turtle, arroyo toads, and red-legged frog. Fundamental to watershed health, the EIR should address minimum stream flow requirements to support stream health, aquatic, and riverine systems, and species.

Comment 2: Given that one of the project goals is groundwater replenishment, the EIR Alternative Analysis should address multi-benefit design options besides rubber dams such as off-channel basins for capturing storm water, integrating water quality, habitat and flood capacity improvements, and replenishing groundwater in conjunction with natural infiltration through

existing wetlands, drainages, and replacement of impervious materials with green infrastructure using a low-impact development approach. The adopted San Juan and Trabuco Creeks Steelhead Recovery Watershed Management Plan (CDM, 2007) provides a science-based approach for enhancing overall watershed health, improving water quality, improving steelhead and multi-species habitat, and addressing minimum stream flow needs while improving coordination between water agencies active in the San Juan Creek watershed.

Background and Project Relevance to Endangered Steelhead

The Project is located in San Juan Creek watershed which is a “Core 1 population” or high priority steelhead recovery watershed as designated in the National Marine Fisheries Service (2012) Southern Steelhead Recovery Plan. San Juan Creek historically supported steelhead (Becker 2010) and steelhead sightings have been documented in lower San Juan Creek near the ocean since 2000 (CDM 2007). Sightings have occurred despite severe drought in 2010-2016 in which sand berm breaches were infrequent due to low flows during winter months. Breaches of the estuary’s sand berm allow steelhead entry and exit during wet months, typically December – May, and provide access to upstream high quality habitat. Surveys by various agencies through the years indicate that the upper San Juan watershed, including Trabuco Creek, has suitable spawning and rearing habitat and appears capable of supporting steelhead (CDM 2007).

Several aspects of the steelhead life cycle are relevant to this Project and the limiting factors that it may present to recovery of this endangered species. Trout of the species *Oncorhynchus mykiss*, commonly known as rainbow trout or steelhead, historically populated coastal streams and the ocean throughout California. While both forms reproduce in fresh water, steelhead migrate between the ocean and fresh water while resident rainbow trout live entirely in fresh water. Because steelhead spend part of their life cycle in the ocean, they are anadromous.

The sharp decline in Southern California Steelhead populations in the mid-1900s led to the federal listing under the Endangered Species Act (ESA) of the Southern California Coast steelhead in 1997 from the Santa Maria River at the north end to Malibu Creek at the south end. Following steelhead sightings and genetic documentation in watersheds south of Malibu Creek, the geographic boundary was extended southward to the U.S.-Mexico border in 2002, including Orange County. The listing status of this expanded region was reaffirmed in 2006.

Limiting factors to endangered steelhead recovery are tightly linked to features of their life history as an anadromous species. Steelhead live in freshwater as juveniles for at least one year before migrating to the ocean where they reside for several months to years before returning to freshwater to spawn. They require passage up and down the main stem of a river, normally during periods of winter high water flow, and require access to upstream sites with appropriate gravel for spawning and year-round refuge areas with cool water and adequate prey for rearing. Urbanization and dam construction in Southern California have inhibited ocean migration of the

endangered Southern California steelhead. Low water flow, poor water quality and degraded in-stream habitat through extraction and channelization are further threats to steelhead survival.

Comment 1 Specific Points:

1. Installation and operation of the three rubber dams for groundwater recharge can potentially block steelhead passage up and downstream. Fish passage design should be incorporated into the project to meet requirements of California Fish and Game Code 5901: “Except as otherwise provided in this code, it is unlawful to construct or maintain in any stream in Districts 1, 1^{3/8}, 1^{1/2}, 1^{7/8}, 2, 2^{1/4}, 2^{1/2}, 2^{3/4}, 3, 3^{1/2}, 4, 4^{1/8}, 4^{1/2}, 4^{3/4}, 11, 12, 13, 23, and 25, any device or contrivance that prevents, impedes, or tends to prevent or impede, the passing of fish up and down stream.” [To note that Section 11010 defines Fish and Game District 4: Those portions of the following counties not included in other districts: San Bernardino, Riverside, and Orange].

State and federal agency review through the standard CEQA/NEPA permitting process will also address steelhead impact, including Lake and Streambed Alteration Permit (FGC 1602) and NMFS Section 7 consultation for Southern California steelhead. Under conditions where the proposed rubber dams impede steelhead passage upstream, this will negate the positive benefits of large-scale fish passage projects underway upstream on Trabuco Creek at the Metrolink bridge (led by Trout Unlimited) and Interstate 5 bridge array (led by CalTrout in partnership with Trout Unlimited) and removal of >70 check dams in upper Trabuco Creek and upper San Juan Creek (led by Cleveland National Forest).

The NOP acknowledges that “installation and operation of the dams could impact riparian resources and aquatic resources”, but it fails to address the clear impact of a seven foot high barrier to fish passage. The meaning of the NOP statement that “Installation of rubber dams could affect the ability for the creeks to be improved for fish passage in the future” is not clear.

2. Precise definition of rubber dam operation in response to river flow, coupled with hydraulic analysis and sediment transport is needed to get an accurate view of dam impact. As stated in the NOP, the inflatable dams would capture stormwater runoff for recharge into the ground, augmenting local groundwater supplies. As currently stated for operational conditions: “During rain events, the rubber dams would remain inflated as long as the flow in the channel remains less than one-foot greater than the rubber dam crest. When this stage is exceeded, the rubber dam would deflate, restoring the full flood capacity of the channel. The rubber dam would re-inflate when the flow in the channel is reduced.”

More detail is needed to evaluate the frequency with which fish passage could be blocked (e.g. under scenarios of inflation before small storm event such as those with a 50% annual exceedance flow of ~2.8 cfs, and the frequency of unimpeded fish passage (e.g. deflation after large storm events such as 2 yr rain event of ~1000 cfs).

From a fish passage perspective, fish passage engineering technical review should be performed to address leap and velocity barriers to steelhead migration. This would include review of relevant quantity and timing of flows, hydraulic modeling, analysis of rubber dam operation, flow characteristics, potential passage barrier characteristics, and cost-effective fish passage options that meet CDFW and NMFS requirements and maintenance. Technical review should also include analysis of dam operational timing with respect to the frequency and timing of estuary sand berm breaching. A number of hydraulic, sediment transport and geomorphology analyses have been performed for the San Juan Basin which can inform fish passage modeling (San Juan Creek Watershed Hydrology Study, PACE 2008; Hydraulic Analysis and Sediment Transport Analysis - Trabuco Creek Fish Passage Design, NHC/CDM 2016).

From a more general perspective, sediment transport from upper reaches of San Juan Creek and Trabuco Creek should be evaluated, specifically channel erosion changes associated with the operation of the rubber dams. They could make conditions worse (by exacerbating scour when the dams are lowered) or actually help reverse incision (by storing coarse sediments above the dams) depending on where and how they will be operated.

Also, the EIR will likely focus on water supply diversity during drought conditions as their project justification and environmental baseline; they should also include analysis of San Juan Creek's response to the recent storm events of January 2017. Has the system entered a new state following 5 years of drought that may have increased channel instabilities to be realized during wetter years?

3. The Project should address beneficial uses of the San Juan Creek watershed, which includes Cold Freshwater Habitat. The San Juan Creek Watershed is located within the jurisdiction of the San Diego Regional Water Quality Control Board in the San Juan Hydrologic Basin. The Water Quality Control Plan lists San Juan Creek, Trabuco Creek and Oso Creek and other tributaries as receiving waters. The Basin Plan designates Beneficial Uses including COLD (Cold Freshwater Habitat), which includes uses of water that support cold water ecosystems including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates. The dams can alter stream hydrology of upstream long-duration water pools which can harbor non-native aquatic species and algae above and below the rubber dam affixed to concrete pads in the concrete lined flood control channel.

We appreciate the opportunity to submit these comments in response to the Notice of Preparation of an Environmental Impact Report for the San Juan Watershed Project.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Sandra Jacobson", followed by a long horizontal line extending to the right.

Sandra Jacobson, Ph.D.
California Trout
South Coast Steelhead Coalition Coordinator
sjacobson@caltrout.org

Cc: Mary Larson, California Department of Fish and Wildlife
Darren Brumback, National Marine Fisheries Service
Mark Capelli, National Marine Fisheries Service
Clark Winchell, U.S. Fish & Wildlife Service - Carlsbad
Bob Blankenship, Trout Unlimited – South Coast
George Sutherland, Trout Unlimited – South Coast
Curtis Knight, California Trout
Gaby Roff, California Trout