

COASTAL CONSERVANCY

Staff Recommendation

March 22, 2018

Gaviota Creek Fish Passage Designs

Project No. 18-002-01

Project Manager: Rachel Couch

RECOMMENDED ACTION: Authorization to disburse up to \$190,790 to Earth Island Institute to prepare preliminary design and engineering plans for the removal of five fish passage barriers along Gaviota Creek in Santa Barbara County.

LOCATION: Gaviota watershed, unincorporated Santa Barbara County

PROGRAM CATEGORY: Integrated Marine and Coastal Resources

EXHIBITS

Exhibit 1: [Project Location Maps](#)

Exhibit 2: [Photos and Graphics](#)

Exhibit 3: [Project Letters](#)

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Section 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to one hundred ninety thousand, seven hundred ninety dollars (\$190,790) to Earth Island Institute (Earth Island) to prepare preliminary engineering design plans needed for permit applications and environmental review for removal of five fish passage barriers in Gaviota Creek to improve passage for migrating steelhead, as shown on Exhibit 1 to the accompanying staff recommendation. Prior to the disbursement of Conservancy funds, Earth Island shall submit for review and approval of the Conservancy’s Executive Officer a work program, budget, schedule, names of any contractors to be engaged for the project, and evidence that the grantee can provide all the funds needed to complete the plans.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
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2. The proposed authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding integrated coastal and marine resource protection.
3. The proposed project is consistent with applicable local watershed management plans and water quality control plans.
4. Earth Island is a nonprofit organization existing under section 501(c)(3) of the U.S. Internal Revenue Code, and whose purposes are consistent with Division 21 of the Public Resources Code.”

PROJECT SUMMARY:

Staff recommends the Conservancy authorize the disbursement of up to \$190,790 to the Earth Island Institute (Earth Island) to prepare preliminary design and engineering plans to remove five fish passage barriers along lower Gaviota Creek. (See Exhibit 2, project photos). This project will contribute to recovery efforts for the federally-endangered Southern California steelhead.

Gaviota Creek is the largest watershed in coastal southern Santa Barbara County with 23 miles of high-quality stream habitat. With perennial flows and only a few large landowners in the watershed, Gaviota Creek offers a unique opportunity to restore a healthy population of Southern California steelhead. The Southern California Steelhead Recovery Plan (National Marine Fisheries Service (NMFS), 2011) identifies removal of passage barriers within the Gaviota watershed as a critical recovery action. Gaviota Creek is also one of two watersheds in Santa Barbara County identified as a statewide priority for removal of fish passage barriers in the most recent “Anadromous Fish Passage Assessment” performed by the California Department of Transportation (Caltrans) every two years.

While Gaviota Creek offers great potential habitat for a larger population of steelhead, numerous barriers presently limit the passage of fish upstream from the ocean. Most of these barriers were built as grade-control structures to prevent the creek from undermining the retaining structures that support Highway 101 as it traverses the Gaviota Pass. The modification of these grade-control structures to allow fish to pass is necessary to re-establish a healthy steelhead population. Twelve grade control structures exist within the two-mile reach of Gaviota Creek adjacent to Highway 101. The lower five barriers are located downstream of the Gaviota Pass on land owned by the California Department of Parks and Recreation (State Parks) and within the Caltrans Highway 101 right-of-way. The five barriers are all within one-third of a mile of each other. Due to their close proximity, addressing these lower five barriers at once through one planning and design effort will provide cost savings.

In 2007, Michael Love and Associates completed a preliminary engineering assessment report of barriers in the watershed, which included the five barriers that are the subject of this proposed project. The five barriers to be addressed by the proposed project are designated in this report as GA-2 through GA-6. All were assessed as impassable, using the California Department of Fish and Wildlife’s (CDFW) scale. Barriers GA4 and GA2 (See Exhibit 2, Photos) were rated as the highest severity barriers with downstream drop heights of 5.2 and 4.2 feet respectively.

The project will require particularly close coordination with Caltrans, State Parks and the CDFW. NMFS will also be involved. The collaboration of this multi-agency team will help inform future design efforts for removing the remaining upstream barriers. Both State Parks, on

whose property the project lies, and Caltrans, whose right of way the projects is within, have expressed support for the project and granted permission to access the project site.

The proposed project will develop agency-approved 50% designs that address each of the five lower concrete grade control structures that limit fish migration in the Gaviota Creek watershed. These designs must satisfy both CDFW/NMFS fish passage criteria and meet the Caltrans design requirements to ensure that Highway 101 will not be negatively impacted by the design when built. The project will develop the following documents: detailed topographic surveys of the sites; advanced planning study and concept development of retaining walls for each site in conformance with Caltrans standards; development of alternative designs to address each concrete grade control structure; hydraulic modeling to ensure fish passage criteria is satisfied; and model flood conveyance at each site. A review will be conducted to consider any increased risk to the highway structure or flood impacts for the alternatives. Once all the stakeholders agree on a preferred design, work will proceed to 50% design completion. A design review will be conducted at that point to ensure all project partners agree on the selected alternative. Once the project partners reach consensus on the proper design approach, they will seek additional funding to complete the engineering work, permitting and environmental review.

Earth Island and its program South Coast Habitat Restoration (SCHR) will undertake the project in cooperation with the other agencies. SCHR will coordinate and manage all aspects of the development of engineering solutions for the five fish passage barriers identified, including managing consultants (such as licensed civil engineering and geotechnical/structural engineering firms). Earth Island is a nonprofit organization established under section 501(c)(3) of the Internal Revenue Code, and has operated successful environmental programs internationally for 35 years. Earth Island/SCHR have managed a number of stream restoration planning and implementation projects in Santa Barbara and Ventura Counties, including numerous sites in the Carpinteria watershed that were funded by Conservancy grants. SCHR has removed or modified a total of 25 barriers to steelhead migration in the two counties, and is involved in planning for removal of over a dozen other fish migration barriers in the region.

Site Description: The proposed project is located where along the lower reaches of Gaviota Creek where it runs parallel to State Highway 101. At this point, Highway 101 cuts inland to cross the Santa Ynez Mountains at the Gaviota Pass. The northbound lanes travel through a tunnel (the Gaviota Tunnel) for a portion of the pass.

The Gaviota Creek watershed, is the largest of the many watersheds along the Gaviota Coast, at 20 square miles. Gaviota Creek runs largely parallel to U. S. Highway 101 in a north-south direction and is crossed by the east-west oriented State Highway 1. The principal tributaries to Gaviota Creek include the West Fork, Las Cruces Creek, Middle Fork, Las Canovas Creek, and Hot Springs Creek tributaries, comprising 23 miles of high-quality riparian habitat. The vegetation in the watershed is varied, consisting of grassland, coastal sage, chaparral, riparian and oak woodland. The oak woodlands occupy the more sheltered inland and north facing slopes while the grasslands are found on the south-facing slopes and heavier soils closer to the coast. Chaparral is most commonly found growing on the sandstone-derived soils in the upland areas on the east side of the watershed.

The lower 3.5 miles of Gaviota Creek, including its estuary, are contained within Gaviota State Park. This park provides valuable recreational opportunities for the region. Visitors come from throughout the state to fish or play in the surf, camp overnight, and hike the backcountry trails.

Day use areas and trails within the Park at Las Cruces Adobe and Gaviota Hot Springs are frequently used by the public. These trails parallel or cross Gaviota Creek allowing easy access for hikers and campers.

Wildlife found in the watershed is typical for the region although biodiversity is likely better preserved in Gaviota Creek due to the relative lack of human-caused impacts. According to an accounting by the National Park Service as part of their “2004 Gaviota Coast Draft Feasibility Study,” the region has 84 “special status” species listed as rare, threatened, or endangered. Many of these special status species are dependent on Gaviota Creek’s riparian corridor, either as habitat or for dispersal across the landscape. These include southern steelhead, tidewater goby, Arroyo chub, two-striped garter snake, southwestern pond turtle, California red-legged frog, California newt, American badger, and mountain lion, all of which are still present in the watershed.

The Gaviota Coast region is among the highest rainfall areas in the southern coastal region of California. However, storm water runoff peaks and then recedes very rapidly because of the steep topography, steep stream gradients, and impervious rock outcroppings. For this reason, Gaviota Creek can be described as a flashy watershed, characterized by rapid increases and decreases in flow during and immediately following storm events. Rainfall patterns and amounts vary widely from year to year, as the recent drought amply demonstrated. One possible reason for the relatively good sustaining water flow in Gaviota Creek is due to higher rainfall concentrations around Gaviota Peak, which rises to nearly 2,460 feet just east of the creek. As much as 70 inches per year falls on this high point and much of that rainfall drains down the north-facing slope of the mountains and into the Gaviota watershed.

There is one fish passage barrier located downstream of the project area in Gaviota State Beach. At times, the access road and bridge to Gaviota State Park and the Hollister Ranch subdivision act as a barrier across the entire middle flood plain of the creek. This barrier interferes with the flow of water and sediment, especially during flooding. The bridge creates a barrier during flooding events, since it is too low to allow debris to pass easily beneath it, forcing the water and sediment to pass over the bridge rather than under it. This is a long-standing problem, not only for fish passage but also for Park visitors, campers, and Hollister Ranch. Flooding can deposit mud and debris throughout the Park campground and interrupt access for many days at a time. State Parks is working to resolve the road and bridge access issues on a separate track, while coordinating with planning for this project.

Project History: Conservancy staff have participated in discussions with State Parks since 2002 regarding Gaviota Creek watershed restoration and barrier removal projects. The majority of these conversations have focused on proposals to relocate the Gaviota State Park access road and campgrounds out of the creek’s floodplain and restore the lower estuary. State Parks is continuing to pursue these ideas but has estimated an implementation timeframe of more than ten years. In 2016, Earth Island approached Conservancy staff about moving forward with the proposed project. The Conservancy offered feedback on strategies to develop a robust technical stakeholder process that would engage key agencies, especially State Parks and Caltrans. In spring 2017, Earth Island submitted a proposal in response to the Conservancy’s seventh Proposition 1 grant round. A site visit with the major stakeholders was held on May 12, 2017 to discuss coordination of the design work with Caltrans and to directly observe the fish passage barriers and riparian habitat along the creek. Conservancy staff worked with Earth Island, State

Parks, and Caltrans to refine the scope of the proposed project in order to ensure efficient and effective implementation in coordination with State Parks and Caltrans.

PROJECT FINANCING

Coastal Conservancy	\$190,790
Coastal Ranches Conservancy	\$64,000
Project Total	\$254,790

The anticipated source of Conservancy funds is an appropriation to the Conservancy from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code § 79700 et seq.). Funds appropriated to the Conservancy derive from Chapter 6 (commencing with § 79730) and may be used “for multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds of the state” (Section 79731). Section 79732 identifies specific purposes of Chapter 6. The proposed project will achieve several of these purposes, including the following: remove barriers to fish passage (Section 79732(a)(6)); protect and restore coastal watersheds, including, but not limited to, bays, marine estuaries, and nearshore ecosystems (Section 79732(a)(4)); and assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation (Section 79732(a)(12)). The proposed project will facilitate removal of fish passage barriers for endangered steelhead and restoration of aquatic and riparian habitat. As required by Proposition 1, the proposed project provides multiple benefits by developing design plans to remove fish passage barriers and restore habitat.

In accordance with Section 79707(b), which requires agencies to prioritize “projects that leverage private, federal, or local funding or produce the greatest public benefit”, this project leverages private funding. Coastal Ranches Conservancy will provide \$64,000 in matching funds for the project. The project was reviewed and subsequently recommended for funding through a competitive grant process under the Conservancy’s Proposition 1 Grant Program Guidelines adopted in June 2015 (Prop 1 Guidelines) (See § 79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further detail in this “Project Financing” section, the “Project Summary” section and in the “Consistency with Conservancy’s Project Selection Criteria & Guidelines” section of this staff recommendation.

CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to the Conservancy’s enabling legislation, Division 21 of the Public Resources Code (PRC); in particular, Chapter 5.5 (PRC Section 31220) regarding integrated coastal and marine resources protection. Section 31220(a) authorizes the Conservancy to award grants for projects that meet one or more criteria of Section 31120(b).

Consistent with 31220(b), the proposed project will achieve the following objectives: protect or restore fish and wildlife habitat within coastal and marine waters and a coastal watershed by reducing impediments to fish passage (Section 31120(b)(2)); and reduce threats to coastal and

marine fish and wildlife (Section 31120(b)(3)). Consistent with Section 31220(a), Conservancy staff has consulted with the State Water Quality Control Board in developing this project.

As Section 31220(c) requires, the proposed project is consistent with local and state watershed plans. This is discussed in detail below under “Consistency with Local Watershed Management Plan/State Water Quality Control Plan.” Section 31220(c) requires that the project include a monitoring and evaluation component. Extensive monitoring and evaluation will be integrated into the design of the project.

CONSISTENCY WITH CONSERVANCY’S 2018 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 6, Objective C** of the Conservancy’s 2018-2022 Strategic Plan, the proposed project will develop a plan for the restoration and enhancement of a coastal aquatic and riparian habitat in the Gaviota Creek watershed.

CONSISTENCY WITH CONSERVANCY’S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on October 4, 2014, in the following respects:

Required Criteria

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Promotion and implementation of state plans and policies:** By removing a barrier to fish migration, the project serves to promote and implement several statewide plans and policies including:
 - *California Water Action Plan* (California Natural Resources Agency, 2014). Goal #4, “Protect and Restore Important Ecosystems”, identifies the elimination of barriers to fish migration as a priority action. The goal references coordinated efforts with CDFW to complete road infrastructure improvements to provide anadromous fish species access to historic upstream spawning and estuary rearing habitat on smaller watershed around the state.
 - *Southern California Steelhead Recovery Plan* (NMFS, 2011). This National Marine Fisheries Service document identifies priority actions to improve the potential for recovery for Southern California steelhead, including identification and removal of barriers to migration.
 - *Steelhead Restoration and Management Plan for California* (CDFW, February 1996, with updates to Steelhead Tasks in 2013). This CDFW document provides strategies

- to restore native and naturally produced (wild) stocks of steelhead, including restoring access to historic habitat that is presently blocked.
4. **Support of the public:** The proposed project is supported by State Senator Hannah-Beth Jackson, Assemblymember Monique Limon, Third District County Supervisor Joan Hartmann, Caltrans, State Parks, CDFW, NMFS, as well as by local community-based organizations including the Coastal Ranches Conservancy (see Exhibit 3).
 5. **Location:** The proposed project would be located within the coastal zone of unincorporated Santa Barbara County.
 6. **Need:** The number of spawning southern California steelhead trout—a federally-listed endangered species—in Santa Barbara’s south coast creeks has declined to a small fraction of historic levels, and continues to fall. State Parks and Caltrans are currently unable to allocate planning funds to complete this project, but Caltrans has indicated a willingness consider funding future implementation. At this time, the project cannot be implemented without Conservancy participation.
 7. **Greater-than-local interest:** The Gaviota Creek Watershed is identified as a high priority for recovery in the NOAA Southern California Steelhead Recovery Plan (NMFS 2011). Removal of these barriers will implement one of the critical recovery actions identified in the NMFS plan.
 8. **Sea level rise vulnerability:** Given that the project site sits at an elevation of 70 feet at its lowest extent, sea level rise projections for 2050 and 2100 will not affect the project.

Additional Criteria

9. **Readiness:** Earth Island is ready to begin the project immediately.
10. **Realization of prior Conservancy goals:** See “Project History” above.
11. **Cooperation:** The project represents a significant level of cooperation among Earth Island, SCHR, State Parks, Caltrans, and including staff from CDFW and NMFS who are providing significant guidance.
12. **Vulnerability from climate change impacts other than sea level rise:** Projections of future climate change predict uncertain changes in precipitation in California, but they suggest wetter winter and drier summer conditions. The proposed project will be designed to withstand 100-year flood flows. This is important as winter rains are expected to increase in overall intensity, but not in duration. Increased winter rain events may benefit steelhead in the region, increasing their potential migration period; however, this could result in greater flood risks throughout the watershed. Increased summer temperatures could increase the chances that the sections of the creek will go dry. This increases the need to remove barriers from the watershed to allow fish to move upstream to perennial waters as the lower reaches may flow less days out of the year. More frequent fires are also projected. The combination of floods and fire will result in more extensive movement of sediment and debris through the creek and the project engineers will factor this into the designs.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The proposed project is consistent with policies in the Santa Barbara County Local Coastal Program (LCP) that provide for the protection and enhancement of environmentally sensitive habitat areas.

Section 3.9.2 of the Land Use Plan component of the County's LCP defines environmentally sensitive habitat areas as those in which plant or animal life or their habitats are rare or especially valuable because of their special nature or role in an ecosystem. Under the LCP, such areas include rare and endangered species habitats, wetlands, streams, and "specialized wildlife habitats which are vital to species survival." Such habitats are to be preserved and protected. In addition, Policies 9-38 and 9-39 of the Land Use Plan prohibit any structures within a stream corridor, especially dams or other structures that prevent upstream migration of anadromous fish (unless other measures are used to allow fish to bypass obstacles).

The proposed project is consistent with the goals and policies of the LCP by planning for the protection of habitat for the endangered southern California steelhead and for the removal or modification of structures that prevent upstream migration. The proposed project is also consistent with Section 3.3.4 of the Land Use Plan and its attendant watershed protection policies, whose objectives include the long-term preservation of the biological productivity of coastal streams and wetlands.

**CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/
STATE WATER QUALITY CONTROL PLAN:**

The project will facilitate the restoration of fish and wildlife habitat in coastal watersheds and wetlands, and is thus consistent with the Water Quality Control Plan for the Central Coastal Basin (adopted by the Regional Water Quality Control Board Central Coast Region in 1994 and reviewed every three years) in that it will further the following beneficial use objectives: wildlife habitat; rare, threatened or endangered species; and migration of aquatic organisms.

The project would also help implement several goals and objectives for Santa Barbara County in the Southern California Wetlands Recovery Project (SCWRP) Regional Strategy. Specifically, the project would further the objectives to improve steelhead habitat by modifying and removing passage barriers, enhancing habitat, and implementing high-priority steelhead recovery projects identified in Conception Coast Project's South Coast Steelhead Recovery Study. It would also promote two of the six SCWRP regional goals: restoring stream corridors in coastal watersheds, and recovering native habitat and species diversity.

COMPLIANCE WITH CEQA:

The proposed project is statutorily exempt from the California Environmental Quality Act (CEQA) pursuant to the 14 California Code of Regulations (Sections 15000 *et seq.*) Section 15262, which exempts planning and feasibility studies for possible future actions which have not been approved, adopted or funded. The project involves only (1) the preparation of preliminary design plans and (2) assessment of information needed for environmental review and permit applications for possible future actions that the Conservancy has not approved, adopted, or funded. The project will consider environmental factors in its implementation.

Staff will file a Notice of Exemption upon approval.