Elkhorn Slough Watershed
Permit Coordination Program

2003 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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenues, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD).
USDA is an equal opportunity provider and employer.

February 2002

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 five 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.

In 2003, seven additional conservation projects were authorized, with twenty conservation practices installed, raising the total number of projects to fifty and installed practices to ninety-six during the entire five years of the program.

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.

Project Background
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 agricultural 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.

2003 Accomplishments

Seven projects were proposed in 2003. Some of these projects were carried over from 2002. The completed projects involved 645 feet of stream channel stabilization or stream bank protection, 0.33 acres of critical area planting, 400 feet of underground outlet pipe, the construction of 8 water and sediment control basins and 0.29 acres of grassed waterway. The projects resulted in the enhancement of riparian corridor habitat and improved functioning of stream channels in the Elkhorn Slough Watershed.

Each 2003 project is described in more detail in Appendix 1. The status and ongoing benefit of projects installed in 1998, 1999, 2000, and 2001, 2002 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 projects implemented during 2003 are indicated on the Elkhorn Slough Watershed Map (following Appendix 2). One new project is located on a seasonal stream, and the others are located on upland swales where there is a potential for agricultural runoff to create ephemeral gullies. The purpose of the project involved the following:

Modification to Bank or Channel Only one of the projects in 2003 involved earthwork on the bank of a stream channel (00-001). The stream bank was graded to a 3:1 slope to accommodate peak flows from storm events. The bank was re-vegetated with native plants and grasses to enhance wildlife habitat and for erosion protection. (See photo documentation at end of report.)

Water Quality All of 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. However, some short-term disturbance is expected to remobilize a small amount of soil during winter storms and contribute to downstream sedimentation. Measures were taken to minimize downstream mobilization of soils. The projects were immediately seeded with fast growing annual grasses. Native or introduced plant materials were selected from the approved list of non-invasive species for the Elkhorn Slough Watershed.

The water quality enhancement potential of the conservation practices installed in 2003 and 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 was evaluated during project planning as a potential habitat for threatened and endangered animal and plant species. No special precautions were taken to allow for fish passage, as none of the project sites were located in fisheries streams. Project work on all sites in the watershed was conducted only during the extended dry season during the fall of 2003, further minimizing the chance for incidental take of the species.

One project on the edge of a disturbed site adjacent to upland agricultural fields displayed evidence of the federally threatened Monterey Spineflower (01-004 and 03-005). A twenty-foot buffer zone was established around the site of the Spineflower during construction of a water and sediment control basin and a grassed waterway.

A forty-eight hour preconstruction biological survey was performed at project 00-001 by the NRCS Area II Biologist. It was determined that there were no listed species present in the work area in September 2003.

Wetland Delineation Wetland delineations were performed for one proposed project where hydrologic, vegetative, or soil properties indicated a potential for wetland conditions. This field investigation was conducted according to the requirements in the Army Corp of Engineers' Wetlands Delineation Manual. (January 1987) One Stream Channel Stabilization practice implemented during 2003 was located on the banks of Carneros Creek 00-001).

Cultural Resources In September 2001 the NRCS State Archeologist surveyed several potential project sites for evidence of archeological sites, and the absence of cultural resources was confirmed by a search of the Sonoma State University database of known

cultural resources (01-004, 02-002, 02-004, 02-009). One of the projects authorized in 2003 needed a cultural resources survey (00-001). The 00-001 site was surveyed in the same manner, and no cultural resources were at the site (No cultural resources were discovered on the properties and construction moved forward as planned).

Extension of Implementation Schedule Request Several projects required finishing construction after the October 31st deadline set for the Program. The RCDMC and the NRCS at the Salinas Service Center asked for and received an extension for the time frame for implementation from the County of Monterey, Planning and Building Department, and the California Department of Fish and Game. The request was granted on a case by case basis, and from week to week, as long as the weather remained favorable and no adverse impacts were involved. These projects were completed between November 15, 2003 and December 15, 2003: 00-002, 02-002, 03-005 and 03-007.

Reflections from the Field

The overall impression after six years of 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. The Program has been used for and is responsible for more than 50% of the success of practice implementation in the Elkhorn Slough Watershed.

The NRCS, the RCDMC, and Sustainable Conservation are working with the field staff 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. There is an on-going effort to provide the most current information and results.

Some challenges in 2003 were due to lack of grower or owner commitment to complete projects due to growing season, time constraints, and lack of capital or funding for implementation. Additional challenges emerged within the NRCS and RCDMC due to the existing Elkhorn Slough Watershed Project workload from previous understaffing, and the potential for encounters with special status species. The Monterey Spineflower, and Red-legged frog are examples of these species. Several projects required deadline extensions beyond October 31 to complete project implementation. These extensions were requested and approved by the County of Monterey and the California Department of Fish and Game to allow project completion, as no substantial winter rains were imminent. Continued monitoring by NRCS or RCDMC staff of projects implemented is currently underway. Several projects and practices were delayed or the initial phase was completed in 2002, therefore they were the priority projects for implementation in the dry season of 2003. (00-001, 01-004, 02-002, and 02-004). The repair of project 00-002 has been postponed until 2004 due to the need for project engineering design and review.

Field trips were conducted in the watershed by staff in the summer of 2004 to monitor the status of past projects. Continued vigilance is a top priority during 2004 to support ongoing maintenance, operation, and function of past practices. An expanded reward of the Permit Coordination Program is the increased interest 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. 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. 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.

The Elkhorn Slough Watershed Permit Coordination Program was originally designed as a pilot project to determine the need for and feasibility of a multi-agency watershed-based coordinated permitting process for projects designed to produce a net environmental benefit. It has proven to be effective and successful, and is now being used as a model for implementing similar programs in other watersheds throughout the State of California. The fifth and final year of the multi-agency original agreements has come and gone, and 2003 has become a year of reflection, recognition, and re-negotiation to strengthen the program for the future.

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. 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 five 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 the creation of economically viable and environmentally sustainable farming operations on the working landscape in the Elkhorn Slough Watershed.

Appendix 1: Description of the Conservation Projects, Natural Enhancements and Physical Improvements Implemented for the Elkhorn Permit Coordination Program in 2003

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Pre-Project Condition	Natural Enhancements & Physical Improvements
00-001	Widen channelized reach of Carneros Creek to provide flood plain terrace and reduce flooding hazard and bank erosion.	Stream Channel Stabilization (584)	645'L x 22'W	Flooding of surrounding farms and roads occurred in heavy rain years. Non-native plants, sediment and trash accumulated on the streambank.	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.
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 (638) Upper WSCB (638) Lower Grassed Waterway (412) and 4 Grade Stabilization Structures (410)	120'Lx80'Wx7.4 860 cy 120'Lx30Wx7 300 cy 840'L x 15' W .29 acres	Years of erosion, sedimentation and deposition from upland strawberry farming operation threaten neighboring homes, roads and drainage.	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
02-002	Control runoff from fields and capture sediment in basins.	Two WSCB (638)(Two proposed, only one installed in 2003) Underground Outlet (620)	76' L x 50' W 400 feet	Accumulated sediment and storm water runoff caused road hazard and degradation of wetlands.	Protect riparian drainage and prevent road damage and hazards

Appendix 1: Description of the Conservation Projects, Natural Enhancements and Physical Improvements Implemented for the Elkhorn Permit Coordination Program in 2003

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Pre-Project Condition	Natural Enhancements & Physical Improvements
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	Accumulated sediment from fields blocking drainage and entering road ditch	Sediment can be captured in basin and returned to farm fields.
03-001	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.	WSCB [1] (638) Underground Outlet(620) Steam Channel Stabilization (584)	Project Postponed until 2004 for more design and funding	Years of erosion and sediment deposition have overwhelmed stream corridor and culvert crossing Elkhorn Road.	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.
03-002	Improve retention of sediment and control water runoff from farm.	Water and Sediment Control Basin (638) Critical Area Planting (342)	215' L x 50 ' W .12 acres	Years of erosion, sedimentation and deposition from upland strawberry farming operation.	Project is within a strawberry farm. The cropland is in an upland sloped area with oak woodland adjacent to the property.

[1] WSCB =Water and Sediment Control Basin

Appendix 1: Description of the Conservation Projects, Natural Enhancements and Physical Improvements Implemented for the Elkhorn Permit Coordination Program in 2003

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Pre-Project Condition	Natural Enhancements & Physical Improvements
03-003	Improve retention of sediment and control water runoff from farm.	WSCB (638) Critical Area Planting (342)	210' L x 29' W .11 acres	Years of erosion, sedimentation and deposition from upland strawberry farming operation. Nearby culverts, highway and roads are impacted.	Project is surrounded by a strawberry farm. The cropland is adjacent to Highway 1. Sediment and runoff enter culvert under the highway.
03-004	Site was highly disturbed former cropland and garbage dump now colonized by willows.	Two Sediment Basins (350)	Construction Postponed by client in 2003	Two sediment basins are planned as well as the removal of a junk car and discarded plastic.	Site is breeding bird habitat which will be restored to pre-cropland conditions.
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	Erosion and agricultural water runoff from an upland strawberry farm has caused a gully to form, sedimentation and deposition of sandy soil in a sloping natural drainage way.	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.
03-006	Improve retention of sediment and control water runoff from farm.	Water & Sediment Control Basin (638)	Postponed by client in 2003	Years of erosion, sedimentation and deposition from upland strawberry farming operation.	Elkhorn Slough salt marsh nearby. No freshwater or riparian habitat. Nesting bird and amphibian habitat nearby.

Appendix 1: Description of the Conservation Projects, Natural Enhancements and Physical Improvements Implemented for the Elkhorn Permit Coordination Program in 2003

Project No.	Project Purpose	Practices Installed	Conservation Practice Dimensions	Pre-Project Condition	Natural Enhancements & Physical Improvements
03-007	Site is highly disturbed former cropland. Improve retention of sediment and water runoff from farm.	Water & Sediment Control Basin (638) Middle	1500 cubic yards 500' L x 70' W	Years of erosion, sedimentation and deposition from upland strawberry farming operation threaten neighboring homes, roads and drainage.	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.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
98-001	Riparian corridor and wetland stabilization and restoration	Stream Channel Stabilization (584) Critical Area Planting (342)	Corridor restored to original gradient and width. Swale planted with wetland species. Wetland habitat enhanced.	Performing as planned. Owner will repair some minor gullies with willow plantings.
98-002	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638) Water and Sediment Control Basin (638)	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)	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 1998.)	Stabilize eroding bank of Carneros Creek to prevent downstream sedimentation, flooding, and loss of riparian habitat.	Streambank Protection (580) Critical Area Planting (342)	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. Riparian tree species added at top of bank to enhance habitat and create shade to slow spread of willows.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
98-004 (This work was performed in 1999)	2nd phase of stabilizing eroding bank of Carneros Creek to prevent downstream sedimentation, flooding, and loss of riparian habitat.	Streambank Protection (580) Critical Area Planting (342)	Streambank stabilized with living willow log crib wall at toe and vegetated slope above. Willow root wads in channel bottom relocated to toe of banks to enhance riparian corridor bank vegetation.	Performing as planned. Additional stream bank planting of native tree species completed in 2002.
98-005 (This work was performed in 1999)	Detain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	Agricultural runoff and sediment detained and prevented from causing erosion in forest and transporting sediment into riparian corridor.	Performing as planned. 2003 Update: Basin cleaned of sediment this year.
98-006	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	No work begun in 1998. No construction in 2002.	2002 Update: Grower has moved. This project was assumed by owner/ shipper in 2001. No work begun in 1999, 2000, or 2001 due to lack of grower interest. To be redesigned.
98-007	Retain agricultural sediments and runoff on farm.	Water and Sediment Control Basin (638)	No work was begun in 1998. No construction in 2002.	Farmer excavated small temporary basin but planned design is waiting on farmer finances.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
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) Underground Outlet (620)	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)	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.
98-010	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	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)	Trees and sediment removed, banks restored with native vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
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)	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.
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)	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)	Sediment removed, banks restored with vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
98-015	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584) Critical Area Planting (342)	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)	Sediment removed, and existing bank vegetation left undisturbed and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.
98-017	Remove sediment from stream channel to improve flow and habitat value.	Stream Channel Stabilization (584)	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.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
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)	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.
98-019	Retain agricultural sediments and runoff on farm and restore slough bank vegetation.	Water and Sediment Control Basin (638) Streambank Protection (580)	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. Creeping wild rye establishing well under annual mowing.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
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)	Sediment loss from head-cutting stopped and willow trees were planted to stabilize banks and restore riparian vegetation.	2001 Update: Farmer approved for EQIP cost-sharing to repair the project. New engineering design is being done in 2002. A temporary plastic lining was installed in November 2000 to prevent further damage. Project required new permit in 2002 (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)	Sediment removed, banks restored with native vegetation, and stream flow restored. Sediment prevented from moving further downstream into slough.	Performing as planned.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	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) Underground Outlet (620)	Field erosion reduced with proper furrow alignment. 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.
99-004 (See work performed under 98-004)	Stabilize creek bed and insure potential fish passage along Carneros Creek.	4 Grade Stabilization Structures (410)	Erosion and transport of soil from stream bottom and banks reduced and native riparian corridor vegetation restored.	Performing as planned. Three boulders shifted downstream in peak flow in 2000and still need to be reinstalled by owner.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
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)	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.
99-007 (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)	Runoff and agricultural sediment detained in basin, swale was reshaped, and riparian corridor downstream protected.	Performing as planned after repairs and expansion of basin in 2000. Small willows and sediment removed in 2003.
00-002	Capture sediment, prevent erosion of agricultural fields and control water run off	Water and Sediment Control Basin (638)	Meter runoff to control flows and prevent sedimentation and erosion.	Built in 2002. Basin repair is needed due to damage in winter rains of 2002. Repair requires engineered design and review. Not done as of 2003.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	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)	Open channel flow in 900 feet of willow riparian corridor restored. Sediment prevented from washing downstream into Moro Cojo Slough. Sediment damage to roads and property downstream prevented.	Performing as planned with minor maintenance to remove sprouting willows in channel bottom. Grassed waterways and 800' of remaining channel stabilization will be completed in 2002.
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) Critical Area Planting (342)	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

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
01-001	To restore channel flow and remove accumulated sediment.	Stream Channel Stabilization (584) Critical Area Planting (342)	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.	Winter rains of 2001 damaged channel. Repairs implemented in the dry season of 2002. See 02-009 for details. Project performing as planned.
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) <u>Proposed:</u> Grassed Waterway (412) Stream Channel Stabilization (584) Need design and to finish project in 2004 Stream Channel Stabilzation (584)	Control and dissipate runoff from fields to prevent erosion and sedimentation of riparian drainage channel.	Owner is committed to completing the project if funding is available in 2004 or 2005. Underground Outlets installed in 2002 were damaged in winter rains of 2003. Repairs performed by grower and shipper.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	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	Proposed: WSCB (638) Critical Area Planting (342) Filter Strip (393) Project needs further design and funding.	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.	2003 Update: No action by owner/grower. Need source of funding.
01-005	To capture sediment, prevent erosion of agricultural fields and control water runoff.	WSCB (638)	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 of 2002 and 2003
01-006	Retain agricultural sediment and runoff on farm. Capture and filter out agricultural chemicals. Prevent road hazards.	Water and Sediment Control Basin (638) 584 cu. yds. Critical Area Planting (342) about 1 acre 2 Underground Outlets (620) 1340 LF, 1088 LF	Runoff from farm fields and roads controlled and sediment and chemicals deposited in basin and prevented from flowing off-site.	Project performing as planned

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
01-007 Cancelled in 2002 Grower to get his own permits.	Control runoff and capture sediment with basin and rock dissipater at the channel bottom	None Proposed: 2 Underground Outlets (620) 400 LF, 500 LF	N/A	Number cancelled due to the lack of grower/owner interest. Grower will implement practices under terms of his EQIP contract.
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	Stabilize eroding upland channel through farm. Reduce sediment loss to county road and Elkhorn Slough wetland.	None, suggested temporary sediment pit Redesigned in 2002. Carried over to 2003.	None	Please refer to 02-002 project status.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
02-001	Gully repair system to capture sediment and for flood control	WSCB (638) UO (620) Streambank Protection (580)	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 need cleaning 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 in 2004.
02-003	Capture sediment, prevent erosion of agricultural fields and control water runoff	WSCB (638)	Basin captures soil, which is returned to agricultural fields.	Performing as planned.
02-005	Protect stream bank from erosion.	Stream bank Protection (580)	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	Proposed WSCB (638)	Sediment can be captured in basins and returned to farm fields.	Not Implemented as of 2003.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
02-007	Capture and filter sediment and water runoff from agricultural fields and roads	2 Critical Area Plantings (342) 2 Filter Strips (393)	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	Capture and filter sediment and water runoff from agricultural fields and roads	<u>Proposed:</u> WSCB (638) Underground Outlets (620)	Connect to upland underground outlets and control field runoff. Captured sediment in basins to be returned to fields. Prevent from entering riparian stream channel.	Maintenance and repair of Underground Outlets is underway. Outlets and roads damaged in winter rains of 2003. Basin needs design and installation. Owner is committed to implementation.
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)	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.

Appendix 2: Status of 1998 Through 2002 Projects Resulting from the Elkhorn Permit Coordination Program in Previous Years

Project No.	Project Purpose	Practices Installed	Natural Enhancements & Physical Improvements	Project Status
02-010	Capture and filter sediment and water runoff from agricultural fields and roads	Proposed: 3 Critical Area Plantings (342) 3 Filter Strips (393)	Removal of accumulated sand and planting of annual and perennial grasses will stabilize slopes and roads, and filter runoff and sediment.	Not built as of 2003.

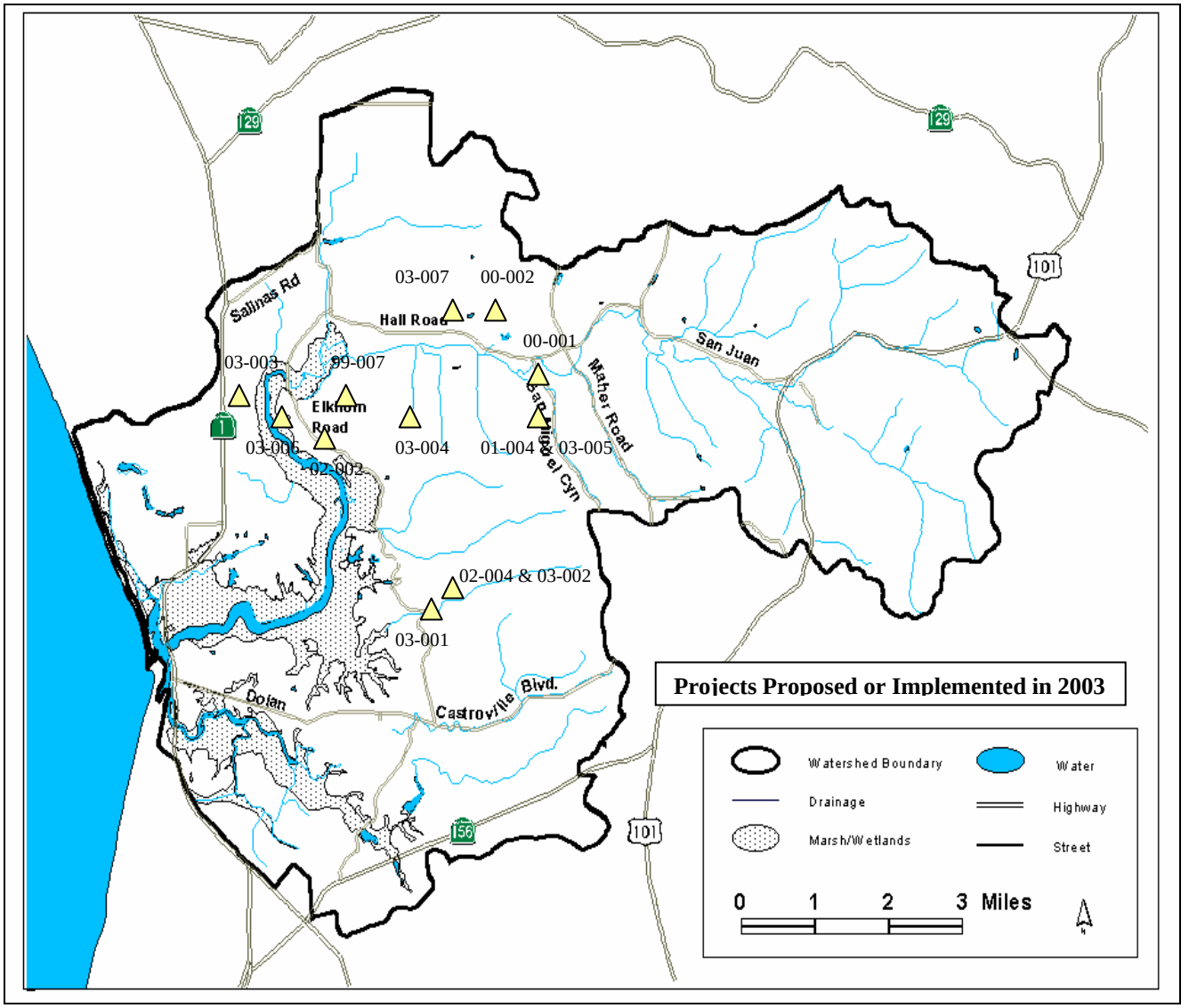
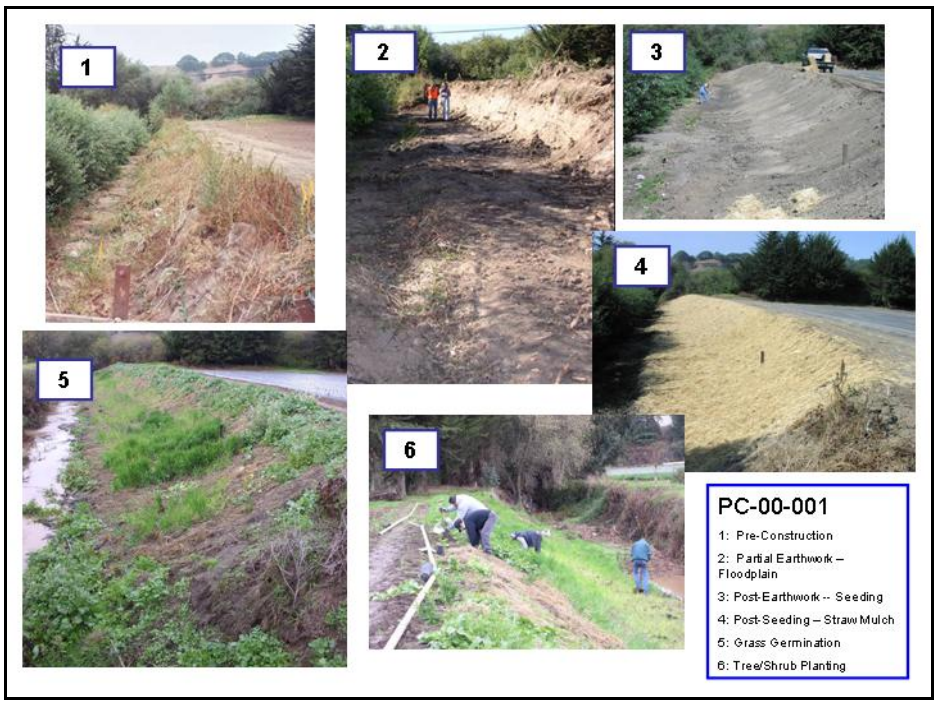

Salinas Rd
Hall Road
Elkhorn Road
Maher Road
San Juan
Dolan
Castroville Blvd.
03-007
00-002
00-001
03-003
99-007
03-006
02-002
03-004
01-004
03-005
02-004 & 03-002
03-001
Projects Proposed or Implemented in 2003
Watershed Boundary
Drainage
Marsh/Wetlands
Water
Highway
Street
0 1 2 3 Miles

Photo Documentation for 2003



00-01 **Before:** A narrow channel choked with willows flooded neighboring farms in the rainy season. **After:** Excavation of the stream bank with side slope of 2:1 along Carneros Creek now allows water to spread out in a storm event. The streambank was vegetated with native grass seed and plugs and native perennial plants for stabilization.

01-004 **Before** Repair of Water and Sediment Control Basin originally constructed in 2001. **After:** Basin was rebuilt in 2003. This picture shows the riser outlet pipe and the rock energy dissipater inlet for the water flowing into the basin from the fields and farm roads. Monterey Spineflower is located on the lower outside of this structure, and a twenty foot buffer is maintained around this area. **Before:** Channel lined with black plastic carries sediment and water to middle basin.

After: Grassed Waterway implemented in 2003 slows water runoff and traps sediment leaving the fields and road using native grasses and straw wattles for grade stabilization.

02-002 Before: Location of old sediment basin that had filled in with sand from field and road runoff. **After:** New Water and Sediment Control Basin and Underground Outlet shortly after construction in November 2003. The forth picture was taken in the spring of 2004 and shows the sediment captured in the new basin. This captured soil will be returned to the fields.

02-004 Before: Roadside drainage and lower field filled with sediment from storm runoff. **After:** New Water and Sediment Control Basin was constructed in the lower part of the farm in 2003. The third picture is the rock energy dissipater that is part of the underground inlet pipe at the upper end of the basin. These structures help capture water and sediment from farm roads and the watershed above the farm.

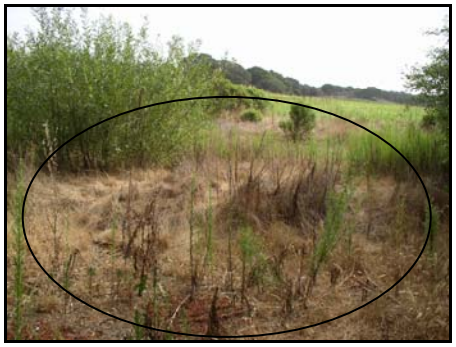
03-002 Before: Farm road and makeshift sediment basin installed. **After:** New Water and Sediment Control Basin with rock energy dissipater and outlet pipe constructed in the upper part of the farm in the Fall of 2003 help capture storm water runoff and sediment from the watershed above the farm.

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 new Water and Sediment Control Basin slows water runoff and captures sediment before water is released to the culvert under the highway.


03-005 Before: Shows the poorly constructed middle Water and Sediment Control Basin. **After:** A new basin was designed and installed in 2003, which is suitable for water and sediment retention. This picture shows the basin after a storm event in December 2003 doing its intended job. The third picture is a Grassed Waterway that is above the new basin, which provides a permanently graded and vegetated channel for directing water runoff from the upper basin and field road to the middle basin. The Monterey Spineflower is located just outside of the Grassed Waterway at the upper end (See Arrow).


03-007 Before Water and Sediment Control Basin installation and **After:** Showing footprint of the well vegetated basin and the retention capacity for water and sediment that would otherwise enter drainage areas and flood surrounding homes and land.

Spotlight on Maintenance Projects in 2003




99-007 Before: Sediment Basin had filled in with sediment and willows from a few years of not being cleaned out. The new owners are making a concerted effort to maintain the area as necessary for continued functioning and environmental benefit.