

Date: 06/06/2023

COASTAL PROGRAM AGREEMENT – Doran Dune and Stockhoff Creek Restoration Project

This agreement between Sonoma County Regional Parks Department, and the U.S. Fish and Wildlife Service (Service) is entered into pursuant to authority contained in section 1 of the Fish and Wildlife Coordination Act, 16 U.S.C. 661, and section 7 of the Fish and Wildlife Act of 1956, 16 U.S.C. 3771 et seq., and the Partners for Fish and Wildlife Act (P.L. 109-294). The Service is providing assistance for this project because the Cooperator shares a common objective with the Service to conserve habitat for the benefit of Federal trust species, and the project supports priority actions identified in the Pacific Southwest Region Coastal Program Strategic Plan.

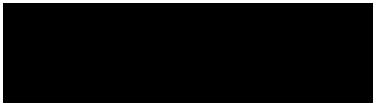
I, Sonoma County Regional Parks Department, hereby agree to participate with the Service in conducting certain conservation project in Sonoma County California to restore fish and wildlife habitat at Doran Dune and Stockhoff Creek.

In signing this agreement, the Cooperator joins as a participant in a conservation project as described in attached Work Plan. Any donation of supplies, equipment, or direct payment from the Service to the Cooperator for carrying out the conservation project is also included in the Work Plan. The activities conducted pursuant to this agreement are not to replace, supplement or otherwise contribute to any mitigation or compensation that may be required of the Cooperator, or other parties, as a result of any mandated requirements.

The term of this Agreement (also referred to as the habitat retention period) will be completed on December 30, 2025. This agreement may be modified at any time by mutual written consent of the parties. It may be terminated by either party upon 30 days advance written notice to the other party.

This agreement may be modified at any time by mutual written consent of the parties. It may be terminated by either party upon 30 days advance written notice to the other party.

The following signatories concur on the terms of this agreement:

Cooperator Name and Title	Date
	06/06/2023
Damion Ciotti, Coastal Program Manager	Date

COASTAL PROGRAM WORK PLAN

Doran Dune and Stockhoff Creek Restoration Project

The conservation project described below is agreed to by the Service, and Sonoma County Regional Parks Department.

Project Purpose

This agreement with Sonoma County Regional Parks will restore fish and wildlife habitat in Doran Dune and Stockhoff Creek in Sonoma County California. These projects will directly benefit sensitive species including western snowy plover, coho salmon, and steelhead trout.

Doran Dune is located in Doran Regional Park in Bodega Bay CA (Figure 1 Map). The dune provides important habitat for western snowy plover as well as other sea and shore birds and marine mammals. This dune is used regularly by a returning wintering flock of approximately 30 plover birds for foraging and roosting habitat and nesting was discovered in 2020. The continued presence of this population at Doran indicates the critical role the park currently plays in sustaining the species locally and this overwintering population of western snowy plover at Doran represents nearly half of the snowy plovers found within the county of Sonoma. This dune habitat could however be improved and it is currently impacted by invasive weeds including iceplant (*Carpobrotus edulis*) and European dunegrass (*Ammophila arenaria*). This non-native vegetation has a negative effect on occupancy and colonization, and plovers are less likely to use areas with uniform, dense vegetation produced by the rigidly stabilizing invasives established among dunes (Webber et al., 2013). Non-native vegetation also provides habitat and cover for predatory animals such as skunks, opossums, foxes, and bobcats. Native plant species provide multiple habitat benefits to western snowy plover including roosting, foraging and nesting sites, and improves camouflage and cover. Therefore, restoring native dune ecosystems is essential to providing diverse and dynamic habitats for the birds. The restoration of dune ecosystems will also benefit many other associated native wildlife species, particularly native pollinators and other invertebrates. Sonoma County Parks will continue monitoring snowy plover habitat in this dune.

The second part of this agreement is restoration in Stockhoff Creek located in Sonoma County at Stillwater Cove Regional County Park (Figures 2 and 3). Stockhoff Creek is important habitat for coho salmon and steelhead. This creek is lacking in complex channel habitat from lack of wood structure in certain reaches. Addition of wood structure will increase channel complexity including accumulation and sorting of gravel and fine sediment, floodplain connectivity and pool depth and cover. This stream also experiences excessively rapid drainage and mobilization and transport of fine sediment as a result of tributary gully channels. Storage and slower release of water during the summer baseflow season is critically important for survival of summer juvenile rearing by salmonids. Wood material sourced from thinning adjacent forest areas for fuels management and stand health will be used to fill the gully and added to the Stockhoff Creek mainstem for wood structure. The US Fish and Wildlife Service has worked directly with the Sonoma County Parks Department to assess the site restoration needs and logistics. Sonoma County Parks will continue monitoring of wood dynamics in this system.

Habitat Restoration Hypothesis: This project consists of two primary restorations sites. The Doran Dune site project will restore native vegetation of the dune and reduce invasive vegetation and thereby improve the habitat structure for snowy plover for nesting and foraging. The second project in Stockhoff Creek will install wood structure in the stream and tributary gullies. Reaches lacking in wood will increase in habitat complexity, and store more fine sediment and water. These outcomes will directly benefit anadromous fish including coho salmon and steelhead.

Problem Statement: The Doran Dune project will restore native plant populations to the dune and reduce the invasive plant species. The native plant restoration is aimed at improving habitat for snowy plover and overall natural dune morphology. The Stockhoff Creek project will address the lack of wood complexity in the mainstem and reduce rapid drainage from tributary gully streams. Slowing the water down in this system will allow for more water storage later into the baseflow period and increase storage of sediment and production of riparian vegetation. Salmonids in Stockhoff Creek including steelhead and coho salmon will benefit from the additional water storage, channel complexity and riparian vegetation productivity.

Conservation Target: This project will target dune habitat at Doran Beach which is important for western snowy plover nesting and foraging. Restoring native plant species to restore dune growth and dynamics is a focus area target for the Coastal Ecoregion strategic plan. This project will also target stream and riparian habitat from the upper watershed tributaries to lower mouth of Stockhoff Creek at Stillwater Cove beach. This restoration effort will benefit red-legged frog and anadromous fish in Stillwater Creek. Riparian and stream habitat is a focus area for the Coastal Ecoregion strategic plan.

Threat to Conservation Target the Project Addresses: These projects address land use impairments that have resulted in invasive plants along sand dunes and removal of wood and reduced wood recruitment in streams. Invasive plants are a major threat to coastal dunes and a significant threat to Doran Dune impairing western snowy plover habitat. Lack of wood structure in Stockhoff Creek has resulted in simplification of the channel and lack of stream habitat complexity. The lack of wood structure also reduces the stream ability to hold and store sediment and water.

Restoration Strategy to be Implemented: This project will involve mechanical and hand removal of dune invasive plants and hand planting of native plant species in the dune. This project will also involve building in stream structure with on site trees and smaller wood to create wood jams in the creek and stuff gully areas with fuels treatment wood from nearby hill slopes.

Goals and Objectives: This project involves restoration efforts at Doran Dune and Stockhoff Creek. This project will restore at least 1 acre of dune habitat and 0.25 miles of coastal tributary stream.

Doran Dune: The long-term persistence of western snowy plover, both locally and across their range, is threatened by a combination of overlapping factors including: loss of habitat due to sea level rise, human development, disturbance from outdoor recreation, increased predation pressure, and the widespread loss of foraging, nesting, and roosting habitats due to the encroachment of invasive non-native species. Together, all of these factors overwhelmingly impact snowy plovers as they navigate the many disparate habitats needed in order to survive. Therefore, the management and restoration of critical habitat at both small and large scales is essential for maintaining the continuation of the species across their range. This project will implement actions identified in the Recovery Plan for western snowy plover: “manage breeding and wintering habitat of the Pacific coast population of the western snowy plover to ameliorate or eliminate threats and maximize survival and productivity” and “conduct public information and education programs about the western snowy plover.” (USFWS, 2007, pp. vii-viii) This project includes the following objectives:

- A. Restore native dune habitat for the benefit of western snowy plover by replacing non-native vegetation with ecologically appropriate and site adapted native dune species (see Figure 1 map for site location).

- B. Partner with and support local volunteer efforts in the removal of non-native invasive species from critical snowy plover habitat areas at Doran beach.
- C. Monitor progress of outplantings and natural seedling recruitment using monitoring plots and photopoints to inform future restoration.
- D. Encourage public education by use of interpretive signage and social media outreach to increase awareness of western snowy plover and coastal dune ecology and mitigate the potential for conflict between visitors and wildlife.
- E. Monitor and document changes in western snowy plover behavior and site use following implementation of project actions. Possibly including permitted bird banding of local western snowy plover flock to increase regional understanding of flock migration patterns.

Stockhoff Creek has many of the components for good salmonid habitat but certain lower reaches lack wood structure. Low-tech PBR approaches will be applied at locations starting from just upstream of the mouth to 3,000 feet longitudinally upstream (Map 3). Beyond this the valley width narrows and slope increases considerably. The approach to wood addition will be to mimic existing natural wood loading or add to and augment natural wood jams already occurring. Initial structure placement will focus on areas where there are low elevation floodplain terraces or natural depositional surfaces where wood material is likely to accumulate. Material will be sourced directly from the riparian corridor or nearby hill slopes to meet the additional objective of fuels reduction in the Stillwater Cove Regional Park. Existing stream or nearby wood pieces will also be readjusted to have more contact with the stream and force greater channel complexity. This initial effort will require two years of implementation to form stabilized structure.

A tributary gulley will also be treated by adding large quantities of wood and biomass from adjacent riparian forest and a nearby fuels reduction effort nearby. This tributary gulley stream is not fish bearing but will benefit from heavy loading of wood and other locally sourced natural biomass to fill gullies and slow, sink and spread water in this catchment. These actions were developed in collaboration with Sonoma County Parks Department and in consultation with the National Marine Fisheries Service. Actions were also chosen based on an existing CDFW Stream Inventory report for Stockhoff Creek that recommends addition of largewood for pool complexity and cover for salmonids.

Tasks:

Tasks to be completed by the Service in collaboration with Sonoma County Parks Department:

Task 1. Complete restoration design for Doran Dune and Stockhoff Creek.

Task 2. Complete permitting and compliance for Doran Dune and Stockhoff Creek restoration (USFWS in collaboration with Sonoma County Parks).

Task 3. Implement dune and stream restoration actions including invasive plant removal and wood addition

Timeline:

Task 1. Doran and Stockhoff Creek restoration planning completed in fall 2023.

Task 2. Compliance and permitting for Doran Dune and Stockhoff Creek completed in fall of 2023

Task 3. Implementation of Doran and Stockhoff Creek started in fall of 2023 and completed in fall of 2024

Task 4. Follow up monitoring and adaptive management completed by fall of 2025

Reports or Products from Project:

Planning, design and permitting completed for Doran Dune and Stockhoff Creek
Restore 1 acre of dune habitat at Doran Regional Park.
Restore 0.25 miles of stream channel at Stockhoff Creek

Special Conditions and Provisions:

- A. Joint Obligations:** The Service and Sonoma County Regional Parks Department shall work cooperatively with other partners, as applicable, in further developing the conservation project(s) of this agreement. Further, each shall:
1. Provide, as appropriate, biological and technical advice in project planning, design, implementation, monitoring, and maintenance of funded projects. Designate acceptable local “onsite” Project Field Manager(s) for the project. The Project Field Manager(s) will be responsible for properly implementing and monitoring all project activities.
 2. Jointly prepare a project summary report for the project as outlined in the reporting requirements section.
- B. Service will:**
1. Ensure that the project complies with the following Federal laws and regulations:
 - a. Section 106 of the National Historic Preservation Act
 - b. National Environmental Policy Act
 - c. Endangered Species Act
 - d. Section 404 of the Clean Water Act
 - e. Section 10 of the Rivers and Harbors Act
 2. Prepare a Hazardous Substance Assessment for the project.
 3. Provide confirmation of compliance with the above to the Cooperator’s Project Officer for implementation activities to begin on the project.
 4. Assist the Cooperator’s Project Officer or Field Manager and the landowner(s), as applicable, in preparing project permit applications as required under local, State, or Federal laws and regulations.
 5. Retain final approval authority over all agreements under this Cooperative Agreement.
- C. Cooperator will:**
1. Work cooperatively with the Service to carry out this agreement to participate in fish and wildlife conservation activities.
 2. Receive prior approval from the Service for individual projects. Coordinate with the Service on project design and implementation phases of the project.
 3. Administer this Cooperative Agreement to successfully complete the project. If the project cannot be completed within the budget set forth herein, Cooperator may apply for additional funding sources from the Service or other entities in order to complete the objectives of this Cooperative Agreement in furtherance of its obligation to complete the project.
 4. Coordinate with all project participants and notify each participant that implementation activities can begin once notification is received from the Service that all appropriate local, State, and Federal permits and clearances have been obtained.
 5. Maintain proper books, records, and accounts of all specific project expenditures for the project.
 6. Administer this Cooperative Agreement and any other contracts or services required to successfully complete the project.

Budget Table:

Object Class Categories	Project Partners				
	Cooperator and Landowners	Coastal Program (USFWS)	Partners Program (USFWS)	Non-Service Contribution	Totals
Personnel	\$45,000	\$30,000	\$20,000	\$	\$95,000
Fringe benefits	\$	\$	\$	\$	\$
Travel	\$	\$	\$	\$	\$
Equipment	\$	\$	\$	\$	\$
Supplies	\$	\$	\$	\$	\$
Contractual	\$20,000	\$10,000	\$15,000	\$	\$45,000
In-Kind Services	\$10,000	\$	\$	\$	\$10,000
Other	\$	\$	\$	\$	\$
Totals	\$75,000	\$40,000	\$35,000	\$	\$150,000

Budget Narrative:

Describe budget categories and expenditures in more detail here.

- Personnel: Funding will be spent on staff time for restoration planning, permits, contract management, project management for Task 1 and implementation for Tasks 2 and 3.
- Supplies: Funding will be spent on purchasing plants and supplies for Doran dune and Stockoff Creek restoration to complete Tasks 2 and 3.
- Contractual: Contractors will include scientists monitoring western snowy plover populations and contractors working on design and implementation of processed based restoration of Stockhoff Creek to complete Tasks 1 and 3.
- In-Kind Services: CNPS volunteers are working with Regional Parks staff on removal of invasive plant species on and around the dunes at Doran. Volunteers will be involved in planting and maintaining the dune restoration project to complete Task 2.

* \$ Contractual and personnel costs for Stockhoff Creek implementation are Partners for Fish and Wildlife 1121 funds. All other Program funds are from the Coastal Program.



Figure 1. Doran Dune Restoration



Figure 2. Stockhoff Creek Restoration

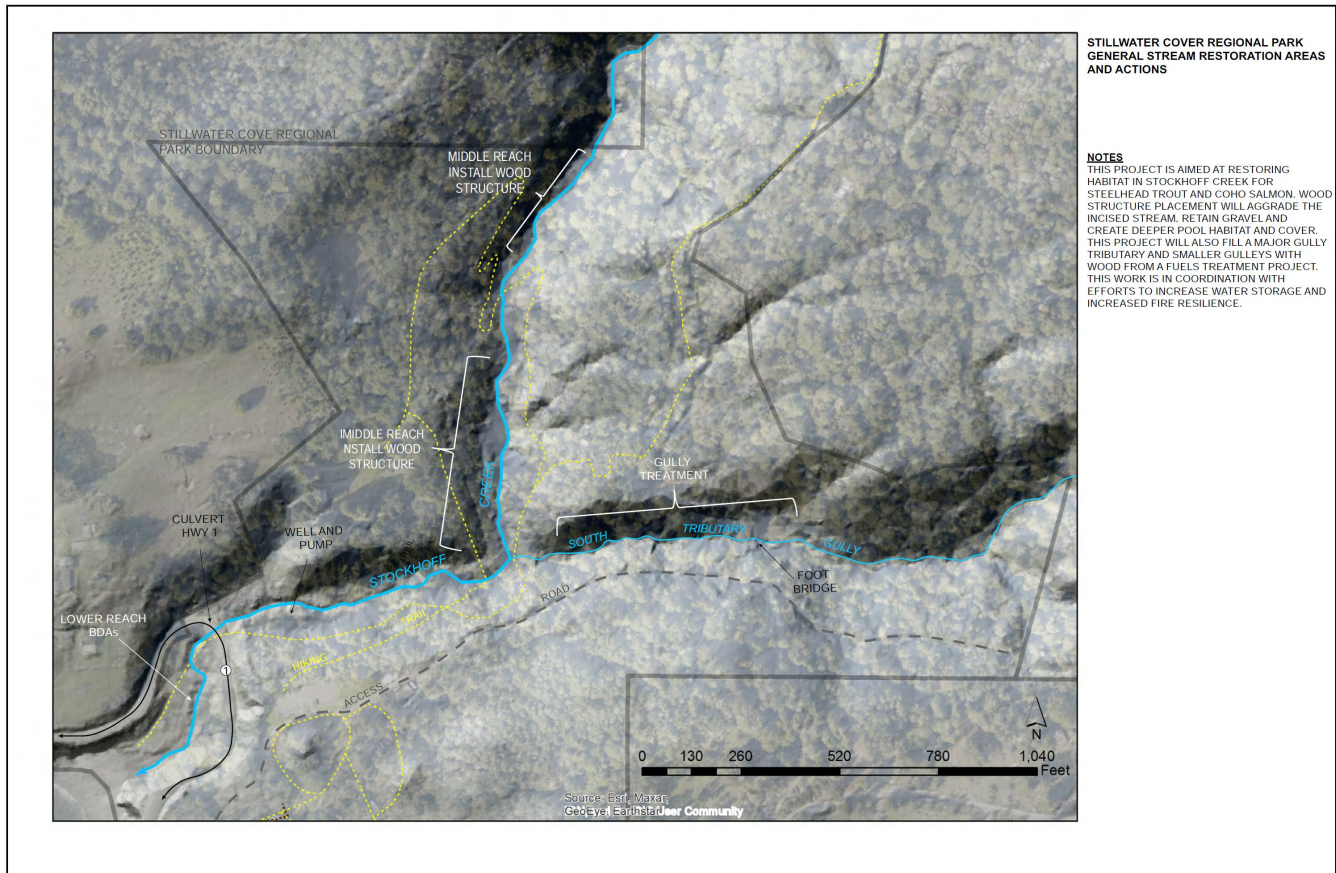


Figure 3. Stockhoff Creek Restoration details

This Work Plan is compliance with Regional and National Program Policies.

Regional/State Program Coordination
