

Elkhorn Slough Watershed

Permit Coordination Program



2004 Implementation Report

**U.S. Department of Agriculture
Natural Resources Conservation Service and the
Resource Conservation District of Monterey County**

In fulfillment of terms of agreement with:

**United States Army Corps of Engineers
United States Fish and Wildlife Service
California Department of Fish and Game
California Coastal Commission
Central Coast Regional Water Quality Control Board
County of Monterey**

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Permit Coordination for Resource Conservation on Farms

Summary

The Elkhorn Slough Watershed Permit Coordination Program (Program) was established in the fall of 1998 when six local, state, and federal agencies entered into watershed-based agreements with the USDA Natural Resources Conservation Service (NRCS) and the Resource Conservation District of Monterey County (RCDMC). These agreements made it possible to implement many natural resource conservation projects in the Elkhorn Slough Watershed in northern Monterey County, California. The program permits NRCS and the RCDMC to provide farmers and land managers with design and construction specifications for resource enhancing projects utilizing 10 pre-approved conservation practices. Special conditions on the timing, location, and method of installation are included in the plans provided to the participants to avoid or mitigate the potential for negative impacts on water quality and sensitive species and habitats.

Forty-three projects were authorized in the first six years of the program. Seventy-six conservation practices were used alone, or in combination, to capture upland agricultural erosion, stabilize gullies, and protect eroding stream banks at the project sites.

The Program's original five year term had expired in 2003, and the Resource Conservation District of Monterey County, the Natural Resources Conservation Service, Sustainable Conservation and the regulatory agencies are reviewing the Memorandums of Understanding in order to update the permit guidelines to reflect current local, state and federal regulations. The plan is to have the revised Permit Coordination Program on-line in 2006.

The Permit Coordination Program continues to alleviate the disincentives for farmers and land owners to restore or enhance natural resource conditions on their property by allowing the NRCS or the RCDMC to assist them in the regulatory review and permitting process. The Program also provides economic incentives to do conservation practices, because no permit fees are required, and the timeframe to finish the work is shortened. For example, since 1998, the program has facilitated the installation of 25 water and sediment control basins on agricultural lands, and the restoration and enhancement of 12,280 feet of stream channel. Without the Permit Coordination Program, these projects would either not have been attempted, or would have been completed without any form of agency guidance or oversight.

The Program provides land managers with an alternative to the time-consuming and costly process of multiple permit applications, while ensuring that they utilize the regulatory agency approved conservation practice standards and the conservation planning process followed by the NRCS and the RCD.

Program Background

In 1997 the Natural Resources Conservation Service (NRCS), and Sustainable Conservation, a non-profit environmental organization, worked in concert to design this innovative program to offer "one stop regulatory shopping" to land managers with the motivation to implement conservation practices that result in net environmental benefits. The Program is available to agricultural producers in the Elkhorn Slough Watershed who voluntarily seek to reduce the impacts of agricultural water and storm run off, and to protect and enhance natural resources on their land.

Ten conservation practices recommended by the U.S. Department of Agriculture, NRCS, and the Environmental Protection Agency have been conditioned and authorized in advance by the participating federal, state and local agencies (see Table 1) through multiple watershed-based

permits issued to the NRCS and RCDMC. Any agricultural producer receiving technical and/or financial assistance from the NRCS or RCDMC can now implement the practices that are covered by the Program without the need to seek individual project permits. The NRCS and RCDMC assist in project design and monitor implementation and maintenance of the practices to ensure performance in conformance with the conditions of the permits.

Table 1: Participating Agencies and Form of Agreement

Agency	Regulatory Agreement
United States Army Corps of Engineers	Section 404 Regional Permit
United States Fish and Wildlife Service	Programmatic Biological and Conference Opinion and Avoidance Measures
California Coastal Commission	Federal Consistency Review
California Department of Fish and Game	1601 Streambed Alteration Memorandum of Understanding
Regional Water Quality Control Board	Section 401 Certification
County of Monterey	Erosion and Grading Ordinance Exemptions

This program removes an institutional disincentive to improved land management. Agricultural producers continually seek ways to improve the value and productivity of their land and protect their investment in their crops and livestock but often hesitate to adopt changes that introduce uncertainty or could negatively affect the economic return on their operations. Voluntary, proactive partnerships on private property to install conservation practices have been limited by fear among many landowners that government regulatory review will be complex, costly, and time-consuming.

Regulatory agency review processes that are intended to protect natural values commonly act as disincentives to voluntary initiatives to reduce non-point source pollution and enhance habitat. Most producers will continue with current production practices if the time and financial costs of seeking governmental approvals exceed the perceived benefits of engaging in conservation activities. The challenge identified in the Elkhorn Slough Watershed was to find a way to both provide technical and financial incentives to promote conservation and overcome regulatory disincentives to good land management.

This innovative and highly successful one-stop regulatory shopping program, combined with ongoing technical and financial assistance programs provided by the NRCS and the RCDMC, effectively remove regulatory disincentives and provide incentives for voluntary enhancement and sustainable management of agricultural and natural resources in the Elkhorn Slough Watershed. Each of the regulatory agencies involved in this interagency coordination effort deserves recognition for creating an efficient watershed-level review process that is easy for agricultural producers to use while ensuring the integrity of the agency and their resource protection and environmental quality mandates.

2004 Accomplishments

No new projects were implemented using the Program in 2004. The emphasis this year was on maintenance of existing previously permitted practices which had been implemented between 1998 and 2003. Maintenance of existing projects is an on-going responsibility of the land manager and landowner, and required as part of the Cooperators Agreement that is signed during the permitting process. The NRCS and the RCDMC are committed to assisting cooperators with maintenance as well as installation of permitted practices.

Each current year project is described in more detail in Appendix 1. The status and ongoing benefit of projects installed in 1998, 1999, 2000, and 2001, 2002, and 2003 are provided in Appendix 2.

Required Agency Reporting Elements

The following information addresses the reporting requirements of the participating agencies.

Location and Purpose of Projects The maintenance activities during 2004 are indicated on the Elkhorn Slough Watershed Map (following this Summary). The activities have resulted in the enhancement of riparian corridor habitat and improved functioning of stream channels in the Elkhorn Slough Watershed.

Modification to Bank or Channel No project in 2004 involved the modification of a stream bank or channel.

Water Quality The projects implemented under the terms and conditions of the Permit Coordination Program are intended to improve water quality over time by reducing erosion, runoff, and transport of sediment and agricultural chemicals. Measures were taken to minimize downstream mobilization of soils.

The water quality enhancement potential of the conservation practices in previous years is readily visible during winter rains. In addition to the benefit of removing accumulated sediment from stream channel sites, the projects have stabilized gully erosion and captured soil on-farm in sediment basins, with filter strips, and grassed waterways. Sediment impairment of water quality has been dramatically reduced at the project sites. Downstream sediment and agrochemical transport are proportionately reduced because of this work.

Species of Concern Each project is evaluated during project planning as a potential habitat for threatened and endangered animal and plant species. Project work on environmentally sensitive sites in the watershed is conducted only during the extended dry season during the fall, further minimizing the chance for incidental take of the species of concern.

Wetland Delineation No wetland delineations were performed in 2004 for the Permit Coordination Program in the Elkhorn Slough Watershed.

Cultural Resources No Cultural Resources investigations were performed in 2004 for the Permit Coordination Program in the Elkhorn Slough Watershed.

Reflections from the Field

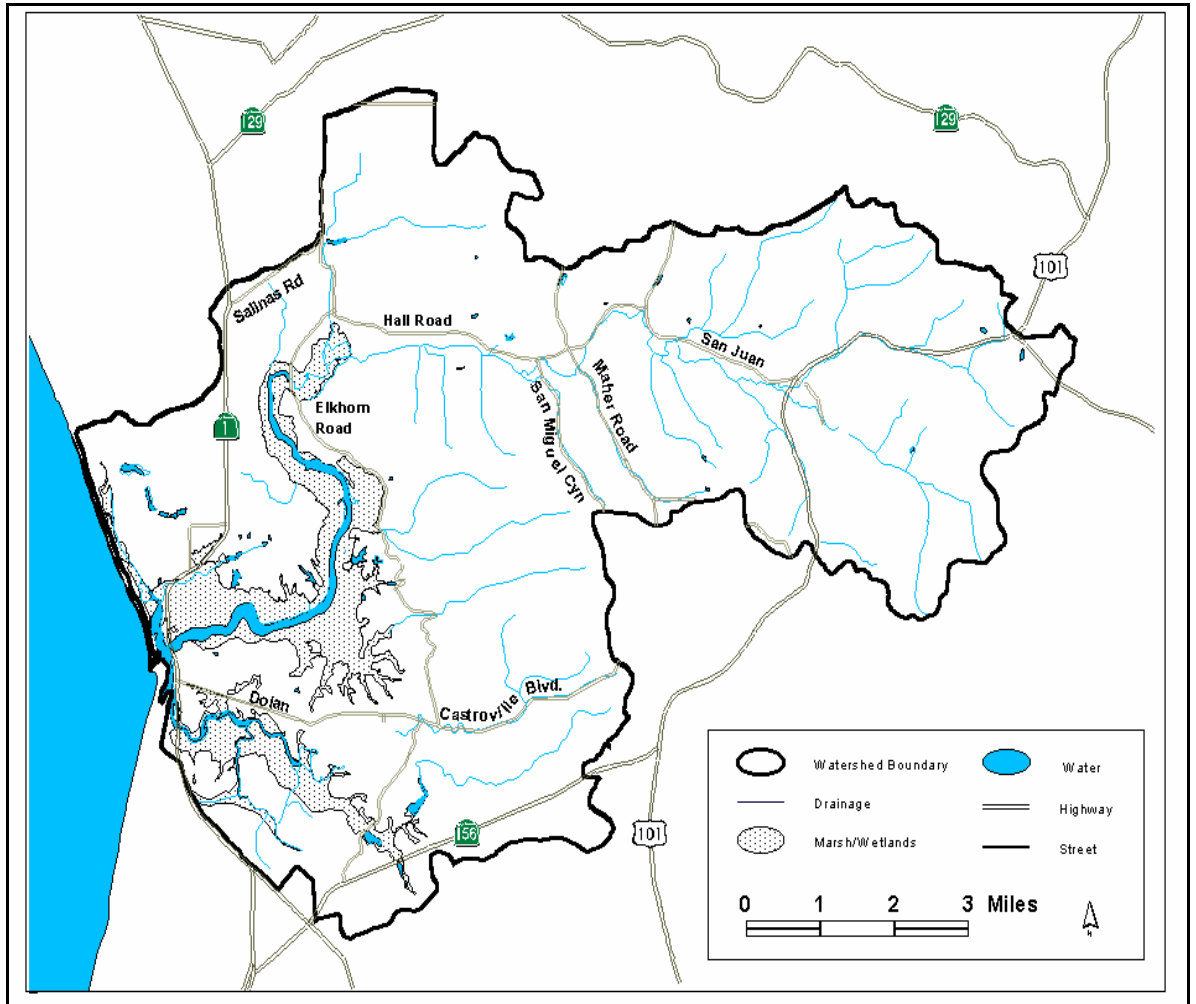
The overall impression over the years for implementing the Permit Coordination Program is that landowner participation and the environmental benefits described above far exceeded initial projections. Implementation of the program has, however, required creativity and ongoing adjustments by the NRCS and RCD staff at the Salinas Service Center and NRCS Area Office in Salinas. The Program is responsible for more than 50% of the success of practice implementation in the Elkhorn Slough Watershed since 1998.

The NRCS, the RCDMC, and Sustainable Conservation are working to ensure continuity in the Permit Coordination process by providing ongoing training and consultation on implementation of the Program. Program requirements have relieved landowners of the burden of acquiring permits, but have substantially increased staff time involved to learn, implement, monitor and report results.

Continued adherence to high standards of performance is a top priority to support maintenance, operation, and functioning of previously installed conservation practices. An expanded reward of the Permit Coordination Program is the increased interest in using the Program by watershed managers, agency personnel (at the field as well as state level), and agricultural organizations. Similar watershed-based permit coordination programs are being pursued and implemented in watersheds throughout coastal California. The Elkhorn Slough Watershed Permit Coordination Program was cutting-edge innovation and the first of its kind in the state of California. Sustainable Conservation is actively working in partnership with the NRCS and the RCDs to implement similar programs in the Morro Bay Watershed in San Luis Obispo County, the Salinas River Watershed in Monterey County, Tomales Bay Watershed of Marin County, the Navarro River Watershed of Mendocino County, Alameda County, Santa Cruz County, and San Diego County. Other watersheds throughout California are being considered for programs in the coming years. One program that should benefit directly from the lessons learned in the Elkhorn Slough Watershed is the Permit Coordination Program for Santa Cruz County, since many of the resource concerns and farming conditions are similar and many cooperators farm in both Monterey and Santa Cruz counties.

As the NRCS and RCDMC gain experience and the Elkhorn Slough Watershed Permit Coordination Program gains recognition, it should become easier for the participants in other regions to negotiate watershed or county-based agreements utilizing the templates developed and lessons learned in Elkhorn. The process of negotiating the special conditions on specific practices and selecting the appropriate regulatory review vehicle enabling agencies to participate (e.g. MOU, Regional Permit, Federal Consistency Review, etc.) can be further facilitated when leadership personnel in the participating agencies are familiar with the accomplishments in the Elkhorn Slough Watershed. The NRCS, the RCDMC, and Sustainable Conservation continue to showcase the successes and benefits of permit coordination to various local, state and national agencies and organizations. Sustainable Conservation is serving on a State Task Force at the request of California Secretary of Resources, Mary Nichols, to explore how resource agencies can reduce permitting barriers for restoration and conservation projects. The NRCS, the RCDMC, and Sustainable Conservation are committed to promoting this model of regulatory coordination in other regions. When disincentives to natural resource enhancement are removed, landowners have demonstrated that they are willing to invest financial and material resources to protect and improve water quality, wildlife habitat, soil, and other natural resources on their land.

Since the inception of the Elkhorn Slough Watershed Permit Coordination Program, the demand for NRCS and RCDMC technical and permitting assistance to implement conservation and restoration projects has increased significantly in the watershed and in Monterey County. The RCDMC and NRCS have begun the process of renegotiating the watershed-based agreements with each agency by assessing and responding to the changes in the regulatory environment over the past six years. While the vehicles that enable each agency to enter into watershed-based agreements with the NRCS and the RCDMC have changed, we feel confident that the program will be available to farmers and landowners choosing to participate. Ultimately, removing disincentives to implementing conservation and restoration projects has resulted in improved water quality, increased wildlife and aquatic habitat, conserved valuable soil resources, and supported economically viable and environmentally sustainable farming operations on the working landscape in the Elkhorn Slough Watershed.



Elkhorn Slough Watershed Boundaries

**Appendix 1: Description of the Conservation Projects, Natural Enhancements and Physical Improvements Implemented for the Elkhorn Permit Coordination Program in 2004
NO NEW PROJECTS WERE IMPLEMENTED IN 2004, PROGRAM IN RENEWAL**

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Pre-Project Condition	Natural Enhancements & Physical Improvements

**Appendix 2: Status of 1998 Through 2003 Projects
Resulting from the Elkhorn Permit Coordination Program in Previous Years**

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-001	Riparian corridor and wetland stabilization and restoration	Stream Channel Stabilization (584) Critical Area Planting (342)	700 ft long x 20 ft wide 1400 yds ³ 700 ft long x 20 ft wide	Corridor restored to original gradient and width. Swale planted with wetland species. Wetland habitat enhanced.	Performing as planned.
98-002	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638) Water and Sediment Control Basin (638)	100 ft long x 40 feet wide and 444 yds ³ 60 ft long x 70 ft wide, 311 yds ³	Unfarmed slopes protected from gully erosion and sediment prevented from entering adjacent creek.	Performing as planned.
98-003	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638) Critical Area Planting (342)	150 ft long x 50 ft wide, 972yds ³ 150 ft long x 15 ft wide	Banks of riparian corridor protected from gully erosion and sediment prevented from entering adjacent creek.	Performing as planned.
98-004 This work was performed in 1999	Stabilize eroding bank of Carneros Creek to prevent downstream sedimentation, flooding, and loss of riparian habitat.	Streambank Protection (580) Critical Area Planting (342)	1000 ft long by 40 ft wide 1000 yds ³ 1000 ft long x 40 ft wide	Streambank stabilized with crib wall at toe and vegetated slope above. Willow root wads in channel bottom relocated to toe of banks to enhance riparian corridor vegetation.	Performing as planned. 2002 Riparian tree species added at top of bank to enhance habitat and create shade to slow spread of willows.
98-005 (This work was performed in 1999)	Detain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	164 ft long x 60 ft wide, 1274 yds ³	Agricultural runoff and sediment detained and prevented from causing erosion in forest and transporting sediment into riparian corridor.	2003-Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-006	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	100 ft long x 45 ft wide, 972 yds ³		. 2002 Update: Grower has moved. This project was assumed by owner/shipper in 2001.
98-007	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	100 ft long x 13 ft wide, 435 yds ³		Farmer excavated small temporary basin but planned design is waiting on farmer finances. Not implemented as of 2004
98-008 (Work performed in 1999)	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638) Water and Sediment Control Basin (638)	400 ft long x 24 ft wide, 611 yds ³ 650 ft long x 11 ft wide, 880 yds ³	Runoff and agricultural sediment detained and prevented from causing erosion and deposition downstream in wetland.	Performing as planned.
98-009	Remove sediment from stream channel to improve flow and habitat value	Stream Channel Stabilization (584) Critical Area Planting (342)	1300 ft long x 14 ft wide 1000 yds ³ 200 ft long x 8 ft wide	Sediment removed from channel and open water habitat restored. Upland runoff and sediment diverted into vegetated swale to buffer future flow into creek.	Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-010	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	295 ft long x 14 ft wide, 650 yds ³ 100 ft long x 8 ft wide	Sediment removed, banks restored with native vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned. Additional 500 cu. yds. of accumulated sediment removed as maintenance procedure in 2000
98-011	Remove sediment from stream channel and widen channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	787 ft long x 14 ft wide, 1500 yds ³ 200 ft long x 8 ft wide	Trees and sediment removed, banks restored with native vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	2003-Performing as planned.
98-012	Remove sediment from stream channel to improve flow and habitat value. Remove old dredge spoils to direct high water into undeveloped flood plain.	Stream Channel Stabilization (584) Critical Area Planting (342)	550 ft long x 14 ft wide, 1140 yds ³ 200 ft long by 8 ft wide	Sediment removed, banks restored with native vegetation, and stream flow restored. Old dredge spoils levy breached on south side to direct water away from home and onto wetland flood plain.	Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-013	Remove sediment from stream channel to improve flow and habitat value. Remove old dredge spoils to direct high water into undeveloped flood plain.	Stream Channel Stabilization (584) Critical Area Planting (342)	955 ft long x 7 ft wide, 990 yds ³ 200 ft long by 8 ft wide	Sediment removed, banks restored with vegetation, and stream flow restored. Old dredge spoils levy breached on south side to direct water away from Butler's barn and onto wetland flood plain.	Performing as planned.
98-014	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	382 ft long x 14 ft wide, 400 yds ³ 382 long x 8 ft wide	Sediment removed, banks restored with vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.
98-015	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	180 ft long x 14 ft wide, 187 yds ³ 100 ft long x 6 ft wide	Sediment removed, banks restored with vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.
98-016	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584)	326 ft long x 14 ft wide, 700 yds ³	Sediment removed, and existing bank vegetation left undisturbed and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-017	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584)	211 ft long x 14 ft wide, 500 yds ³	Sediment removed to create a sediment trap, existing bank vegetation left undisturbed and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.
98-018	Create overflow routes for flood waters to divert sediment onto flood plain rather than downstream to slough to improve flow and habitat value in stream.	Stream Channel Stabilization (584) Streambank Protection (580)	275 ft long x 14 ft wide, 430 yds ³	Old stream-side spoil piles breached in two locations, channel graded to allow peak flows and sediment to enter flood plain, Flood plane hydrology restored and sand trapped on plain away from stream.	Performing as planned. The logjam in main channel was broken up during project maintenance at end of flood season to allow low flows back into stream channel. Debris and small amount of sediment removed in 2002, willow fence repair to off stream floodplain.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
98-019	Retain agricultural sediments and runoff on farm and restore slough bank vegetation.	Water and Sediment Control Basin (638) Streambank Protection (580)	600 ft long x 22 ft wide, 1500 yds ³ 600 ft long x 15 ft wide	Sediment basin retains agricultural sediment and buffers agricultural runoff. Bank will be established with perennial native vegetation to create upland habitat for amphibians and reduce weed problem for farm.	Performing as planned.
99-001 (See work performed under 02-001)	Gully stabilization, and protection of oak trees and agricultural land from erosion.	Streambank Protection (580) Grade Stabilization Structure (410)	60 ft long x 20 ft wide 60 ft long x 20 ft wide, 140 yds ³	Sediment loss from head-cutting stopped and willow trees were planted to stabilize banks and restore riparian vegetation.	Project required new permit in 2002 (See 02-001).
99-002 (Also see work performed under 99-007)	Remove eroded sediment from stream channel and reestablish channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	1050 ft long x 20 ft wide, 950 yds ³ 800 ft long x 50 ft wide, 800 yds ³	Sediment removed, banks restored with native vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
99-003	Prevent cropland erosion, detain runoff, and capture eroded sediment midfield.	Water and Sediment Control Basin (638) Water and Sediment Control Basin (638)	270 ft long x 55 ft wide, 884 yds ³ 190 ft long x 55 ft wide, 763 yds ³ 535 ft long x 28 ft wide, 475 yds ³	Field erosion reduced with proper row arrangement. Gully erosion reduced by seeding roads with grass and installing underground outlets. Remaining erosion trapped in two sediment basins. Sediment effectively prevented from entering creek and wetland downstream.	Performing as planned. Ranch sold to new owner in 2004.
99-004 (See work performed under 98-004)	Stabilize creek bed and insure potential fish passage along Carneros Creek.	4 Grade Stabilization Structures (410)	15 ft long x 30 ft wide, 70 yds ³	Erosion and transport of soil from stream bottom and banks reduced and native riparian corridor vegetation restored.	Performing as planned.
99-005	Remove eroded sediment from stream channel and reestablish channel to improve flow. Multi-year plan calls for detaining soil on adjacent farmland with upland practices so that channel can be restored.	Stream Channel Stabilization (584) Streambank Protection Water and Sediment Control Basin (638)	800 ft long x 20 ft wide 1500 yds ³ 800 ft long x 20 ft wide, 1500 yds ³ 67 ft long x 150 ft wide, 564 yds ³	Accumulated sediment removed upstream from natural vegetated filter thereby increasing capacity of valley to detain future sediment. Also prevented soil from moving further downstream into slough. Temporary erosion grasses established on streambank this year.	Landowners requested that project be removed from Permit Coordination Program and have been informed that they are now responsible for obtaining necessary permits.
99-006 Voided number					

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
99-007 (Also see work performed under 98-002)	Detain agricultural sediments and runoff on farm and slow runoff to restored riparian corridor.	Water and Sediment Control Basin (638)	60 ft long x 100 ft wide, 200 yds ³	Runoff and agricultural sediment detained in basin, swale was reshaped, and riparian corridor downstream protected.	Performing as planned
00-001 Implemented in 2003	Widen channelized reach of Carneros Creek to provide flood plain terrace and reduce flooding hazard and bank erosion.	Stream Channel Stabilization (584)	645 ft long x 22 ft wide, 1352 yds ³	The streambank was sloped at 3:1 on the north slope and revegetated with native shrubs and grasses. The stream channel was widened at this point on the north side to allow for storm runoff.	Performing as planned
00-002 Implemented in 2002	Capture sediment, prevent erosion of agricultural fields and control water run off	Water and Sediment Control Basin (638)	60 ft long by 15 ft wide, 120 yds ³	Meter runoff to control flows and prevent sedimentation and erosion.	Storm damaged basin repaired in 2004. Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
00-003	Restore channel flow to willow riparian forest by removing accumulated sediment and preventing new agricultural sediment from entering stream system. Off- stream grassed waterways will be built to collect and filter agricultural runoff prior to release into stream.	Stream Channel Stabilization (584)	800 ft long x 18 ft wide, 6000 yds ³	Open channel flow in willow riparian corridor restored. Sediment prevented from washing downstream into Moro Cojo Slough. Sediment damage to roads and property downstream prevented.	Performing as planned.
00-004	Stabilization of a 15 foot deep gully actively head-cutting into grassland swale within oak woodland.	Critical Area Planting (342) Grade Stabilization Structure (410) 5 Grade Stabilization Structures (410)	150 ft long x 10 ft wide, 150 yds ³ 140 ft long x 10 ft wide, 360 yds ³ 360 ft long x 50 ft wide, 100 yds ³	Sediment loss from head-cutting was stopped with drop pipe grade control structure. Grassland swale created upstream in place of eroded channel. Reduced delivery of sediment to willow riparian habitat downstream.	Performing as planned
01-001	To restore channel flow and remove accumulated sediment.	Stream Channel Stabilization (584) Critical Area Planting (342)	400 ft long x 30 ft wide, 1200 yds ³ 800 ft x 2 ft wide	600 feet of stream channel restored to its natural width and depth by removal of accumulated sediment, willow root wads planted on 2:1 slope.	Performing as planned.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
01-002	Capture water runoff from agricultural fields to prevent erosion to farm roads. Restore channel flow to willow riparian corridor by removing accumulated sediment and preventing further degradation of channel.	3 Underground Outlets (620)(installed 2002) <u>Proposed:</u> Grassed Waterway (412) (Cancelled 2004) Stream Channel Stabilization (584) (Postponed to 2006)	#2 - 440 ft long #3 - 580 ft long #4 - 460 ft long	Control and dissipate runoff from fields to prevent erosion and sedimentation of riparian drainage channel.	Owner is committed to completing the project in 2006. Underground Outlets installed in 2002 were damaged in winter rains of 2003. Repairs performed by grower/ shipper in 2004.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
01-003	Control runoff from field and capture sediment in basin to be returned to the field. Filter out sediment and chemicals and restore wildlife habitat on the edge of McCluskey Slough	<u>Proposed:</u> Water and Sediment Control Basin (638) Critical Area Planting (342) Filter Strip (393) .		Capture sediment and chemicals, which can be returned to the fields. Remove invasive weeds and restore native plant community. Restore wildlife habitat and wetland function.	2004 Update: No action by owner/grower. Need source of funding.
01-004 (WSCB Repair and installation of third WSCB, Grassed Waterway performed in 2003	Capture sediment, and prevent erosion of agricultural fields and control water runoff	WSCB ¹ (638) Upper WSCB (638) Lower Grassed Waterway (412) with 4 Grade Stabilization Structures (410)	120'Lx80'Wx7.4 860 cy 120'Lx30Wx7 300 cy 840'L x 15' W .29 acres	Avoidance of threatened Monterey Spineflower on property. Capture sediment and chemicals, which can be returned to the fields. Filter sediment and chemicals from fields and control flows to prevent erosion	Performing as planned
01-005	To capture sediment, prevent erosion of agricultural fields and control water runoff.	Water and Sediment Control Basin (638)	150 ft long x 50 ft wide, 720 yds ³	Retain sediment, which can be returned to the fields. Slow water runoff to roadside ditch riparian corridor.	Basin needs repair due to damage caused by winter rains. Owner/Grower was assisted by NRCS staff in 2004.

¹ WSCB = Water and Sediment Control Basin

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
01-006	Retain agricultural sediment and runoff on farm. Capture and filter out agricultural chemicals. Prevent road hazards.	Water and Sediment Control Basin (638) Critical Area Planting (342) about 1 acre 2 Underground Outlets (620)	208 ft long x 32 ft wide, 584 yds ³ 1 acre 1340 ft long 1066 ft long	Runoff from farm fields and roads controlled and sediment and chemicals deposited in basin and prevented from flowing off-site.	Project performing as planned
01-007 Cancelled in 2002	Control runoff and capture sediment with basin and rock dissipater at the channel bottom	None <u>Proposed:</u> 2 Underground Outlets (620) 400 LF, 500 LF		N/A	Number cancelled due to the lack of grower/owner interest.
01-008 Issue new number and revise plan, see 02-008		None		N/A	Please refer to 02-008 project implementation and status.
01-009 Issue new number in 2002 and revise plan, see 02-002		None Redesigned in 2002. Carried over to 2004.		None	Please refer to 02-002 project status.

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02-001	Gully repair system to capture sediment and for flood control	WSCB (638) UO (620) Streambank Protection (580)	100 ft long by 20 ft wide, 1500 yds ³ 300 ft long 300 ft long x 4 ft wide	Stop head cutting of gully preventing further loss of soil resources. Plant native woody, herbaceous plants and grasses to stabilize slopes and create wildlife habitat. Metering of water from basin captures sediment and soil-bound chemicals, which is returned to the fields.	Basin and channel needs repair and a small gully has formed on the earthen ramp of the Underground Outlet. NRCS engineer working on plans for repairs and maintenance of the project. Plants need to be replaced on gully sides.
02-002	Stabilize eroding upland channel through farm. Reduce sediment loss to county road and Elkhorn Slough wetland.	Two WSCB (638) (One installed in 2003, and the other installed in 2004) Underground Outlet (620)	76' L x 50' W 400 feet	Protect riparian drainage and prevent road damage and hazards	Performing as planned
02-003	Capture sediment, prevent erosion of agricultural fields and control water runoff	WSCB (638)	200 ft long by 30 ft wide	Basin captures soil, which is returned to agricultural fields.	Performing as planned.
02-004	Control runoff and capture sediment from fields before entering the road ditch.	WSCB (638) Critical Area Planting (342)	116' L x 30' W .1 acres	Sediment will be captured in basin and returned to farm fields. Grass planted around the basin and lower field	Performing as planned

**Appendix 2: Status of 1998 Through 2003 Projects
Resulting from the Elkhorn Permit Coordination Program in Previous Years**

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
02-005	Protect stream bank from erosion.	Stream bank Protection (580)	2000 ft long x 10 ft wide on one bank.	Cutting of invasive plant species (Acacia) and establishment of native woody and grass plants creates wildlife habitat. Native willows will start to colonize as well.	Performing as planned.
02-006	Capture and filter sediment and water runoff from agricultural fields and roads	<u>Proposed</u> WSCB (638)	1500 cu yds	Sediment can be captured in basins and returned to farm fields.	Not Implemented as of 2004.
02-007	Capture and filter sediment and water runoff from agricultural fields and roads	2 Critical Area Plantings (342) 2 Filter Strips (393)	400' L x 100' W .92 ac 600'L x 200'W 2.75ac 100' L x 20' W .05 ac 600'L x 40' W .55 ac	Removal of accumulated sand and planting of annual and perennial grasses has stabilized slopes and roads and now filters runoff and sediment.	Performing as planned.
02-008 Cross reference to 01-008	Capture and filter sediment and water runoff from agricultural fields and roads	<u>Proposed:</u> WSCB (638) Postponed to 2006	1500 cu yds	Connect to upland underground outlets and control field runoff. Captured sediment in basins to be returned to fields. Prevent from entering riparian stream channel.	Not constructed as of 2004. Owner is committed to implementation with new funding in 2006.

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
02-009	Removal of sediment from stream channel and stabilize banks with grass and willow cuttings. Capture sediment, prevent erosion of agricultural fields and control runoff	Stream Channel Stabilization (584) 2 Sediment Basins (350) 2 Critical Area Planting (342)	200'L x 30'W x 6.5'D 100'L x 50'W x 5'D 60'L x 50'W x 5'D Each .2 ac	Sediment removal from stream channel allows water flow and banks and slopes stabilized with willows and grasses. Sediment can be captured in basins and returned to farm fields.	Performing as planned.
02-010	Capture and filter sediment and water runoff from agricultural fields and roads	<u>Proposed:</u> 3 Critical Area Plantings (342) 3 Filter Strips (393)	Each .5 acres	Removal of accumulated sand and planting of annual and perennial grasses will stabilize slopes and roads, and filter runoff and sediment.	Not implemented as of 2004. Needs further design and new owner commitment.
03-001 Cancelled in 2004	To improve water quality from this watershed to the Elkhorn Slough. To retain new sediment, and to remove accumulated sediment and debris. Plant native plants.	<u>Proposed:</u> WSCB (638) Underground Outlet(620) Steam Channel Stabilization (584)	n/a	This project is located along a willow lined riparian corridor in the hills adjacent to the Elkhorn Slough National Estuarine Research Reserve. Oak woodland is the predominant natural habitat adjacent to this site, and there are 10 acres to the north of the site being farmed for strawberries.	Implemented in 2004 under separate Streambed Alteration Agreement and separate permits

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
03-002	Improve retention of sediment and control water runoff from farm.	Water and Sediment Control Basin (638) Upper Critical Area Planting (342)	215' L x 50' W .12 acres around basin	Project is within a strawberry farm. The cropland is in an upland sloped area with oak woodland adjacent to the property.	Performing as planned
03-003	Improve retention of sediment and control water runoff from farm.	WSCB (638) by road Critical Area Planting (342)	210' L x 29' W .11 acres around basin	Project is surrounded by a strawberry farm. The cropland is adjacent to Highway 1. Sediment and runoff enter culvert under the highway.	Performing as planned
03-004	Site was highly disturbed former cropland and garbage dump now colonized by willows.	<u>Proposed:</u> Two Sediment Basins (350)	n/a	Site is breeding bird habitat which will be restored to pre-cropland conditions.	Not implemented as of 2004
03-005	The site is within a strawberry farm and on the edge of an oak woodland. There is a willow covered riparian area, which is now a drainage ditch next to San Miguel Cyn. Rd within 50 feet, but it is not in the project area.	WSCB (638) Middle	480 cu yds capacity	Nesting bird habitat nearby. No trees will be removed as part of the project. Maybe potential red legged frog habit in the drainage ditch next to San Miguel Canyon Rd. Will conduct pre-construction biological survey.	Performing as planned

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Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Natural Enhancements & Physical Improvements	Project Status
03-006	Improve retention of sediment and control water runoff from farm.	<u>Proposed:</u> Water & Sediment Control Basin (638)	n/a	Elkhorn Slough salt marsh nearby. No freshwater or riparian habitat. Nesting bird and amphibian habitat nearby.	Not implemented as of 2004.
03-007	Site is highly disturbed former cropland. Improve retention of sediment and water runoff from farm.	Water & Sediment Control Basin (638)	1500 cubic yards 500' L x 70' W	Project is surrounded by crop land with clusters of riparian tree species near existing sediment basins. These trees will not be removed as part of the project.	Performing as planned

Photo Documentation for 2004: Spotlight on Maintenance of Existing Projects



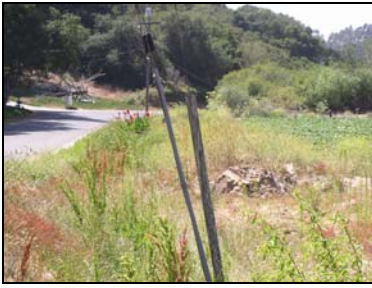
00-002 Before: Water runs down farm road and into nearby channel leading to a busy public road. An old earthen dam and pond had filled in with sediment and needed replacement. **After:** New Water and Sediment Control Basin with outlet pipe at the lower end controls flow of storm runoff and allows water to form a wildlife area above the lower farm road and field. The site was planted with grasses and native plants to stabilize the berm of the basin and hillside.



01-004 Before Water and Sediment Control Basin originally constructed in 2001 was not to NRCS standards. **After** Basin repaired and retaining storm runoff after winter rain in December 2004. Berm and banks were planted with grasses and native herbaceous plants.



02-002 Before: Water and Sediment Control Basin constructed in 2003 full of sand from winter storms is doing its job. **After:** Sand removed from the basin was returned to the upland farm fields [in spring 2004](#).



02-004 Before: Roadside drainage and lower field filled with sediment from storm runoff. **After:** Water and Sediment Basin with straw and grass seed placed on berm constructed in 2003 meters water to roadside ditch and culvert preventing sediment from entering road. The third picture is the rock energy dissipater and overflow for the outlet of the basin into the road.



03-002 Before: Makeshift sediment basin installed by farmer. **After:** New Water and Sediment Control Basin with rock energy dissipater showing the inlet pipe constructed in the upper part of the farm in the fall of 2003. The new basin continues to slow down and capture storm water runoff and sediment from the watershed above the farm.



03-003 Before: Sediment from the field and farm roads accumulates next to Highway 1 and continues to flow under the highway through a culvert. **After:** A Water and Sediment Control Basin continues to slow water runoff and captures sediment before water is released to the culvert under the highway. The third picture shows the outlet riser pipe which meters storm runoff from the basin and the adjacent field.



03-005 Before: The first picture shows an existing, poorly constructed Water and Sediment Control Basin. **After:** Repaired Water and Sediment Control Basin captures and meters runoff during a winter storm. The basin is part of a complete system which protects the farm roads and edges from accelerated erosion.