

COASTAL CONSERVANCY

Staff Recommendation

April 27, 2017

**CARBON FARMING FOR AGRICULTURE AND WATERSHED RESILIENCY**

Project No. 17-002-01

Project Manager: Su Corbaley

**RECOMMENDED ACTION:** Authorization to disburse up to \$200,000 to the Marin Resource Conservation District to plan and implement carbon farming projects that improve soil productivity, water sustainability and greenhouse gas sequestration for agriculture and watershed resiliency on ranches in western Marin County and adoption of findings under the California Environmental Quality Act.

**LOCATION:** Western Marin County

**PROGRAM CATEGORY:** Integrated Coastal and Marine Resources Protection

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**EXHIBITS**

Exhibit 1: Project Location Maps

Exhibit 2: Examples of NRCS Practices and Associated Benefits

Exhibit 3: Project Letters

Exhibit 4: Initial Study/Mitigated Negative Declaration for the Marin Coastal Watersheds Permit Coordination Program

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**RESOLUTION AND FINDINGS:**

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31113 and 31220 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes the disbursement of up to two hundred thousand dollars (\$200,000) to the Marin Resource Conservation District (MRCD) to implement carbon farming projects that improve soil productivity, water sustainability and greenhouse gas sequestration for agriculture and watershed resiliency on ranches in western Marin County.

This authorization is subject to the following conditions:

1. Prior to the disbursement of funds, MRCD shall submit for the review and approval of the Conservancy’s Executive Officer:

- a. An initial project work program, including names and qualifications of any contractors to be retained and the schedule and budget, for the planning and development phase of the project.
  - b. A plan for acknowledging Conservancy funding.
  - c. The form of the landowner 10-year maintenance and monitoring agreement that MRCD proposes to use.
  - d. Any other agreements determined necessary for the project by the Conservancy's Executive Officer.
2. Prior to implementing any individual carbon farming project, MRCD shall:
- a. Submit for review and approval of the Executive Officer a separate work program, schedule and budget, and the names and qualifications of contractors to be retained, for the carbon farming project.
  - b. Ensure that the carbon farming project has been issued a permit under the Marin Coastal Watersheds Permit Coordination Program, if required, and any other permit or approval required to implement the project.
  - c. Provide documentation to the Executive Officer that the landowner and MRCD have entered into and recorded a 10-year maintenance and monitoring agreement for the carbon farming project.
3. Conservancy funding shall be acknowledged by erecting and maintaining on the property on which each carbon farming project is undertaken a sign or signs, the design and placement of which has been reviewed and approved by the Executive Officer, or by some other alternative form of acknowledgement, appropriate to the project and approved by the Executive Officer.
4. MRCD shall monitor and ensure compliance with any permit or approval for the carbon farming project and with the provisions of the mitigation and monitoring plan incorporated into the Mitigated Negative Declaration, attached to the accompanying staff recommendation as Exhibit 4.”

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 authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding Integrated Coastal and Marine Resources Protection projects.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.
3. The Coastal Conservancy has independently reviewed and considered the information contained in the Initial Study/Mitigated Negative Declaration for the Marin Coastal Watersheds Permit Coordination Program and the public comments (all in Exhibit 4 to the staff recommendation) and finds that no additional CEQA documentation is required and that the project, as mitigated, will avoid, reduce or mitigate the possible significant environmental effects of the project to a level of insignificance, and that there is no substantial evidence that the project will have a significant adverse effect on the environment.”

**PROJECT SUMMARY:**

Staff recommends the Conservancy authorize disbursement of up to \$200,000 to the Marin Resource Conservation District (MRCD) to plan and implement Carbon Farming Projects (CFPs) for agriculture and watershed resiliency on ranches in western Marin County (Exhibit 1). CFPs involve the implementation of agricultural practices that increase soil health and water holding capacities on coastal rangelands, recharge groundwater tables, increase carbon sequestration, reduce runoff rates and enhance riparian and aquatic habitats for fisheries. Pursuant to the proposed authorization, MRCD, in collaboration with the Marin Carbon Project (MCP), will plan and then implement 5 to 10 CFPs on Marin ranches to sequester carbon and improve water supply and quality. Initiated in 2008, the MCP is a collaboration between University of California (UC), Berkeley, UC Cooperative Extension, Marin Agricultural Land Trust (MALT), MRCD, the USDA Natural Resources Conservation Service (NRCS), Marin County Agricultural Commissioner, and Nicasio Native Grass Ranch, working in concert with the County of Marin, Environmental Defense Fund, the Carbon Cycle Institute and many others.

Agricultural lands in the San Francisco Bay Area are critically important. They provide food and fiber to the world and local food security to the region. They also provide essential ecosystem services, and help to mitigate the impacts of climate change. However, due to economic pressures from operational and infrastructure costs and the value of the land for development, these agricultural lands are constantly at risk of conversion to other land uses. Maintaining and enhancing economic returns through improved production is key to keeping these lands in ranching. Inadequate or unpredictable water supply is another issue that has significant effects on operating costs and serious consequences to aquatic species and riparian habitat. While the winter of 2016/2017 has seen record rains, periodic drought conditions are predicted to become the new norm as the climate changes. Reduced water availability for ranching will impact range and pasture productivity, and may result in increased stream withdrawals, which can negatively affect threatened and endangered salmonids in Marin County. Coho salmon are nearly extirpated from many historic stream habitats and steelhead have undergone drastic population declines.

The proposed project addresses all of the above issues and more, including habitat connectivity, local food security, and carbon sequestration. Carbon farming has been shown to increase forage production by 40-70 percent, thus increasing range productivity and insulating ranchers from economic incentives to sell their land. Carbon farming also increases long-term carbon storage, improves air quality, and increases community and agricultural resilience to climate change.

CFPs funded under this authorization will draw from a suite of practices developed in cooperation with the NRCS. These practices generally involve stream and other restoration activities and include: Riparian Herbaceous Cover, Riparian Forest Buffer, Riparian Restoration, Stream Habitat Improvement, Field Border, Filter Strip, Grassed Waterway, Tree/Shrub Establishment, Silvopasture (i.e., tree/shrub planting on existing unfertilized grazing land), Windbreak/Shelterbelt, Hedgerow, Conservation Cover, Range Planting Mulching or Composting, Prescribed Grazing, and Critical Area Planting. Supporting practices include: Fencing for vegetation protection, Water Development for alternative water sources, and improvement of stream crossings. See Exhibit 2 for descriptions and photos of these practices.

For the most part, the CFPs implemented under the proposed project will encompass enhancement practices that were included under the Marin Coastal Watersheds Permit Coordination Program (PCP). The PCP streamlines permitting by nine federal, state, and local agencies for projects that follow 17 approved conservation practices, which are described in the PCP's environmental document (Exhibit 4, page 12). In addition, the CFPs that will be implemented also include a few additional practices, which, especially to the extent that they involve activities outside of stream and riparian areas, were not explicitly described or assessed under the PCP. These practices include: Tree/Shrub Establishment, Silvopasture, Windbreak/Shelterbelt, Hedgerow, Range Planting, Mulching, Compost and Prescribed Grazing and the supporting practice of fencing for vegetation protection and Water Development for alternative water sources.

The CFPs implemented by this project will enhance the soil's water-holding capacity and increase groundwater recharge, and through the hyporheic (subsurface) zone, instream flow, thereby potentially increasing summer flows for salmonids. Earlier carbon sequestration research has found that by implementing one-half inch of compost application, soil moisture is increased by 17-25 percent, thus reducing water needs and increasing resiliency to long-term drought conditions. According to the NRCS, a 1 percent increase in soil organic matter can result in an astounding additional 20,000 gallons of water stored in soils per each acre treated.

In its initial carbon farm planning project, funded by the Conservancy, MRCD received 20 applications from ranchers for assistance. A Technical Advisory Committee will evaluate these proposals, conduct site visits, and rank the projects based on their potential benefits for wildlife habitat, water quality, feasibility, catalyzing future conservation projects, and cost effectiveness. Through the proposed project, MRCD will prepare plans for the 10 highest-ranking applications. From those ten, MRCD will complete design and engineering plans, secure permits for work in and around riparian/wetland areas, and implement between 5 and 10 of the highest priority CFPs (those providing the greatest ecosystem benefit when evaluating the practice and the scale of the project area, combined). Permitting for the enhancement projects to be funded by this grant would be provided through the Marin Coastal Watersheds Permit Coordination Program (PCP), to the extent applicable.

The project will require landowners to enter into and record a 10-year monitoring and maintenance agreement with MRCD to ensure carbon sequestration goals are met. At least five of the project ranches are protected by conservation easements held by MALT ensuring very long-term maintenance of project results through monitoring required by MALT's easements.

In order to document carbon sequestration, baseline soil samples will be collected to test for soil organic carbon and bulk density content. Samples will be taken in years 1 (pre-project) and 3 (post-project). They will be compared to 5 and 10-year results, collected during the term of the Conservancy grant agreement. All practices will be aggregated and summarized to reveal ecosystem benefits and the results will be presented to the MCP and Marin County Climate Action Plan Implementation Team and shared with other interested parties to showcase climate resiliency benefits and to plan for future implementation actions.

MRCD is qualified and capable to undertake the proposed project. It is a founding member of the MCP, and has recently completed a Conservancy-funded Carbon Farm Planning project to develop protocol for carbon beneficial farming practices and implement pilot projects on Marin ranches. In addition, MRCD has a long history of successful implementation of restoration and enhancement projects on Marin ranch lands.

**Site Description:** The proposed project will occur on private agricultural lands in Marin County participating in the MCP (Exhibit 1). Marin County’s small livestock, dairy and poultry farms cover 148,000 acres of coastal rangelands just one hour north of San Francisco. The area is home to farmers that embrace a stewardship ethic; approximately eighty percent of Marin’s dairies (40,676 acres) are certified organic. All of the properties included in this project are located in coastal watersheds draining to Tomales Bay. Due to impaired water quality that threatens habitat for endangered fishes, reptiles and migrating birds, Tomales Bay is recognized by local, state, and federal agencies, warranting a high level of protection. Many threatened and endangered species inhabit the watershed, including California freshwater shrimp, coho salmon and steelhead trout. Tomales Bay, part of the Gulf of Farallones National Marine Sanctuary, supports large numbers of wintering and migrating shorebirds, making it a significant habitat to preserve and protect from degradation.

**Project History:** In 2014, the Conservancy granted \$200,000 to MRCD to develop action plans and beneficial practices for carbon farming. Through that planning, in addition to studying the effects of composting for carbon sequestration, MRCD developed template Carbon Farm Plans and identified established NRCS ranch practices that have carbon beneficial properties. MRCD contributed to a state-wide effort involving MCP and others to develop a carbon farm plan model that can be shared and scaled regionally throughout the state. That project also supported (through research results) the development of the NRCS GHG modeling software used to plan and implement ranch conservation practices that benefit carbon sequestration and improve habitat response to climate change. The 2014 Conservancy grant also supported projects on three ranches that demonstrated the benefits of rangeland compost use in reducing GHG emissions, sequestering carbon and maintaining soil moisture content. Together with its collaborators, MRCD completed research that has been adopted and supported state-wide. Utilizing the research results, MCRD is providing planning assistance to ranchers throughout Marin County and is assisting in the development of carbon programs in other counties for other land uses.

The proposed project expands on the successes of earlier compost pilot projects and provides a suite of additional practices that improve natural resource resilience to climate change and enhance carbon sequestration.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	\$200,000
MRCD	\$50,000
NRCS	\$60,000
<b>Project Total</b>	<b>\$310,000</b>

The anticipated source of funding for this project is the fiscal year 2016/2017 appropriation 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 those purposes, including the following: (1) protect and increase the economic benefits

arising from healthy watersheds, fishery resources and in-stream flow; (2) implement watershed adaptation projects to reduce the impacts of climate change on California's communities and ecosystems; (9) protect and restore rural and urban watershed health to improve watershed storage capacity, forest health, protection of life and property, storm water resource management, and greenhouse gas reduction; (10) protect and restore coastal watersheds including but not limited to, bays, marine estuaries, and near shore ecosystems; (11) reduce pollution or contamination of rivers, lakes, streams, or coastal waters, prevent and remediate mercury contamination from legacy mines, and protect or restore natural system functions that contribute to water supply, water quality, or flood management; (12) assist in the recovery of endangered, threatened, or migratory species by improving watershed health, in-stream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation; and (13) assist in water-related agricultural sustainability projects.

Section 79732(a) states more specifically that these funds may be used to "implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystems." Consistent with this provision, the project will help make Marin County ranch lands resilient to climate change through increased soil moisture retention, increased instream water supply and protection of water supply for both human and natural communities.

Section 79732(a) also states that these funds may be used to "protect and restore aquatic, wetland, and migratory bird ecosystems including fish and wildlife corridors," "collaborate with federal agencies in the protection of fish native to California," and "assist in the recovery of endangered, threatened, or migratory species by improving watershed health". Consistent with these provisions, the project would continue existing collaborative efforts among local, state and federal agencies toward the restoration of aquatic and riparian ecosystems serving as fish and wildlife corridors for native Californian endangered coho and steelhead. Furthermore, the project will result in improved water quality draining to Tomales Bay, utilized by aquatic endangered fish, and protected migratory waterfowl.

As required by Proposition 1, the proposed project provides multiple benefits. By facilitating watershed restoration projects through carbon-beneficial processes, the project will result in enhanced soil and water quality, sustainable agricultural production, enhanced habitat for threatened or endangered species, and enhanced landscape connectivity. Finally, this project advances previous Conservancy-funded planning efforts to address climate change resiliency in Marin County.

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", MRCD will provide \$110,000 in local funds (private donations and Marin County Measure A funds established through a voter-approved tax measure in part for protection of Marin agricultural lands). MRCD will also provide \$1,800 of in-kind staff time toward 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 Section 31113 of Chapter 3 of Division 21 of the Public Resources Code, regarding the impacts and potential impacts of climate change on resources within the Conservancy's jurisdiction. Pursuant to Section 31113 (b), the Conservancy is authorized to award grants to public agencies to undertake projects that reduce greenhouse gas emissions. The Marin RCD is a public agency, and the primary goal of the project is to improve carbon sequestration on agricultural lands, thereby helping to reduce the effects of greenhouse gas emissions.

The proposed project would also be undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resources Code, Section 31220, regarding grants for coastal watershed and coastal and marine habitat water quality, sediment management, and living marine resources protection and restoration projects. As required by Section 31220 staff has notified the State Water Resources Control Boards of the nature of these projects and provided the opportunity for comment, input and review.

Pursuant to Section 31220(b)(2), the Conservancy is authorized to undertake a project or award a grant for a project that protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds. This project will result in reduced surface sediment runoff from ranchlands thereby improving the water quality draining to Tomales Bay. Additionally, the project will result in longer sustained summer flows in creeks that support (or historically supported) fish populations.

Pursuant to Section 31220(b)(6), the Conservancy is authorized to undertake a project or award a grant for a project that acquires, protects, and restores coastal wetlands, riparian areas, floodplains, and other sensitive watershed lands, including watershed lands draining to sensitive coastal or marine areas. Consistent with this section, the project will result in additional riparian habitat planted in and around creeks draining to Tomales Bay.

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."

Finally, consistent with Section 31220(c), projects that will be implemented under the proposed authorization will include a monitoring and evaluation component.

**CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN  
GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:**

Consistent with **Goal 5, Objective D** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 projects that enhance coastal watersheds through riparian restoration and improved soil moisture content and reduced runoff.

Consistent with **Goal 5, Objective G** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 projects that improve water quality by reducing surface runoff and improve riparian health.

Consistent with **Goal 6, Objective A** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will develop 10 plans to reduce water needs and increase land productivity, thus fostering long-term viability of working lands.

Consistent with **Goal 6, Objective B** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 projects that foster long-term viability of working lands by reducing water needs and increasing land productivity.

Consistent with **Goal 7, Objective E** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 pilot projects that address climate change impacts to uplands by enhancing agricultural lands' resiliency to climate change.

Consistent with **Goal 7, Objective F** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 projects that reduce GHG through carbon sequestration.

Consistent with **Goal 13, Objective B** of the Conservancy's 2013-2018 Strategic Plan, the proposed project will implement a minimum of 5 projects that assist ranchers with stewardship of agricultural lands.

### **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 2, 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:** The project will help implement the following plans:

*California @ 50 Million: The Environmental Goals and Policy Report* (2013 Draft, Governor's Office of Planning and Research)

**Goal: Steward and Protect Natural and Working Landscapes** The proposed project protects agricultural lands from conversion by providing land managers with carbon farming management actions that will add resiliency to the agricultural operation as well as the surrounding community and the ecosystems within the landscape.

*CA Climate Adaptation Strategy/Safeguarding California: Reducing Climate Risk Plan* (2014 Update, California Natural Resources Agency)

**Goal: Agricultural Risk Management Strategies** (soil conservation practices and building soil health, adjusting and diversifying crop/livestock mix, use of innovative sustainable farm operation systems that integrate energy, water, and natural resource conservation, technological and scientific innovation, enhancing water use efficiency, watershed protection, and implementing management practices to store carbon in soils). Carbon farming plans developed by MRCD include all of these strategies and provide multiple benefits including increased instream flow, improved water quality, and improved habitat.

*California Wildlife Action Plan (2015 Update, California Department of Fish and Wildlife)*

**Goals:** North Coast Conservation Strategy 2: Habitat restoration and enhancement, North Coast Conservation Strategy 3: Develop buffers along major rivers and streams, North Coast Conservation Strategy 7: coordinate with RCDs, and other groups. Steelhead and coho are identified as focal species. The proposed project will enhance important salmonid streams and buffer those streams from impact through riparian restoration and enhancement and other vegetation planting. Additionally, MRCD, which is leading the effort, will coordinate the carbon farming effort with the California Department of Fish and Wildlife where appropriate.

*Central California Coast Coho Salmon ESU Recovery Plan (2012, National Oceanic and Atmospheric Administration, incorporated into State and federal recovery plans for anadromous fish species)*

**Goals:** Protect habitats in good conditions, Restore currently impaired habitats. This project will further both of these goals; projects will be prioritized that benefit both currently bearing coho salmon streams and those with a history of and potential for supporting coho.

*California Agricultural Vision: Strategies for Sustainability (2010, American Farmland Trust (report to California Department of Food and Agriculture)*

**Goals:** Expand environmental stewardship on farms and ranches, Assure agricultural adaptation to climate change, Promote agricultural research that anticipates 21st century challenges. The proposed project assists farmers with implementation of carbon farming practices on their farms. These practices are expected to protect agriculture, protect the environment, help agricultural producers to adapt to climate change, and continue to support local research on carbon farming practices.

4. **Support of the public:** In addition to the many Marin County ranchers applying to the program, several local and state individuals and organizations support the proposed project, including Congressman Jared Huffman, State Assembly member Marc Levine, and State Senator Mike McGuire. See Exhibit 3 for Project Letters.
5. **Location:** The proposed project will occur on ranch lands located partially within the coastal zone of Marin County. Although some of these lands are located outside the coastal zone they provide habitat critical to supporting salmon and steelhead populations, which are coastal resources, the protection of which is within the Conservancy's jurisdiction under Public Resources Code section 31220.
6. **Need:** Without Conservancy funding, the project would be delayed or the number of multiple-benefit carbon farming projects implemented significantly reduced, leaving Marin County ranches with limited ecosystem resiliency to climate change effects.
7. **Greater-than-local interest:** This proposal is an outgrowth of the Conservancy-funded Marin Carbon Farm Planning project, which served as a state-wide model and includes planning, implementation and scaling of carbon-beneficial conservation practices on working lands to increase ecosystem carbon, agroecosystem biodiversity, soil health and water holding capacity. State-wide carbon farming capacity will benefit from continuation of MCP. Furthermore, the Bay Area has been identified as one of the nation's six most important "biodiversity hotspots" by the Center for Biological Diversity (undated) that includes federal

and/or state listed Threatened and Endangered species. Carbon farm planning and practice implementation will provide multiple benefits by helping to keep farming sustainable while increasing instream flow and improving water quality and habitat for at-risk species.

8. **Sea level rise vulnerability:** Approximately 80 acres of one of the ranches considered for implementation are projected to be affected by sea level rise. These acres will not be included for treatment under the proposed project; MRCD may apply for other funding to assist with sea level rise adaptation at that location. The remaining acreage on that property, like all other ranches considered for project implementation, will not be affected by sea level rise.

### **Additional Criteria**

10. **Resolution of more than one issue:** The proposed project both reduces GHG and provides for climate change adaptation.
11. **Leverage:** See the “Project Financing” section above.
13. **Innovation:** The proposed project will employ two new protocols: Compost Application on Grazed Rangelands and NRCS Soil Monitoring Protocol. The compost application protocol has been approved by the American Carbon Registry, Bay Area Air Quality Management District, and California Air Pollution Control Officers Association (an association of air pollution officers representing all 35 local air quality agencies throughout California). The NRCS Soil Monitoring Protocol was developed by Area 1 NRCS in collaboration with Santa Rosa Junior College Sustainable Agriculture program and the North/Central Coast RCDs.
14. **Readiness:** With all the necessary tools at its disposal, and all other funds in place, MRCD is able to begin work immediately.
15. **Realization of prior Conservancy goals:** See “Project History” above.
17. **Cooperation:** MRCD’s Carbon Farming Program is an extension of MCP, a collaboration between UC Berkeley, UC Cooperative Extension, Marin Agricultural Land Trust, MRCD, the USDA NRCS, Marin County Agricultural Commissioner, and Nicasio Native Grass Ranch, working with the County of Marin, Environmental Defense Fund, the Carbon Cycle Institute and many others.
18. **Vulnerability from climate change impacts other than sea level rise:** Marin County coastal rangelands are affected by drought and shifts in fog patterns. Ranchers have, at times, sold off herds early in the season due to lack of forage, high cost of imported feed and limited water supplies. Practices implemented by the proposed project will increase the resiliency of coastal rangeland ecosystems to predicted climate change scenarios. The compost application improves soil structure and soil moisture retention and can increase forage production by as much as 60 percent. While higher pasture production could mean increased rangeland fuel loads and temporarily promote fire spread, cover height is managed through grazing. The proposed project will also help increase species and habitat resiliency due to the implementation of planting practices, depicted in Exhibit 2. Additionally, “climate smart” planting projects have been designed for partners of the MCP. These incorporate drought tolerant plants and a variety of species to guarantee that wildlife have year round food and shelter resources.

19. **Minimization of greenhouse gas emissions:** The proposed project will implement carbon sequestration projects that are expected to have a net benefit in reducing GHG for longer than 20 years. All ranchers agree to maintain the carbon practices for a minimum of ten years.

**CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:**

The Marin Resource Conservation District project areas will be within coastal zone draining watersheds of Tomales Bay. The Marin County Local Coastal Program Unit 2 Land Use Plan (LCP) identifies Marin’s numerous coastal zone streams and creeks as sensitive habitats for many species of birds and fish. Freshwater inflows, sedimentation, water pollution, and protection of riparian habitats are identified as the key concerns for protecting the aquatic resources of the Tomales Bay ecosystem (LCP, pp. 66-67). The project enhances habitat values and water quality of coastal waters, and is thus consistent with the following policy contained in the Marin Local Coastal Program Amendment (2012):

*C-WR-1. Water Quality Protection and Biological Productivity.* Monitor, protect, and enhance the quality of coastal waters for the benefit of natural communities, human health, recreational users, and the local economy. Maintain and, where feasible, restore the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health through means such as minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The proposed project will implement plans that includes carbon-beneficial practices on working lands that improve soil carbon and soil health which will enhance the ecosystems services provided by working lands, seek to reduce greenhouse gases, sequester atmospheric carbon in soils and provide for healthy watersheds that are resilient to climate change. Additional benefits include providing improved water quality and habitat for wildlife and people and the improved viability of sustainable agriculture. Therefore, the proposed project is consistent with the Local Coastal Program Policies.

Section 2 of the Marin LCP also articulates a general agricultural policy to:

. . . protect the existing and future viability of agricultural lands in its coastal zone. These policies are also intended to...protect coastal wildlife, habitat and scenic resources in accordance with Section 30240 of the Coastal Act.” (pg. 98).

By working with private landowners, the Marin Resource Conservation District will improve the viability of agricultural lands and enhance the natural resources within the watershed.

Sedimentation, water pollution, and protection of riparian habitats are identified as the key concerns for protecting the aquatic resources of the Tomales Bay ecosystem into which the streams and creeks flows. (LCP, Unit II at pp. 66-67). Because the proposed project will restore riparian and in-stream habitat of the project area the proposed project is consistent with the LCP Policies.

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

This project is consistent with the *San Francisco Bay Area Integrated Regional Water Management Plan* (September 2013) Chapter 3, Goals and Objectives: Improve water supply reliability and quality including identification of feasible agricultural and urban water use efficiency strategies; protection and improvement of water quality within the area of the Plan consistent with relevant basin plan, identification of any significant threats to groundwater resources from over drafting; and, protection, restoration, and improvement of stewardship of aquatic, riparian, and watershed resources within the region. This project is also consistent with the *Tomales Bay Watershed Stewardship Plan: A Framework for Action* (July 2003) under Goal C, Objective 1: encourage comprehensive planning to address watershed issues and facilitate interagency coordination and cooperation. This project is consistent with the *Stemple Creek/Estero de San Antonio Watershed Enhancement Plan* (July 1994) which seeks to assist agricultural producers with practices that promote the conservation and enhancement of natural resources.

**COMPLIANCE WITH CEQA:**

The proposed project will improve the health and function of the ranch lands in the Tomales Bay watershed to benefit its coastal resources by creating critical habitat and increasing water supply to threatened and endangered salmonid species. It will also reduce greenhouse gases through the carbon sequestration capacity of certain routine NRCS Ranch Practices.

All riparian and wetland practices requiring CEQA review and permits are pre-authorized under MRCD's Marin Coastal Permit Coordination Program (PCP), which identifies 17 commonly used USDA Natural Resource Conservation Service rangeland practices in Marin County. These practices were assessed under CEQA as part of the PCP approval process, as described below. The permit program was initiated in 2004 with Conservancy funding, and updated and approved by MCRD in 2010.

On November 22, 2010, as the lead agency under CEQA, MRCD adopted a Mitigated Negative Declaration (MND) for its revised Marin Coastal Watersheds Permit Coordination Program and approved the Program (Exhibit 4, MND). In adopting the MND, MRCD determined that projects under the Permit Coordination Program, consisting of the 17 pre-approved and defined enhancement practices, would not have a significant effect on the environment with the identified mitigation measures incorporated into the project. The MND identified mitigation measures associated with potential impacts to biological resources, geology and soils, hazards and hazardous materials, and hydrology and water quality. These mitigation measures were incorporated into the project design as a condition of approval. In addition, MRCD incorporated a Mitigation Monitoring Plan (MMP) with respect to these mitigation measures (Exhibit 4, page 35) and requires each individual project to complete an initial checklist to ensure there are no previously unidentified impacts which require further environmental analysis.

The CFPs will include restoration projects that fall under the Permit Coordination Program and consist of enhancement activities which have been approved under the Permit Coordination Program and which are the subject of the MND. (See Exhibit 4). The restoration actions are

designed to control erosion, increase riparian habitat, and stabilize eroding channels. With the Marin Coastal Watershed Permit Coordination Program in place and acting as a guide, MRCD will implement the projects at an appropriate size, scale, and scope to qualify for coverage.

Staff has reviewed the Mitigated Negative Declaration prepared by MRCD, and the associated public comment, the incorporated MMP, and the individualized initial checklists for the projects funded under this authorization. The MND discusses potential environmental impacts of the project activities. Key areas considered include impacts to biological resources, geology/soils and hydrology/water quality. In all circumstances, potential impacts identified were minor and temporary, and mitigation measures were designed to ensure that potential disturbances will result in less than significant impacts and will provide for improved aquatic, riparian and/or upland habitat and decreased sedimentation in water bodies that benefit wildlife.

With respect to biological resources, potential impacts caused either directly or through habitat modification were identified. However, the project will not have a substantial adverse effect because project implementation avoids short-term adverse impacts through mitigation measures such as constraining the permissible work window to avoid nesting or breeding seasons of birds and terrestrial animals, minimizing site access points, and taking other precautionary measures to avoid the spreading of invasive species, trash, or hazardous materials such as equipment lubricants, etc. Long-term, the project activities are designed to improve and restore stream habitat, to provide a long-term benefit to both anadromous salmonids and other fish and wildlife. MRCD will get approval from the DFG and USFWS prior to project implementation to assure that, as envisioned, project impacts have been eliminated or minimized. When deemed necessary by DFG and/or USFWS, a qualified biologist will be onsite during construction.

Concerning soil erosion, Best Management Practices (BMPs) will be utilized during construction to prevent soil loss and polluted runoff. Biotechnical repairs will be the first option for implementation. Related to hydrology/water quality, BMPs will also be used, as well as mitigation measures incorporated as conditions of the Fish and Game Code §1600, *et seq.*, Streambed Alteration MOA which are part of the MND. Waste Discharge Requirements from the North Coast and San Francisco Bay Regional Water Quality Control Boards are also incorporated into the project designs.

Two comments were received on the proposed MND during the public comment review period, one from the California Department of Fish and Wildlife (DFW) and one from Caltrans. These letters are included in Exhibit 4. These comment letters advised MRCD that projects implemented under the PCP could require permits from DFW and Caltrans. DFW further stated that the work would have to be conducted in a manner that would allow MRCD to be the permit holder, and that the MND did not necessarily provide adequate information to meet permit requirements under the California Endangered Species Act. MRCD satisfied the concerns of DFW and Caltrans by clarifying information in the MND. MRCD determined that it did not need to revise the MND in response to these comments. MRCD works with DFW and Caltrans to permit each individual project as necessary and provides whatever information is required.

Staff has independently evaluated the MND and concurs with MRCD's findings that with the incorporated MMP, the proposed project's potentially significant effects have been reduced to a

less than significant level and that the project activities will not have a significant adverse effect on the environment.

As noted in the Project Description section, above, some of the CFPs that MRCD could utilize on individual ranches under the proposed project may include practices that were not explicitly described or assessed under the PCP and the associated MND. These may include: Tree/Shrub Establishment, Silvopasture, Windbreak/Shelterbelt, Hedgerow, Range Planting, Mulching, Compost and Prescribed Grazing and the supporting practices of fencing for vegetation protection and Water Development for alternative water sources. To the extent that these were not directly described or assessed under the MND, the proposed project does vary in this regard from those assessed by the MND.

However, staff does not believe that these added project elements create a circumstance, which would require additional CEQA documentation. Under the CEQA Guidelines, 14 California Code of Regulations, Section 15162 (whether project changes after MND approval require subsequent CEQA review), additional documentation is only required if the proposed activity that has previously been assessed under the MND or that has changed since the MND was approved, has potential significant effects which were not identified and assessed in the MND or if there is additional mitigation required to avoid or reduce potential significant effects.

Here, all of the proposed project activities not assessed under the MND would otherwise be categorically exempt from CEQA under CEQA Guidelines, 15301, 15303 and 15304. These categorical exemptions describe projects that generally would not be considered to have potential significant effects.

The proposed Conservancy project will include repair of developed springs (Water Development for alternative water sources) and installation of fencing and new pipelines to new water troughs to remove livestock from riparian areas. Compost and mulch applications and pasture seeding to exposed ground will be utilized, as will range planting and tree or shrub planting (in connection with silvopasture, hedgerow or windbreak). These activities create changes to the land, but are expected to be limited in size, and are not expected to cause significant adverse effects.

Section 15301 exempts the repair of an existing structure or facility involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The repair of existing, developed, springs on the ranch properties is intended to maintain spring water supply for ranch uses.

Section 15303 exempts the construction of limited, small, new facilities and installation of small, new equipment in small structures. This project may include measures to remove cattle from riparian zones by providing alternative water sources by installing new pipes and new troughs, and by installing exclusion fencing.

Section 15304 exempts minor alterations in the condition of the land that do not adversely affect sensitive resources. The "prescribed grazing" practices will cause minor changes, but these will serve to positively affect the land and natural resources. Compost and mulch applications, tree and shrub planting and pasture seeding to exposed ground will be utilized. While these activities create changes to the land, those changes are minimal in scope and extent and they work to reduce cattle effects and other conditions that deliver sediment, pathogens, and nutrients to in-channel storm water runoff that eventually flows into the Pacific Ocean, without affecting

sensitive resources. Finally, there are no unusual circumstances under Section 15300.2 of the Guidelines that might counter the assumption that the proposed additional activities would have no potential for significant effect.

Since the proposed activities squarely meet the criteria and requirements of the three categorical exemptions, indicating the typical absence of any significant effect associated with such activities, and since there are no unusual circumstances that would alter that assumption, Conservancy staff has concluded that the proposed project will not have a significant effect on the environment. Accordingly, staff recommends that the Conservancy find, based on the MND and on the analysis provided above, that the Conservancy has independently reviewed the MND, and finds that no additional CEQA documentation is required and that there is no substantial evidence in the record that the project will have a significant effect on the environment, as defined in 14 California Code of Regulations Section 15382.

Upon approval, staff will file a Notice of Determination for the project.