COASTAL CONSERVANCY

Staff Recommendation
January 20, 2011

To: Coastal Conservancy

From: Samuel Schuchat, Executive Officer
Joan Cardellino, South Coast Program Manager
Christopher Kroll, Project Manager

Re: Consideration and possible authorization to seek reallocation of Proposition 12 funds appropriated to the Conservancy for restoration of arroyo chub, partially armored stickleback, and southern steelhead fisheries in San Mateo Creek and San Onofre Creek in San Diego County (Exhibit 1).

Recommended Action

Consideration and possible finding that the remaining Proposition 12 funds intended for the San Mateo Creek and San Onofre Creek watersheds fisheries should be reallocated due to an inability to complete the project.

Resolution

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31000 et seq. of the Public Resources Code:

"Based on the accompanying memorandum, the State Coastal Conservancy hereby finds that restoration of arroyo chub, partially armored stickleback and southern steelhead fisheries in San Mateo Creek, and its tributary Devil Canyon Creek, and San Onofre Creek cannot be completed as contemplated by Proposition 12 ; and therefore, authorizes the Executive Officer to take all actions necessary to obtain reallocation of the remaining Proposition 12 funds designated for this project to other Division 21 projects."

Summary of Recommendation

The "Safe Neighborhood Parks, Clean Water, Clean Air and Coastal Protection Bond Act of 2000" (Proposition 12) directs the Conservancy to spend $800,000 to restore southern steelhead to their native creeks of San Mateo Creek, its tributary Devil Canyon Creek,

and San Onofre Creek in San Diego County. (Public Resources Code § 5096.352(d)). Conservancy staff has disbursed $368,687 for restoration efforts to date, but has concluded that further expenditures of Proposition 12 funds will not achieve success.

The funds have been spent on identifying baseline conditions in San Mateo Creek, identifying impediments to the recovery of southern steelhead sources and initial steps toward addressing the impediments. However, two primary obstacles to restoration are the depletion of groundwater by the United State Marine Corps (USMC) base at Camp Pendleton and the continual introduction of non-native fish into San Mateo Creek by private landowners. The USMC has removed a large agricultural business that operated for several decades next to the creek upstream of the estuary/lagoon. This has reduced the depletion of groundwater but Camp Pendleton continues to rely on this water source. Proposition 12 funds have been expended to try to address the non-native fish problem; however, ultimately, cooperation of all private landowners responsible for release of non-native fish or of state agencies with regulatory authority over the landowners is critical. Because such cooperation has been unattainable, non-native fish remain a continual problem that prevents successful restoration of southern steelhead.

Proposition 12 states that upon a finding that a particular project for which funds have been allocated cannot be completed, the legislature can reallocate the funds for other high priority projects. (Public Resources Code § 5096.3075) Accordingly, staff recommends that the Conservancy find that the restoration of southern steelhead to San Mateo Creek, Devil Canyon Creek and San Onofre Creek cannot be completed. If the Conservancy makes this finding, the Executive Officer will seek to have the remaining funds reallocated for southern steelhead restoration projects in other areas of southern California where such efforts are likely to be more successful.

Background

San Mateo Creek is located in northwestern San Diego County, southwestern Riverside County and southeastern Orange County. The headwaters of the stream originate on the Trabuco Ranger District of the Cleveland National Forest. The stream flows westward through Camp Pendleton and San Onofre State Park (leased from Camp Pendleton), ending at the Pacific Ocean. There are several private holdings within the Forest along the tributaries of San Mateo Creek including areas along Tenaja Creek, Devil Canyon Creek and Cristianitos Creek, as well as significant areas of private land in the watershed outside the Forest boundaries. Much of the watershed on the Cleveland National Forest is included within the San Mateo Canyon Wilderness.

The watershed encompasses a total of 85,402 acres. These include 40,533 acres of Cleveland National Forest lands, 18,686 acres of Camp Pendleton lands, and 26,183 acres of private lands. The topography is rugged mountains with elevations ranging from 400 feet to 3500 feet. Vegetation types present include chaparral, coastal sage scrub, grassland, oak woodland, and riparian woodland. There are 63 miles of perennial streams within the watershed, of which 11 miles are known or suitable habitat breeding habitat for southern steelhead. Currently, the suitable breeding habitat is the main stem of San

Mateo Creek and a portion of Devil Canyon Creek. All of the stream miles that are suitable breeding habitat for southern steelhead are within the San Mateo Wilderness of Cleveland National Forest. There are 12 miles of stream on Camp Pendleton that steelhead use as a corridor to the breeding pools. In 2005, the National Marine Fisheries Service (NMFS) designated San Mateo Creek as a watershed containing "critical habitat" for the southern steelhead. Southern steelhead were listed in 1997 as an endangered species.

Proposition 12

The "Safe Neighborhood Parks, Clean Water, Clean Air and Coastal Protection Bond Act of 2000" (Proposition 12) was approved by California voters on March 7, 2000. (Public Resources Code § 5096.300, et seq.) The Act directed that of the funds allocated in the bond for the Coastal Conservancy, $800,000 "shall be spent to restore the arroyo chub, partially armored stickleback, and southern steelhead fisheries to their native creeks of San Mateo Creek, and its tributary Devil Canyon Creek, and San Onofre Creek located in San Diego County." (Public Resources Code § 5096.352(d)). Proposition 12 also states: [u]pon a finding by the administering entity that a particular project for which funds have been allocated cannot be completed, or that the funds are in excess of the total needed, the Legislature may reallocate those funds for other high priority needs consistent with this act." (Public Resources Code § 5096.3075)

Restoration Project

After the enactment of Proposition 12, restoration efforts were delayed as the National Marine Fisheries Service debated whether to extend the range of the endangered species designation of the southern steelhead to include San Mateo Creek. When that extension was finally adopted in May 2002, it catalyzed a renewed effort to cooperate in solving the problems of the San Mateo Creek watershed and promoting the recovery of its native fish species. Early on it was determined that the focus of restoration efforts should be on southern steelhead because: 1) there was no history of arroyo chub in San Mateo Creek, and 2) the resource agencies could not agree on a plan to bring a partially armored stickleback population from another watershed to recolonize San Mateo Creek.

In mid-2002, Conservancy staff convened a meeting of interested parties (the Working Group), including San Diego Trout (SDT), Trout Unlimited (TU), the California Departments of Fish and Game (DFG) and Parks and Recreation (DPR), the US Forest Service (USFS), the National Marine Fisheries Service (NMFS), CalTrout, the US Geological Survey (USGS), the USMC (as observers), and others, to develop an Enhancement Plan. The Plan recommended actions that could be taken in the short run to move toward the objectives of Proposition 12 and to lay a foundation for the long-term restoration of the San Mateo Creek watershed. The USMC indicated that it would pursue its own restoration efforts on Camp Pendleton, which includes lower San Mateo Creek, the estuary/lagoon, and all of San Onofre Creek, and prohibited any Conservancy work in these areas. This meant that restoration efforts would have to concentrate on the upper watershed of San Mateo Creek

In its "Proposed Range Extension for Endangered Steelhead in Southern California," the National Marine Fisheries Service identified increased groundwater extraction, loss of riparian vegetation, stream channel changes, surficial flow reductions, human-caused fires, and the introduction of non-native predator species as the main threats to steelhead in the San Mateo Creek watershed. In particular, NMFS noted:

> The control of exotic fish species in the San Mateo Creek watershed, both on Camp Pendleton and in Cleveland National Forest, is considered critical to restoring steelhead to that watershed (DFG, 2000; Lang et al., 1998). Lang et al., (1998) recommend implementation of measures …to control in-river propagation of exotics … in perennial pools during summer low flows.

These exotic animal species, including largemouth bass, brown bullhead, green sunfish bluegill, bullfrog, mosquito fish, red swamp crayfish and others named on California's Aquatic Nuisance List are major predators of the native steelhead and partially armored threespine stickleback, and have invaded San Mateo Creek in large numbers. The non-native fish are most likely escaping from ponds located in or next to stream channels on private property in the upper watershed.

In September 2002, the Conservancy granted an initial $50,000 to Trout Unlimited (TU) to begin planning for needed restoration actitivities. In April 2003, the Conservancy provided an additional $150,000 to the initial grant as additional funds were needed to complete a habitat assessment and evaluation of exotic species removal techniques. This initial assessment work was completed in 2004 and four reports were prepared: *Habitat Assessment Data Report (*August 2004), *Evaluation of Exotic Species Removal Techniques* (August 2004), *California Red-legged Frog (rana aurora draytonii) Focused Surveys, San Mateo Canyon (August 2004)* and *Preliminary Results for Exotic Species Removal Techniques* (December 2004). These reports provided baseline documentation of the habitat condition of the San Mateo Creek watershed, analysis of the exotic species problem in the watershed based on field surveys and discussion of exotic species removal techniques based on field work done in 2003 and 2004. At the same time, the "Working Group" became the Technical Advisory Committee (TAC), which met quarterly to discuss status of the project.

In September 2004, the Conservancy approved a $100,000 grant to TU for additional exotic species removal testing and development of an exotic species management strategy. This Conservation Strategy Plan (CSP) was completed in February 2007. The CSP established broad restoration goals, strategies, and directions for implementation actions. The CSP identified 14 actions necessary to meet the long-term goal of native fishery restoration in the San Mateo Creek watershed, with a particular focus on southern steelhead restoration. These actions included:

- Monitor the San Mateo Creek population of southern steelhead
- Describe southern steelhead habitat requirements
- Monitor habitat quantity and quality
- Selectively control nonnative species

- Implement education programs

In addition, field equipment, including an electrofisher, field data collection recorder, underwater view tube, temperature loggers, seins, and weir traps, was purchased in 2005 for use in monitoring fish populations in the watershed and removing exotic species from the streams. Volunteers constructed a storage shed for the equipment at San Clemente State Beach.

In 2006, TU contracted with the Mission Resource Conservation District (MRCD) to undertake an outreach and education program concerning the release of non-native fish to San Mateo Creek. The MRCD developed a brochure to educate the public about the impact of the introduction of non-native species to San Mateo Creek. The brochure was widely disseminated throughout the area to businesses that constructed ponds, sold pond supplies, or offered pond maintenance in southern Orange County, southwestern Riverside County, and northern San Diego County. In addition, the MRCD, with the assistance of DFG staff and TU, held two public workshops geared to the property owners in the upper watershed in the area where private ponds in or next to tributary streams were known to exist. These workshops were well attended and focused on the impact of non-native species on efforts to restore native fisheries. The MRCD was also successful in getting articles about the workshops in local newspapers.

In March 2007, the Conservancy approved a $160,000 grant to TU to begin implementing the recommendations of the Conservation Strategy Plan. Additional field work was conducted in 2007. Temperature loggers were placed along the main stem of the creek. As part of the field work a weir-type migrant trap was installed in the upper watershed downstream from one of the communities where ponds were known to be located. The intent was to prevent or reduce the number of non-native fish species migrating downstream from the ponds in the upper watershed. The MRCD developed a second brochure focused on pond management in 2007 with the assistance of Natural Resources Conservation Service (NRCS) staff. The MRCD also held two more workshops, in late 2007 and early 2008, intended to educate pond owners in the upper watershed how to properly maintain their ponds so fish could not escape into adjoining streams. NRCS and DFG staff gave presentations at these workshops.

To follow up on the work done by the MRCD, TU in 2008 contracted with a consulting firm to map the location of the ponds in the upper watershed using digital sources. Unfortunately, existing digital mapping for the area was not accurate enough to use to locate ponds. At the same time, TU contracted with the Elsinore-Murrieta-Anza Resource Conservation District (EMARCD) to do a pond inventory and outreach to pond owners. Also in 2008, at the request of the resource agencies, TU hired a contractor to prepare a benthic macroinvertebrate (BMI) survey in the watershed (July 2008). Two more surveys were completed in April 2009 and May/June 2010.

In December 2008, the state's bond freeze stopped work on these projects. Since December 2008, the only work completed has been the April 2009 and May/June 2010 BMI surveys. DFG had requested that four surveys (three have been completed) be

conducted to inform future environmental work in the watershed, especially National Environmental Policy Act (NEPA) analysis of steelhead fishery restoration in the watershed. The resources agencies have long advocated the preparation of a NEPA document that would assess restoration alternatives including the use of a piscicide, rotenone, to address the problem of non-native fish in the watershed.

In July 2009, NMFS released the draft Southern California Steelhead Recovery Plan as required by the Endangered Species Act. The plan identifies San Mateo Creek as a secondary priority ("Core 2") watershed for future recovery efforts. The recovery plan calls for NMFS to concentrate its future recovery efforts on Core 1 and 2 watersheds.

In late 2009, TU told Conservancy staff that TU wanted to step aside as project lead and return to a stakeholder role. TU and Conservancy staff had already been in discussion about the future of the project after the Proposition 12 funds were spent. Both parties agreed that it made sense for DFG and/or NMFS to take on the lead role for the project.

TU and Conservancy staff met with DFG and NMFS staff in February 2010 to discuss TU's exit from the project and ask if DFG was interested in taking over TU's role as local lead for the project. Subsequently DFG and Conservancy staff discussed the technicalities of granting the remaining $365,940 of unencumbered Prop. 12 funds and the unspent balance of the final TU grant to DFG. In November 2010, DFG staff informed Conservancy staff that DFG is not able to take a lead role in the project. DFG staff recommended instead that the Conservancy give a grant to the USFS to complete NEPA work addressing southern steelhead restoration alternatives within Cleveland National Forest.

Impediments to Project Completion

Restoration of native fisheries in the San Mateo Creek watershed faces several obstacles. Chief among these are ground water pumping in the lower watershed which can lower the water level in the creek and the presence in the creek of nonnative terrestrial and aquatic species which can compete with adult steelhead for food and can prey on juvenile steelhead. Other issues include fish passage barriers, higher water temperatures, and less frequent breaching of the sandbar at the mouth of the creek. Conservancy staff has worked with TU and local partners since 2003 to carry out the intent of Proposition 12 to restore the southern steelhead fishery in San Mateo Creek. The USMC's security concerns regarding Camp Pendleton limited the geographic area in which the Conservancy and its partners could operate to the upper watershed of San Mateo Creek in Cleveland National Forest as lower San Mateo Creek and all of the San Onofre Creek watershed are located within the boundaries of Camp Pendleton.

Of the major constraints facing successful establishment of native fisheries in the San Mateo Creek watershed, most (groundwater pumping, infrequent sandbar breaching, fish passage barriers) occur in the lower watershed on Camp Pendleton. Therefore the Conservancy and TU, in consultation with the TAC, focused efforts on baseline

documentation in the upper watershed and efforts to address the elimination of nonnative species in San Mateo Creek.

Field work to survey the fish population and remove non-native species was done in fall 2003 and fall 2004. Three aquatic species removal techniques were tested: electrofishing, electrofishing with seining, and minnow trapping. Both years' field work was done on the same 2.2 mile section of the main stem of San Mateo Creek in the San Mateo Canyon Wilderness in Cleveland National Forest. In 2003, 29,310 bullfrogs, black bullhead, bluegill, mosquitofish and red swamp crayfish were removed from the creek. The number declined to 17,089 in 2004. The final report from the consultant recommended that additional mechanical eradication work be pursued including strategic pool dewatering and use of weirs. The report also recommended that chemical agents such as rotenone be used to kill exotic species in the creek in late summer and fall when it dries up into isolated pools. The report concluded, however, that even with the use of both mechanical control (electrofishing, seining, and trapping) and chemical agents like rotenone, infestation from upstream sources would preclude "complete eradication."Conservancy staff was not supportive of the recommendation to continue another year of this field work without addressing the problem of fish escaping from private ponds upstream consistent with the recommendations of the Conservation Strategy Plan. Continual eradication efforts downstream did not address the cause of the problem upstream.

Outreach efforts to property owners in the upper watershed to educate them about plans to restore steelhead in the watershed and offer information on proper pond management were received favorably by those individuals who chose to participate in the workshops. However, because there is no comprehensive list of all pond owners, it was not clear that all owners of ponds with exotic fish attended these workshops. NRCS contact information was given to workshop participants so NRCS staff could assist pond owners in retrofitting their ponds. But this effort relied on voluntary follow up by pond owners to retrofit or remove their ponds. While the outreach effort reached some pond owners and some of these may have moved or retrofitted their ponds, most likely there are other pond owners who either did not receive the information or who simply chose not to remove or retrofit their ponds to prevent the release of non-native fish. Thus, the outreach efforts by themselves could not resolve the issue. Outreach efforts are likely to work only in conjunction with regulatory involvement. Unfortunately, the regulatory agencies on the TAC indicated that regulatory action to address the pond problem was not likely due to the difficulty in establishing whether the ponds were legally installed.

Conclusion

The TU/Conservancy effort over the past seven years has provided a stronger base of information about the baseline conditions of the creek in the upper watershed and the

extent of the nonnative species problem. A conservation strategy plan with specific recommendations has been prepared and a good start has been made to educate the upper watershed landowners about the effort to restore the steelhead fishery and the need to manage their ponds properly to prevent the release of non-native fish. But the persistence of the ponds and the reluctance of the regulatory agencies to police the upstream pond owners, means that non-native fish will continue to enter the watershed and undermine all other restoration efforts. DFG staff has recommended that the Conservancy grant the remaining funds to the USFS to initiate NEPA assessment of restoration alternatives, including the application rotenone, to portions of the creek in the National Forest. However, without comprehensively addressing the source of nonnative fish in the upper watershed, new planning efforts, such as proposed by DFG and NMFS, will not achieve restoration. Thus, the continued expenditure of Proposition 12 funds will not complete the restoration of native fisheries in the San Mateo Creek watershed at this time.

Therefore pursuant to Public Resources Code § 5096.3075, the Conservancy should request that the Legislature reallocate the remaining Prop. 12 funds for other Division 21 purposes. If the funds are reallocated, staff would recommend that the funds be used in other areas of southern California where restoration of southern steelhead has a greater chance of success.