

COASTAL CONSERVANCY

Staff Recommendation  
September 22, 2011

**GREEN VALLEY CREEK  
COHO HABITAT ENHANCEMENT DESIGN**

Project No. 07-106-02  
Project Manager: Lisa Ames

**RECOMMENDED ACTION:** Authorization to disburse up to \$150,000 to the Gold Ridge Resource Conservation District to conduct a geomorphic assessment of aggradation in Green Valley Creek, and to prepare final designs, CEQA analysis, and permit applications for treatment of the aggradation and for enhancement of coho habitat at Thomas Creek Ranch adjacent to Green Valley Creek.

**LOCATION:** Green Valley Creek, a tributary to the Russian River in Western Sonoma County outside of Sebastopol (see Exhibit 1, “Project Location” and Exhibit 2, “Project Site Maps.”)

**PROGRAM CATEGORY:** Resource Enhancement

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**EXHIBITS**

- Exhibit 1: [Project Location](#)
- Exhibit 2: [Project Site Maps](#)
- Exhibit 3: [Project Photographs](#)
- Exhibit 4: [Project Letters](#)

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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31160 *et seq.* of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to \$150,000 (one hundred fifty-thousand dollars) to the Gold Ridge Resource Conservation District (GRRCD) to 1) conduct a geomorphic assessment, prepare final engineering designs and CEQA analysis, and prepare permit applications to treat aggradation of Green Valley Creek; and 2) prepare final engineering designs, CEQA analysis and permit applications for an off-channel coho habitat enhancement project at Thomas Creek Ranch adjacent to Green Valley Creek, subject to the condition that prior to disbursement of Conservancy funds, the GRRCD shall submit for the review and approval of the Conservancy’s Executive Officer a work program, including a final budget, and the names of all contractors that the GRRCD intends to use to complete the project.”

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 Project Selection Criteria and Guidelines, updated by the Conservancy on June 4, 2009.
  2. The proposed project is consistent with the purposes and objectives of the San Francisco Bay Area Conservancy Program, Chapter 4.5 of Division 21 of the Public Resources Code, Sections 31160-31165.”
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### **PROJECT SUMMARY:**

This authorization will enable the Gold Ridge Resource Conservation District (“GRRCD”) to undertake the planning, design and environmental analysis necessary to address two sites identified as high-priority for salmonid habitat restoration in the Conservancy-funded Upper Green Valley Watershed Management Plan (UGVWMP), completed by GRRCD in 2010. The first site is an area of severe aggradation in Green Valley Creek. The proposed project consists of a geomorphic assessment to identify causes of the aggradation and preparation of final engineering designs, CEQA analysis, and all permit applications for work necessary to reduce the aggradation. The second site is at Thomas Creek Ranch adjacent to Green Valley Creek. The proposed project entails the preparation of final engineering designs, CEQA analysis and permit applications for an off-channel coho habitat enhancement project.

Green Valley Creek, a major tributary to the lower Russian River, provides critical habitat for a number of special-status species including coho salmon, steelhead trout, California freshwater shrimp, northwestern pond turtle, northern spotted owl, and foothill yellow-legged frog. Severe aggradation (sediment deposition) of Green Valley Creek, on the order of several meters, in the reach upstream of its confluence with Atascadero Creek, has resulted in frequent flooding in the area of the Green Valley Road Bridge and the Korbel Vineyard. The stream spills over Green Valley Road approximately every 2 or 3 years. Inundation of the vineyard causes potential stranding of both spawning adult and outmigrating juvenile coho salmon as floodwaters recede. Aggradation also has an effect on summer low flows in this reach. As sediment accumulates in the channel, low flows recede into the stream substrate earlier in the year, leaving the creek dry for much of the summer and fall. In addition to potential impact to endangered fish populations, the Green Valley Creek Bridge and part of Green Valley Road are impassable during flooding, and aggradation has reduced the capacity of the bridge to convey streamflow.

Aggradation of this reach has been observed for some time, and is likely linked to watershed-scale geomorphic changes. Severe channel incision has been observed in the upper reaches of Green Valley Creek, as well as its tributary, Purrington Creek. Both streams have been identified by California Department of Fish and Game (DFG) as critical coho spawning and rearing habitat. Both the flooding with its potential fish stranding and summer low flow situations threaten the viability of these streams as coho habitat.

For the aggradation component of the proposed project, the GRRCD will undertake a

geomorphic assessment of the aggrading reach and upstream processes to identify and evaluate factors influencing aggradation. With partner organizations, the GRRCD will synthesize available digital, historic, aerial photo and other data, conduct field surveys of both the aggrading and upstream reaches, model stream hydrology and hydraulics, and evaluate sediment sources and flows to assess potential influences both within the reach and in the upstream channel and watershed area. Project goals will be to determine the proximate and ultimate causes of sedimentation within the reach, assess both historic and recent rates of aggradation, and recommend a range of treatment options to reduce the current level of aggradation and eliminate or reduce the sources of sediment leading to the aggradation. Once the assessment is complete, GRRCD will work with County Public Works and a consultant to design a project that achieves all stated goals. In addition, GRRCD will conduct the appropriate environmental review pursuant to the California Environmental Quality Act (CEQA) and prepare applications for all necessary permits to enable project implementation.

The second component of the proposed project is an off-channel coho habitat design project at Thomas Creek Ranch. The ranch is a large retired agricultural property on lower Green Valley Creek bordered by two small tributaries. The location within the watershed and the geomorphic attributes of the site suggest that this reach may have once supported complex off-channel rearing habitat. GRRCD has completed a feasibility analysis and preferred alternatives assessment with landowner cooperation and is requesting funding to take the preferred alternative to final engineered designs and to prepare all necessary ecological permit applications so that the project can be immediately implemented.

Since 1941, the Gold Ridge Resource Conservation District has been providing educational, technical and funding assistance to agricultural operators in watersheds throughout the district. GRRCD has successfully implemented and completed numerous federal and state-funded grant programs. GRRCD's most recent implementation project completed in 2006 was the Bodega Bay Coastal Streams Restoration Project that included project management on the design, engineering, permitting, and construction of large gully and streambank restoration projects on agricultural land in the Bodega Bay Hydrologic Area.

**Site Description:** Located between Occidental and Forestville approximately 8 miles inland from the coast, the Green Valley Creek watershed is a sub-basin of the Atascadero-Green Valley watershed, an important tributary of the Russian River. Green Valley watershed contains 18.7 miles of upper watershed streams that support a number of special-status species including remnant populations of coho salmon, steelhead trout, California freshwater shrimp, northwestern pond turtle, northern spotted owl, and foothill yellow-legged frogs. The watershed provides critical summer flows to the Russian River in addition to functioning as spawning and rearing habitat. The overwhelming majority of land in the watershed is owned privately and faces water demand pressures as the area's resident population continues to grow.

**Project History:** With support from the Conservancy, the GRRCD has successfully planned and implemented sediment assessment and resource enhancement projects in Salmon Creek, Estero Americano and Dutch Bill Creek watersheds in western Sonoma County. In 2008, the Conservancy funded the GRRCD to prepare the Upper Green Valley Watershed Management Plan (UGVWMP). The UGVWMP, completed in 2010, provides a description of existing watershed conditions, identifies data gaps, identifies and prioritizes sediment reduction and other restoration projects and provides management practices to support agricultural and

environmental sustainability. This integrated plan incorporated the work of current and on-going projects in the Green Valley Creek watershed conducted by CA Department of Fish and Game, (CDFG), University of California Cooperative Extension (UCCE), the Atascadero/Green Valley Creek Watershed Group (AGVCWG), the Sonoma County Water Agency (SCWA), Pacific Watershed Associates and Dragonfly Stream Engineering. CDFG has been conducting stream surveys in the area since the late 1960s to assess conditions for salmonids and other aquatic species. The most recent habitat and biological inventories for the area were updated by CDFG in 2006. Since 2001, UCCE, CDFG and a number of partners, including the National Oceanic and Atmospheric Administration restoration Center (NOAA), have been conducting a captive broodstock breeding program to support native salmonid populations in the Russian River. Green Valley Creek is among the tributaries being used for this effort and monitoring data has been collected both on broodstock outcomes and stream habitat.

The two components of the proposed project were identified in the UGVWMP by the NOAA Restoration Center, CDFG, UCCE Coho Broodstock Program and local landowners as being of the highest priority for implementation. The proposed project components will enhance salmonid habitat in the Guerneville Hydrologic Sub Area (HSA), which has been identified by CDFG (2004) as having the highest ranking (level 5) for restoration and management potential.

The proposed project dovetails with the Russian River Coho Water Resources Partnership, which is working to ensure adequate summer environmental instream flows in five key watersheds in the Russian River, which includes the Green Valley Creek watershed. Collectively, all projects in the watershed will significantly improve salmonid habitat and will likely result in increased coho salmon populations.

### PROJECT FINANCING

Coastal Conservancy	\$150,000
Sonoma County Water Agency	50,000
CA Department of Fish and Game	25,000
Gold Ridge RCD	5,000
<b>Total Project Costs</b>	<b>\$230,000</b>

Staff expects to use funds appropriated to the San Francisco Bay Conservancy Program in fiscal year 2008-09 from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (“Proposition 84”) (Public Resources Code § 75001 *et seq.*) These funds are available for projects that protect coastal waters and watersheds, including by restoration, and that are consistent with Chapter 4.5 of Division 21 of the Public Resources Code, i.e., the San Francisco Bay Area Conservancy Program. See Public Resources Code §§ 75005(m) & 75060(c). Use of Proposition 84 funds for the proposed project is appropriate because the proposed project will result in the designs, environmental review and permit applications that are necessary to restore fish habitat in the Green Valley Creek watershed, which drains into the Russian River, a coastal watershed. Funding the proposed project is consistent with Chapter 4.5 of Division 21 of the Public Resources Code, as described below.

**CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:**

The proposed project is consistent with the provisions of Chapter 4.5 of Division 21 of the Public Resources Code, §31160-31165, which authorizes the Conservancy to award grants in the nine-county San Francisco Bay Area to help achieve stated goals. Specifically, the proposed project, located in coastal Sonoma County, is consistent with § 31162(b), which authorizes the Conservancy to award grants to protect, restore, and enhance natural habitats and connecting corridors, watersheds, scenic areas and other open space resources of regional importance. The proposed project will contribute to the restoration and enhancement of regionally important salmonid habitat.

**CONSISTENCY WITH CONSERVANCY'S 2007 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5, Objective A** of the Conservancy's 2007 Strategic Plan, the proposed project will restore and enhance the biological diversity in a coastal draining watershed by completing planning phases, including detailed designs, environmental documentation and permitting for projects that will reduce erosion and sediment threats to salmonid habitat, while working with local partners and promoting public outreach.

Consistent with **Goal 10, Objective I** of the Conservancy's 2007 Strategic Plan, the proposed project will complete plans and environmental documents necessary to restore or enhance watershed functions and process for the benefit of wildlife.

**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 June 4, 2009, 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. **Support of the public:** The project has received support from the community, NOAA, the Nature Conservancy and elected officials including State Senator Noreen Evans and Supervisor Efren Carrillo. Letters of support are included in Exhibit 4.
4. **Location:** The proposed project will be conducted in the coastal draining Green Valley Creek watershed of western Sonoma County and will benefit anadromous fish spawning habitat in this section of the greater Russian River watershed.
5. **Need:** Without Conservancy funds, this project will not move forward in a timely manner. The synergies gained from implementing this project while there is strong focus on the

watershed from CDFG, NOAA, and other entities will not be realized and enhancements to coho habitat will not be as extensive in the Upper Green Valley Creek watershed.

6. **Greater-than-local interest:** The Green Valley Creek project is of state-wide interest due to the importance of Green Valley Creek and the Guerneville HSA for the recovery of coho salmon and the continued presence of steelhead trout and Chinook salmon.
7. **Sea level rise vulnerability:** The proposed projects are not vulnerable to sea level rise – the Russian River is at about 160 feet above sea level where Green Valley Creek empties into it. The proposed geomorphic assessment will consider potential impacts from storm surges associated with climate change. Recommendations from the assessment will include an adaptive management approach to flood amelioration and attenuation projects in an area which is increasingly inundated during storm events. The Off-Channel Coho Habitat Design project will provide for flood surge attenuation.

### **Additional Criteria**

8. **Urgency:** If no action is taken to assess the source of stream aggradation, Green Valley Creek Road will continue to flood at an ever-increasing rate and salmonids will continue to potentially be stranded near the Green Valley Road Bridge.
9. **Resolution of more than one issue:** This project will potentially benefit coho salmon populations and help resolve frequent flooding of Green Valley road and the adjacent agricultural fields.
10. **Leverage:** See the “Project Financing” section above.
11. **Readiness:** The GRRCD is prepared to commence the project and private landowners are willing to participate in the restoration efforts.
12. **Realization of prior Conservancy goals:** See “Project History” above.”
13. **Return to Conservancy:** See the “Project Financing” section above.
14. **Cooperation:** The geomorphic assessment will be conducted on both upstream and aggraded reaches of (Upper) Green Valley Creek where landowners are willing. The Off-Channel Coho Habitat Design property is owned by landowners willing to participate in a large-scale habitat restoration project.
15. **Vulnerability from climate change impacts other than sea level rise:** The Off-Channel Coho Habitat Design project, when implemented, will improve stormwater retention and groundwater recharge while also enhancing and restoring rearing habitat for juvenile coho. This added habitat may help buffer juvenile salmonid against expected changes due to climate change. Completion of this project brings the project to an implementation-ready stage. Additionally, it will provide design guidelines and project locations for improving rearing habitat in upper Green Valley Creek, which when implemented would further increase salmonid habitat availability.
16. **Minimization of greenhouse gas emissions:** This project will result in the production of greenhouse gas emissions to transport scientists, engineers, and other individuals to perform geomorphic assessments and develop appropriate site-specific streambank restoration and

aquatic enhancement plans. Telephone and electronic communication will be utilized when possible to minimize GHG emissions associated with this planning phase of the proposed projects. Detailed analysis of greenhouse gas emissions from implementing the completed plans will be conducted as part of the planning process. The Coastal Conservancy's *Best Management Practices Checklist for Project Grantees* (2011) will guide both project development and implementation. Project design will include all feasible measures to minimize green house gases during implementation.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The proposed project is consistent with the Sonoma County Local Coastal Program, certified in 1981 and revised in 1999, in respect to Section IV concerning resources for agriculture and land management. The project will lead to future actions that may improve watershed conservation, agricultural viability and correct current detrimental land use and operational practices. The project will identify necessary stream bank stabilization and road improvements consistent with the soil conservation and water quality protection policies Sonoma County's General Plan Resource Conservation Element (Section 2.0-2.2 and 3.0). In addition, the project will develop designs for enhancing habitat for salmonids and utilizing native plants for revegetation consistent with policies calling for the protection of biotic resources, endangered species and the Sonoma County marine fishery (Sections 5.1, 5.2 and 6.1).

**COMPLIANCE WITH CEQA:**

The proposed project is statutorily exempt from review under the California Environmental Quality Act (CEQA) pursuant to 14 Cal. Code of Regulations Section 15262, in that it involves only planning studies for possible future actions which the Conservancy has not approved, adopted, or funded. Planning carried out as part of the project will, however, consider environmental factors, as required by Section 15262. The proposed project is also categorically exempt under §15306, in that it consists of data collection, research, and resource evaluation activities that will not result in a serious or major disturbance to an environmental resource. Staff will file a Notice of Exemption upon authorization of the project.